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Marketing in the Metaverse: Consumer Engagement, Immersive Experiences, and Future Research Directions

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Abstract

The metaverse has emerged as a transformative marketing platform, extending well beyond gaming and entertainment to reshape retail, advertising, and consumer interaction. This paper investigates how immersive virtual environments influence consumer–brand engagement and proposes a conceptual framework built around five interrelated dimensions: immersion and presence, co-creation, trust, inclusivity, and sustainability. Drawing on a narrative review of literature published between 2018 and 2025, supplemented by industry cases, the study analyses early metaverse marketing initiatives by Nike (Nikeland) and Gucci (Garden Experience) to illustrate both the opportunities and the constraints of immersive brand strategy. Four emerging application domains are examined: virtual retail and showrooms, immersive storytelling, virtual consumer communities, and brand co-creation through virtual goods. The paper argues that sustained consumer engagement in the metaverse depends not only on technological capability but also on ethical governance, equitable access, and environmental responsibility. By synthesizing insights from marketing, digital communication, and immersive technology research, this study provides a structured agenda for future empirical investigation. It offers actionable guidance for practitioners developing responsible, inclusive, and sustainable metaverse strategies.

Keywords: Metaverse marketing, Consumer engagement, Immersive experiences, Co-creation, Virtual retail, Digital transformation.

1 | Introduction

The metaverse has rapidly shifted from a speculative concept to a focal point of academic inquiry and commercial strategy. Once confined to science fiction, most notably Neal Stephenson's Snow Crash [1–3], the idea of a persistent, immersive, and socially interactive digital world now commands serious attention

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from technology firms, marketers, and policymakers alike. Conceptually, the metaverse refers to a network of persistent, three-dimensional virtual environments in which users interact through avatars and digital assets, underpinned by technologies including Augmented Reality (AR), Virtual Reality (VR), blockchain, and Artificial Intelligence (AI) [1], [4], [5]. Critically, however, the metaverse is not defined solely by its infrastructure. It is equally constituted by the cultural, social, and economic practices it enables, a distinction with profound implications for marketing.

The COVID-19 pandemic acted as a significant accelerant. The widespread shift to remote socialization, work, and commerce during 2020–2022 intensified interest in immersive virtual environments and accelerated consumer familiarity with digital interaction [6], [7]. This acceleration fits within a longer evolutionary arc: from the static, read-only web of Web 1.0 to the participatory social web of Web 2.0 to the immersive, tokenized environments of Web 3.0. Along this trajectory, consumers have progressively moved from passive recipients of marketing messages to active contributors within digital ecosystems [8]. The metaverse represents the latest, and most immersive, phase of this transformation.

For marketers, this evolution raises a fundamental question: how can brands effectively and responsibly engage consumers within hybrid physical–virtual environments? Ball [9] characterizes the metaverse not merely as a technology platform but as a new domain of human experience defined by persistence, interoperability, and an embedded economy. Early adopters, including Nike with its Nikeland environment on Roblox and Gucci with its Garden Experience, have begun experimenting with immersive brand presence, moving beyond one-way advertising toward participatory, community-driven engagement strategies. Yet despite this commercial momentum, the academic literature remains fragmented. Most existing research focuses on the technical architecture of immersive environments or their application in gaming contexts, with comparatively little attention to sustained consumer trust and loyalty, as well as the ethical dimensions of immersive marketing [7].

This paper responds to that gap. It adopts a narrative review methodology to synthesize literature published between 2018 and 2025, sourced via Scopus and Google Scholar using search terms including 'metaverse', 'marketing', 'consumer engagement', 'VR/AR commerce', and 'virtual goods'. Seminal pre-2018 works were incorporated where necessary for conceptual grounding. The review prioritizes peer-reviewed studies while drawing on industry reports to capture recent developments. On this basis, the paper pursues three objectives: 1) to develop a multidimensional conceptual framework of consumer engagement in metaverse marketing, 2) to analyze emerging application domains through real-world case evidence, and 3) to identify a structured agenda for future research and practice.

