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Article

Beyond the pixelated mirror: Understanding avatar identity and its impact on in-game advertising and consumer behavior

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Abstract: This article examines the complex dynamics between avatars and in-game advertising, probing how virtual representations influence consumer behavior within digital environments. It delves into the psychological interplay between self-perception and avatar embodiment, suggesting that while younger users may treat avatars as accessories showcasing personal interests, adults tend to opt for idealized selves, affecting their interaction with and responsiveness to virtual marketing. The study contemplates the avatar's function as both a consumer and influencer in the expanding metaverse, considering the escalating integration of branded items in games. It also highlights potential shifts in consumption patterns as digital and physical realities converge. The article advocates for future research to explore the multifaceted impacts of avatars, such as age-related differences, the role of artificial intelligence in self-representation, and cross-platform avatar utilization, utilizing longitudinal data from sources like Second Life and social media profiling. In synthesizing these perspectives, the article underscores the necessity to further understand how avatars contribute to shaping digital consumerism, paving the way for a new domain in consumer psychology that navigates the evolving interface of the metaverse. The findings suggest that the nuances of digital identity formation are significant factors in the effectiveness of in-game advertising and indicate a transformative phase in marketing strategies tailored for virtual worlds.

Keywords: avatars; in-game advertising; consumer behavior; metaverse; digital identity

1. Introduction

The intersection of virtual identity and consumer behavior has garnered significant attention with the evolution of digital platforms, particularly in gaming environments [1–3]. Avatars, as digital representations of users, play a crucial role in this nexus. These virtual embodiments go beyond mere characters; they are vessels for identity exploration, social interaction, and potential influencers of purchasing decisions [4]. The burgeoning domain of in-game advertising has exploited this connection, blending marketing with entertainment. Games like *World of Warcraft* have incorporated microtransactions, allowing players to purchase in-game items to enhance their virtual experience [5]. This trend has escalated with the introduction of branded items within games, such as luxury goods appearing in titles like *Grand Theft Auto* [6]. The relationship between the attachment of a player to their avatar and their receptiveness to in-game advertising opens a new realm of study, particularly as it may affect real-world buying patterns.

Despite the advancements in digital marketing, the understanding of how avatars influence consumer behavior, especially in the context of in-game advertising, remains nascent [7]. The demographic dichotomy, where younger individuals see avatars as

extensions of their interests rather than reflections of themselves, compared to adults who often seek idealized representations, suggests that avatars could influence purchasing habits differently across age groups [8]. This complex interaction necessitates a deeper investigation into how avatars, as digital surrogates, may impact consumer choices and how these virtual entities are perceived across various platforms, from gaming to professional networking sites like LinkedIn.

This study aims to illuminate the nuances of avatar-mediated consumer behavior, offering insights into the efficacy of in-game advertising and the psychological underpinnings that drive virtual and real-world consumption. By exploring the multifaceted relationship between avatars and players, the research anticipates finding differentiated patterns of consumer behavior, which could vary based on the users' demographic profiles and their interactions with their digital selves. These findings will potentially foster a more nuanced approach to digital marketing strategies within gaming and beyond, tailoring advertising to resonate with the evolving identities that thrive in virtual landscapes.

2. Background

The proliferation of online consumer-generated media, such as avatars, represents a novel frontier for the marketing field. This literature review consolidates research findings to explore the utility of avatars in online consumer targeting and segmentation. Through thematic analysis, the review focuses on several key areas, including avatar-based impressions and their impact on consumer behavior, avatars as a tool for online interaction and trust-building, and the potential of avatars in enhancing online retail experiences.

Avatars serve as a digital proxy for consumers, encapsulating their preferences, personality traits, and even behavioral tendencies. Research by Fong and Mar [9] delves into how avatars convey personality traits and influence intentions to befriend based on avatar characteristics. They found that avatars could be an accurate representation of certain personality traits and that agreeable and normative individuals tend to create avatars that evoke a stronger desire for friendship among other users. This finding is significant as it indicates that avatars may carry subtle cues that influence consumer perceptions and interactions within online environments.