The paper is organized as follows. Section 2 presents the conceptual framework. Section 3 reviews the theoretical foundations across five thematic areas. Section 4 examines four key application domains. Section 5 discusses strategic and ethical implications. Section 6 concludes with a research agenda and practical recommendations.

2|Conceptual Framework: Consumer Engagement in Metaverse Marketing

This section introduces a conceptual framework that links the technological foundations of the metaverse to its marketing implications. Rather than treating the metaverse as merely a technical channel or sales platform, the framework positions it as a cultural and commercial space in which marketing practices are fundamentally transformed. Consumer engagement is conceptualized as a multidimensional, interconnected process shaped by five core dimensions: immersion and presence, co-creation, trust, inclusivity, and sustainability (see *Fig. 1*).

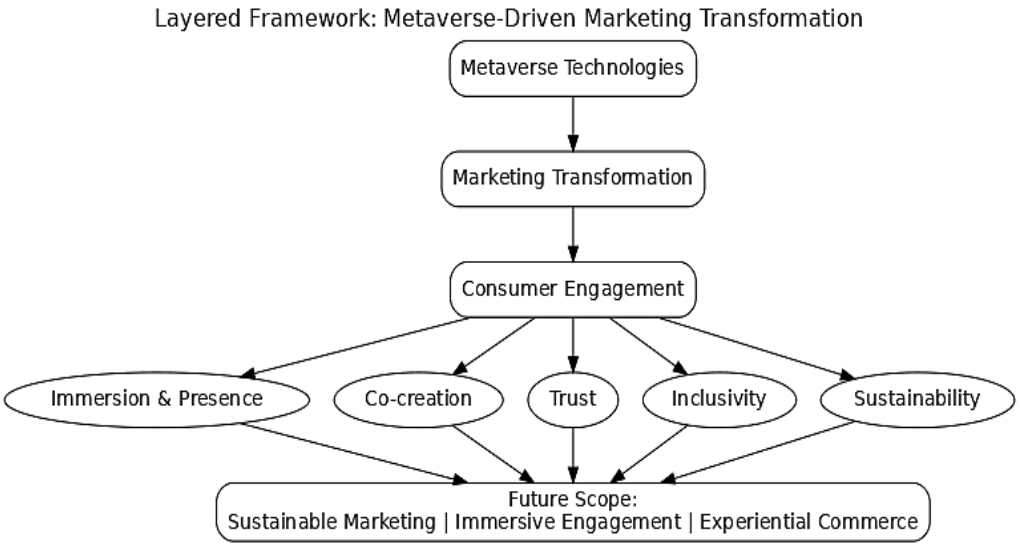

Fig. 1. Conceptual framework of consumer engagement in metaverse marketing.

The first dimension, immersion and presence, captures the psychological experience of 'being there' in a virtual environment. Unlike screen-based media, immersive environments generate a heightened sense of spatial presence that amplifies emotional response and cognitive engagement [10–12]. For marketers, immersion transforms routine brand exposure into a memorable experiential event.

The second dimension, co-creation, reflects the capacity of metaverse environments to position consumers as active participants rather than passive recipients. Through avatar personalization, digital asset design, and collaborative events, consumers shape brand experiences in ways that reinforce identity and deepen attachment [7], [13].

Trust constitutes the third dimension and is perhaps the most fragile. Immersive platforms collect intimate behavioral and biometric data, including eye movements, gestures, and emotional cues, which intensifies existing concerns about surveillance, data governance, and identity protection [14], [15]. Without meaningful transparency and accountability, even technologically impressive environments may fail to attract and retain users.

Inclusivity forms the fourth dimension. Access to high-specification hardware, reliable broadband, and the digital literacy required to navigate immersive spaces remains unevenly distributed across demographic and geographic lines [16], [17]. Brands that overlook this structural inequality risk developing campaigns that serve only affluent, technologically equipped segments, undermining both their market reach and their social legitimacy.