2.1. Role of avatars in marketing

The integration of avatars in marketing strategies has been a topic of extensive research over the last few decades. Avatars, as digital representations of users or concepts, have been shown to significantly impact online consumer behavior, trust, emotional connection, and ultimately, sales. In the evolving landscape of digital marketing, avatars have emerged as a dynamic interface between consumers and brands, reshaping the traditional paradigms of customer engagement and online shopping behaviors. This review synthesizes current research exploring the multifarious roles avatars assume in the marketing domain and their impact on consumer behavior. The studies by Bélisle et al. [10] and Fong and Mar [9], for instance, indicate that avatars are not mere virtual stand-ins; they carry personality information that shapes online interactions. Users tend to attribute certain

characteristics to avatars, which in turn affects how they perceive the associated information or products.

Avatars, functioning as digital alter egos in various virtual platforms, have been identified as powerful catalysts in enhancing online shopping experiences. Research indicates that these virtual embodiments can significantly escalate consumer involvement, fostering a more immersive and interactive shopping environment. Building on this, Etemad-Sajadi et al. [11] found that avatars enhance real-time interactivity in online environments, which bolsters users' intentions to return to a website and make purchases. This points to the power of avatars in fostering a sense of emotional engagement and trust in digital spaces. Wang et al. [12] and Moon et al. [13] emphasize that avatars contribute to the social dimension of online shopping experiences. They have the potential to mimic the social interactions of a physical retail environment, which can be pivotal in a consumer's decision-making process and overall satisfaction.

In the realm of online retailing, avatars can take on various roles such as assistants or influencers, as discussed by McGoldrick et al. [14]. This segmentation reflects the nuanced relationship between avatars and consumers, which can be optimized to cater to specific age groups, genders, and preferences. The notion of attachment, particularly emotional attachment to avatars, surfaces repeatedly in the literature. Avatars have been found to serve not only as virtual representatives but also as objects of attachment, imbuing a sense of identity and emotional significance for users. This attachment can manifest in various ways, influencing consumer behaviors and decision-making processes. For instance, it has been observed that consumers' anxieties regarding social relationships can modify the types of relationships they construct with brands and products, with avatars acting as facilitators or even catalysts in this process.

From a branding perspective, Jin et al. [15] and Elsharnouby et al. [16] illustrate that avatars can significantly influence brand communication and consumer-brand relationships. The customization and personalization potential of avatars enable them to deliver tailored brand messages, fostering a stronger connection with consumers. Mull et al. [17] examined avatars in terms of credibility, attractiveness, and homophily, noting their considerable effect on consumer interactions. This suggests that the design and behavior of avatars should be carefully considered to align with brand values and customer expectations.

The concept of "avatar marketing" encapsulates a range of strategies that employ avatars as marketing agents. This emerging research area focuses on the utilization of avatars to forge and fortify consumer-brand relationships. Avatars can be strategically designed to mirror brand values and personify brand characteristics, thereby enhancing consumer perceptions and fostering a stronger brand connection. Studies in this field have begun to map out how avatars can be effectively leveraged to communicate marketing messages, facilitate brand storytelling, and serve as virtual sales assistants, potentially influencing consumer purchasing decisions and behaviors.

The studies by Taylor et al. [18,19] and Aguirre-Rodriguez et al. [20] provide further insight into how avatars facilitate increased communication and relationship benefits, enhancing customer loyalty and online retail success. An interesting aspect of avatar-based marketing is its cross-cultural reach. The work by Bente et al. [21]

suggests that avatar faces have a universal effect on trust cues, which can be critical in global marketing strategies. The influence of avatars extends to economic activities within virtual spaces. Some consumers display a willingness to expend real currency on virtual items for their avatars, signifying that avatars can drive tangible economic activities within the so-called "metaverse". This willingness to purchase virtual goods suggests a new frontier of consumer behavior that intersects with real-world economics. However, it remains an area ripe for exploration whether these virtual spending habits reflect or influence broader spending patterns in the physical world.

2.2. The role of avatars in online marketing and consumer engagement

The advent of sophisticated avatars and their integration into online marketing strategies is carving a distinctive niche in consumer engagement. Avatars, as they evolve, are becoming more than just visual representations; they are turning into tools for social inclusion, empathy generation, and consumer trust-building. The literature offers a rich analysis of how these digital embodiments are influencing marketing dynamics and consumer interactions in various contexts.

A study by Moriuchi [22] examines the intersection of social marketing and avatars in the disability field. Their empirical study found that cybernetic avatars could bridge the gap between technology and social inclusion. Notably, consumers with mobility disabilities exhibited a more positive attitude and a higher intention to patronize establishments that implemented such avatars. This suggests that avatars can play a crucial role in creating inclusive spaces that cater to the diverse needs of all consumers, opening a new frontier for empathetic and accessible marketing strategies.

In the realm of education and social sciences, Wei [23] have contributed to the literature by examining how avatars enable self-representation among Chinese university students. As reported, their study reveals that avatar creation facilitates idealized self-representation, thereby easing communication and potentially alleviating body image concerns. This phenomenon points to the broader implications of avatars in marketing, where they could be leveraged to create a more engaging and positive experience for the youth demographic, a critical market segment for many industries.

Another facet of avatar functionality is their role in customer service, as discussed by Yao et al. [24]. They found that anthropomorphic customer service avatars could influence consumers' willingness to interact post-service failure. Intriguingly, while a competent-looking avatar might induce higher expectations and subsequent disappointment, a cartoon-like avatar could mitigate such effects. This suggests that the design and anthropomorphism of avatars need to be carefully considered to manage consumer expectations and satisfaction.

The influence of digital communication on consumer behavior is vast and multifaceted. Musammem [25] underscores the significance of online advertising in shaping customer satisfaction in the telecommunication sector. This finding is echoed by Shiju [26] who emphasized that digital advertising is crucial in shaping consumers' purchasing decisions and engagement with brands. Similarly, Hussain and Chimhundu [27] highlighted trust and open communication as key influencers of consumer purchase intentions, pointing to the importance of trust-building avatars in online advertising.

The impact of social media marketing on consumer behavior is also a dominant theme in recent research. For instance, Arora et al. [28] explore how social media advertising influences consumer empathy, with ad intrusiveness playing a moderating role. This is complemented by findings from Alghiffari and Matusin [29], who noted that consumer engagement is a mediator between social media marketing and electronic word-of-mouth. Additionally, Bong et al. [30] discuss how consumer behavior on social media significantly affects online shopping decisions. These studies collectively signify the profound effect of social media avatars and marketing in shaping consumer perceptions and behaviors online. Lastly, the live streaming sphere is not untouched by the influence of avatars. Wu et al. [31] conclude that the socialness attributed to virtual live streamers positively affects the experiential value for consumers. This dimension of avatar-mediated live streaming can potentially revolutionize customer engagement in e-commerce by fostering a more interactive and personal shopping experience.

2.3. Avatars influencing user behavior

Avatars serve as the digital embodiment of users in virtual environments, playing a significant role in shaping interactions and experiences. The customization of these avatars has proven to be a critical factor in user behavior, as it influences identification and emotional connection. A study underscored the importance of customization, with a striking 92% of people reporting that it is crucial when creating their virtual selves, prioritizing features like facial attributes over attire [32]. This notion of separate selves and thus separate consumer behaviors has established itself in other areas of consumer behavior such as gift card use [33] and even how brands relate and identify with different aspects of their consumers [34].

Such personalization extends beyond aesthetics; it has been found to impact physical behaviors, as another study indicated a link between avatar customization, control intuitiveness, and users' physical activity [35]. Moreover, the lack of inclusivity in avatar representation has been highlighted as a concern, with 60% of individuals perceiving a deficit in diversity within virtual worlds [36]. This sense of representation or its absence can significantly influence user engagement and spending habits in these digital spaces. The features of avatars also have psychological effects. For instance, the color of an avatar's clothing can induce behavioral changes, with black attire being associated with increased aggression [37]. This highlights the subtle yet profound ways in which avatars can impact the mental state and consequent actions of users.