Sustainability constitutes the fifth and final dimension. The computational demands of large-scale VR environments, blockchain networks, and NFT marketplaces generate substantial energy consumption and associated carbon emissions [18], [19]. As environmentally conscious consumers, particularly Generation Z, increasingly evaluate brands based on ecological responsibility, the energy footprint of immersive marketing campaigns becomes a strategic, not merely operational, concern.

These five dimensions are not independent. Immersion may initially draw users into virtual environments, but sustained engagement depends on trust, inclusivity, and the meaningfulness of co-creation opportunities. Sustainability considerations shape both consumer perceptions and the long-term legitimacy of immersive brand ecosystems. The framework thus highlights consumer engagement as a process requiring simultaneous attention to technological capability, ethical governance, and social equity.

3 | A Review of Related Literature

To contextualize the proposed framework, this section reviews prior work examining the intersection of digital technology, virtual environments, and consumer behavior. The review is organized thematically across five sub-areas: the evolution of digital marketing, presence and consumer experience, value co-creation, consumer trust and privacy, and inclusivity and sustainability.

3.1 | From Digital to Immersive: The Evolution of Marketing

Digital marketing has evolved in tandem with successive generations of the internet. During the Web 1.0 era, firms relied on static web pages, banner advertising, and early e-commerce platforms. Communication was primarily unidirectional; firms broadcast, and consumers received [20]. This phase established an online commercial presence but offered limited interactivity, marketing functioned more as a digital brochure than a conversation.

The transition to Web 2.0 marked a significant inflection. Social media platforms, Facebook, YouTube, Twitter, and their successors, enabled users to generate, share, and respond to content, fundamentally altering the dynamics of brand communication [21]. Brands responded by embracing influencer marketing, User-Generated Content (UGC), and community management as core engagement tools. Communication became bidirectional, yet remained screen-bound; users engaged with brands rather than within them.

Web 3.0 and the metaverse extend this trajectory into immersive, three-dimensional, and participatory environments [22]. Users no longer merely consume or comment on branded content; they inhabit brand spaces, attend virtual events, and co-construct digital identities. Early brand experiments, Nike's Nikeland on Roblox and Gucci's Garden Experience, exemplify this shift from exposure to immersion [7]. The metaverse is thus best understood not as a departure from prior digital marketing paradigms but as their logical extension, with immersion and participation at its core. Importantly, however, systematic theoretical frameworks explicating how immersive marketing differs from earlier digital forms remain underdeveloped [7].

3.2 | Presence and Consumer Experience in Virtual Environments

A defining characteristic of the metaverse is its capacity to generate a strong sense of psychological presence, the subjective experience of 'being there' in a virtual space. Extensive research in VR and AR contexts confirms that conditions of high presence elicit emotional and cognitive responses comparable to those experienced in physical environments [10]. For marketers, this is significant: messages are not merely observed but experientially processed, with potential to generate stronger memory traces and brand associations.

Empirical evidence supports these claims in consumer settings. Studies indicate that shoppers who interact with three-dimensional product models or AR overlays report higher purchase intentions than those who view conventional product images [7], [23]. Similarly, students in VR learning environments demonstrate improved engagement and retention [17]. Cultural events provide vivid illustration: more than 27 million users attended Travis Scott's virtual concert in Fortnite, experiencing a shared presence qualitatively different from passive video consumption [9]. IKEA's AR application, which allows customers to visualize furniture in their homes before purchase, offers a comparable example of how immersion can enhance consumer decision-making. What remains less understood is the extent to which such heightened initial engagement translates into durable brand loyalty and measurable return on investment, an important area for future empirical research.