Delving deeper into the psychological mechanisms at play, the bond between a user and their avatar is grounded in cognitive fluency, the ease with which users can project their identity and embody their digital personas. This bond is pivotal in mediating social behavior within virtual worlds [38]. The clarity of one's self-concept is another moderating factor, shaping the extent to which avatar identification may lead to problematic gaming behaviors, thus demanding a nuanced understanding of the interplay between self-perception and digital representation [39].

Attachment to virtual objects further complicates the dynamic between users and avatars. Users tend to express different facets of their identities by choosing particular virtual possessions, a behavior that can have implications for their interactions and

transactions within the virtual environment [40]. The impact of avatars extends to user satisfaction and intention to purchase, as shown in a study where non-expressive naturalistic avatars led to more positive outcomes than their expressive counterparts [32]. In immersive virtual reality, the facial resemblance of an avatar to the user significantly enhances the sense of presence and embodiment [41].

Furthermore, recent advancements in technology have facilitated the development of READ (Realistic Emotion-controllable Audio Driven) avatars, capable of expressing emotions realistically through audio input, thus enhancing the expressiveness of 2D avatars [42]. The realistic portrayal of avatars is not without its complications; for example, the use of biosignal animations can inadvertently mislead users about another's availability status in social VR settings [43]. In a group setting, avatars and the environmental context within virtual reality are shown to substantially influence interactions, with outdoor scenarios being linked to increased enjoyment and perceived restorativeness [44].

Biometric avatars have also been explored for their potential in examining body image, particularly among females with adolescent idiopathic scoliosis, marking a step towards therapeutic applications of avatar technology [45]. Another example can be found with virtual fitting rooms have offered insights into how avatars can affect self-perception, where lower BMI (Body Mass Index) consumers had enhanced product evaluations, in contrast to high BMI consumers who faced self-image threats [46]. Additionally, the design of spaces, virtual or real, has been shown to affect the processing of others' body expressions, indicating the importance of environmental factors in social cognition [47].

Avatar-mediated communication has also shown promise in improving user participation in video conferencing by leveraging self-affirmation techniques, fostering more active debate and deflecting criticism [37,48]. In terms of inclusivity, platforms that allow for the representation of disability identities are emerging, providing more accessible communication methods for those with disabilities [49]. Interestingly, avatars not only impact the cognitive and social realms but also the physical, as users often unintentionally synchronize their movements with their avatars, suggesting a bidirectional relationship in virtual environments [50]. This synchronization has implications for both social interactions and the development of rehabilitative tools in virtual reality.

2.4. Impact of avatars in in-game advertising

The digital representation of the self within the virtual gaming realms, through avatars, has been gaining significant traction in influencing player behavior and, by extension, their receptiveness to in-game advertising [51]. Players often find themselves emotionally invested in these avatars, leading to an interesting dynamic where their real-world behavior, such as purchasing habits, begins to mirror that of their virtual counterparts (see **Table 1**). This affective investment becomes particularly noticeable when players adapt their behavior to match that of their gaming group or guild, sometimes leading to increased aggression in purchasing virtual goods [52].

Table 1. Avatar influence on consumer behavior.

Factor	Influence	Details
Personal relatability	Reflection on self	Users may alter their in-game behavior and purchasing based on the characteristics of their avatars in social contexts within the game.
In-game advertising	Change in consumer behavior	Exposure to in-game ads through avatars may increase the propensity to purchase related products, due to a connection between the user's identity and the avatar.
Avatars as affectors	Economic and affective investment	The avatar's role in in-game economies and players' affective investment could influence real-world economic behavior.
Cultural influence	Impact on cultural outcomes	The cultural context of the user may affect the impact of in-game advertising and the related consumer behavior linked to avatar representation.

Moreover, companies like Momentum Worldwide have realized the potential of in-game advertising, embarking on extensive campaigns that capitalize on this personal connection between player and avatar [53]. The psychological impact of seeing the world through the avatar's eyes can fundamentally alter consumer behavior. For instance, when a player purchases a high-end item like a Prada bag in *Grand Theft Auto*, which they would not consider buying in reality, it exemplifies how the avatar's identity can sway the player's real-world brand perceptions and buying intentions [54].

Research suggests that information presented by a naturalistic avatar, one which players can identify with even if it lacks expressive capabilities, can have a stronger impact on user satisfaction and purchase intentions than traditional static graphical presentations [32]. This phenomenon is not just confined to in-game experiences but extends into broader virtual environments such as the metaverse, where avatars are the main medium for brand interaction and customer engagement. The metaverse presents a seamless blend of reality and virtuality, continually expanding with user interaction, thereby opening new avenues for advertisers to explore deeply personalized marketing strategies [55].

The impact of avatars on advertising is also nuanced by cultural factors. A comparative analysis of advergames' cultural outcomes between the United Kingdom and Saudi Arabia showed that cultural context significantly influences how advertising is perceived and can affect consumer behavior across different cultures [56]. Furthermore, the findings on the receptiveness of gamers to embedded brand messages reveal that recall of products within advergames is quite high. However, this effectiveness might be more pronounced for brands already known to the players, suggesting that avatars might be more suitable for enhancing brand image rather than introducing new products [57].

In the pursuit of understanding and capitalizing on these complex player-avatar relationships, Watanabe and Ho [58] argue for an updated model of technology-mediated service encounters that incorporates avatar technologies. They suggest that avatars in service encounters could greatly enhance the experience, promoting flexibility and interaction that traditional service encounters or even service robots may not offer. In all, the influence of avatars on in-game advertising and consumer behavior is multifaceted and significant, with companies increasingly recognizing the power of these virtual identities in shaping real-world purchasing decisions. The evolving landscape of online gaming and the metaverse suggests that this influence is only set to deepen, underscoring the importance for marketers to develop sophisticated strategies that align with the avatar-mediated virtual experiences of consumers.

3. Recommendations

Understanding the influence of avatars on digital behavior and consumer patterns is a multifaceted issue that warrants an in-depth, longitudinal approach. To expand our knowledge in this arena, several avenues of research could be pursued (**Table 2**). Firstly, the dichotomy between how younger individuals perceive avatars as a digital accessory and how adults view them as an aspirational embodiment calls for a detailed investigation. Younger users often craft avatars that resonate with their interests and personalities rather than an idealized version of themselves, which could have implications for their interactions with in-game advertising and purchasing behavior. This is in contrast to adults, who might choose avatars that represent an idealized or aspirational version of themselves. Understanding these age-related differences in avatar engagement could provide valuable insights into how virtual identities influence purchasing decisions and consumer behavior in online marketplaces.

Table 2. Recommended future research.

Area of focus	Description	Potential impact
Avatar personalization	Research how demographic groups differ in avatar creation, focusing on the distinctions between younger and older users.	Could provide insight on how self-perception and identity are manifested in digital environments.
Avatar as surrogates	Investigate the psychological impact of avatars being idealized versions of selves for adults versus playful toys for kids.	Might reveal underlying motivations for virtual representation and their impact on real-world behavior.
Consumer behavior	Analyze purchasing patterns in relation to avatar use across different scales like materialism and cosmopolitanism.	To understand the influence of virtual identities on real-world consumption habits.
AI and self-representation	Examine the effect of AI-enhanced self-representation tools on professional imagery and social media profiles.	Could uncover trends in personal branding and its implications for professional and social interactions.
Sociological studies	Conduct longitudinal studies in virtual worlds to compare historical data with contemporary behaviors.	Would help to track the evolution of social dynamics and user engagement in virtual environments.
Platform comparison	Compare avatar-related behaviors across different gaming and social platforms.	This could identify platform-specific trends and inform targeted marketing strategies.

The concept of avatars as surrogates for self, particularly in the domain of adults, is another area ripe for exploration. Here, the notion that adults select avatars that represent who they wish to could be examined in terms of how this affects interactions with and within virtual economies. For children who may treat avatars like toys, research could explore how this influences their understanding of and engagement with in-game advertising and the economy.

The study of consumption patterns through the lens of psychological scales such as cosmopolitanism and materialism, in relation to avatar attributes, can shed light on the underlying psychological factors that drive virtual goods purchases. Investigating whether different types of avatars correlate with certain consumer behavior patterns would be instrumental in understanding the role of self-representation in economic decisions made within virtual worlds.

With the advent of AI, the manipulation of self-images to appear more professional, idealized, or even perfected has become commonplace. This has significant implications for self-representation, especially on social media platforms such as LinkedIn and Facebook. A comparative study analyzing how AI-enhanced images on professional networks versus more casual platforms influence user behavior

could provide insights into the broader implications of virtual identities on personal and social behavior.

An analysis of in-game economies, specifically the sale of clothes and accessories for Xbox and PlayStation avatars, would offer a concrete measure of consumer spending within virtual spaces. By correlating spending patterns with self-expression and identity, researchers could draw connections between virtual and physical consumer behavior.

Utilizing long-standing virtual worlds like Second Life as a case study for longitudinal research presents an opportunity to track changes and trends in user behavior over decades. This approach would offer a window into how virtual subcultures evolve and how they interact with and within the virtual economy over an extended period.

Additionally, broad sociological studies in virtual worlds, with a focus on gaming, would enrich our understanding of how in-app purchasing and player interactions within games reflect wider social behaviors. Such studies could also compare virtual behavior with real-world economic and social interactions.

Lastly, by comparing user behavior across different virtual platforms, from online gaming to social media interactions and in-app purchasing, researchers could discern whether consumer behavior in these different virtual environments has commonalities or is distinctly influenced by the platform itself.

A comprehensive, interdisciplinary research program that includes longitudinal studies, cross-cultural comparisons, and an analysis of psychological scales could significantly advance our understanding of the economic and social implications of avatars and virtual identities. This body of research would not only elucidate the digital economy but also provide insights into the future of identity and behavior in an increasingly virtual world.

4. Conclusion

In the evolving landscape of digital economies and virtual identities, the role of avatars has become a pivotal point of study, with substantial implications for consumer behavior and marketing strategies. This article has explored the multifaceted dimensions of avatars, particularly in the context of in-game advertising and the burgeoning metaverse. Key takeaways from the research presented include the distinct differences in how avatars are perceived and utilized across various age groups. Younger users tend to view avatars as extensions of their interests and an avenue for digital exploration, whereas adults often approach avatar creation as a reflection of their aspirational selves. These perspectives inherently affect how each group interacts with virtual economies and responds to in-game advertising, with younger users potentially less influenced by idealized avatar marketing and adults more likely to engage with products that align with their aspirational identities.

The review has also underscored the complexity of avatar-mediated consumer behavior. The introduction of branded items in games, such as luxury goods, in environments not traditionally associated with them opens a discourse on how virtual identities and their accouterments translate to real-world purchasing habits. It raises the question of whether the consumer behavior observed in virtual spaces is a mere

extension of physical world behavior or if it represents a new frontier of digital consumerism shaped by the unique dynamics of virtual worlds.

Looking ahead, the need for continued research is evident. Longitudinal studies can unravel how avatar-based consumer behaviors evolve over time, especially as new generations grow up with digital identities as the norm. Sociological research in virtual worlds can enhance our understanding of the digital self and its influence on real-world actions. The adoption of AI in self-representation and the resulting impacts on professional and personal spheres also demand closer examination.

Future research should consider a diversified approach, including psychological assessments, sociological studies, and market analysis, to grasp the broader implications of avatars on consumer behavior. Moreover, cross-platform studies could illuminate the differences and similarities in behavior across various virtual environments, from MMORPGs (Massive Multiplayer Online Role-Playing Games) to social media. As we stride further into the digital age, the intersection of avatars, consumer behavior, and advertising presents an exciting yet complex terrain. The recommendations for future research aim to map this terrain, providing a blueprint for understanding the new dimensions of identity and consumerism in an increasingly virtual world. This understanding is not just academic; it is essential for marketers, game designers, social media platforms, and users themselves, who navigate and shape their digital existence through avatars.

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