3.3 | Value Co-creation and Participatory Branding

The concept of co-creation, the joint production of value by firms and consumers, has been influential in marketing thought since Prahalad and Ramaswamy [13] argued that competitive advantage increasingly derives from collaborative experience. The metaverse provides an especially fertile environment for co-

creation [24]. Consumers are not merely customizing purchases; they are designing avatars, building digital environments, generating branded assets, and co-hosting events. This active involvement represents a qualitative shift: consumption becomes production, and brand attachment is reinforced through the individual's investment of creativity and identity.

Dwivedi et al. [7] report that interactive brand elements, including virtual product customization and co-hosted in-world events, correlate with increased consumer satisfaction and brand advocacy. These findings extend prior UGC research by demonstrating that the metaverse's integration of social interaction within the brand environment, rather than on external platforms, amplifies the effect of co-creation on loyalty. Practical examples reinforce the theoretical argument: Nike's Nikeland enabled users to build branded game environments, while Gucci's Garden offered limited-edition virtual accessories that commanded prices exceeding their physical equivalents, demonstrating that co-created virtual goods can generate both social and economic value. Nevertheless, whether these co-creation experiences produce durable loyalty or merely short-term novelty-driven engagement remains an open empirical question.

3.4 | Consumer Trust, Privacy, and Data Governance

Trust is a prerequisite for sustained engagement in any marketing context, but it is even more important in immersive environments [25], [26]. VR headsets and biometric sensors collect unusually intimate data, including eye-tracking, gesture patterns, and physiological responses, creating significant potential for both highly personalized marketing and exploitative surveillance [14]. The privacy risks inherent in such data collection, compounded by concerns over intellectual property, identity theft, and platform governance, present a substantial barrier to adoption.

Evidence from early metaverse deployments underscores these concerns. Meta's Horizon Worlds has faced persistent criticism over harassment, inadequate content moderation, and data security vulnerabilities. Multiple blockchain-based platforms have collapsed due to fraud or regulatory failure, eroding consumer confidence in the wider metaverse ecosystem. Dwivedi et al. [7] confirm that consumer interest in virtual goods and immersive brand experiences is frequently constrained by governance uncertainty. The implications for marketing strategy are clear: technological sophistication alone cannot substitute for transparent data practices, accountable governance structures, and enforceable user protections. Critically, the academic literature offers few models for systematically building and maintaining trust in immersive marketing contexts, a significant gap that warrants dedicated research attention.

3.5 | Inclusivity, Digital Equity, and Sustainability

Two structural challenges, inequitable access and environmental cost, intersect to shape the long-term viability of metaverse marketing.

Regarding inclusivity, access to the hardware and infrastructure required for immersive experiences remains highly uneven [27]. High-specification VR headsets, powerful computing devices, and reliable broadband connectivity are financially prohibitive for many users and geographically unavailable to others [17]. Xi and Hamari [16] confirm that early metaverse adoption has been heavily skewed toward younger, urban, and higher-income demographics. From a marketing perspective, this concentration of access is not merely an equity concern; it is a strategic limitation. Campaigns designed exclusively for early-adopter segments forfeit the mass-market reach that defines mainstream brand-building. Emerging solutions, including lightweight mobile VR applications, cloud-based rendering, and diverse avatar representation, represent initial steps toward broader participation. However, the evidence on their effectiveness in substantively narrowing the access gap remains limited [7].

Regarding sustainability, the computational demands of large-scale immersive platforms are substantial. Mora et al. [18] estimated that some blockchain technologies have carbon footprints comparable to those of small nations. As Generation Z consumers increasingly expect environmental accountability from the brands they support, a standard they apply with equal force in digital contexts, the energy intensity of metaverse campaigns

carries reputational risk [7], [19]. Several blockchain networks have begun transitioning from energy-intensive proof-of-work to less demanding proof-of-stake protocols, and some brands have begun incorporating sustainability narratives within their virtual experiences. However, systematic empirical investigation of how sustainability practices in the metaverse influence consumer trust and brand equity is still in its early stages.

4 | Applications of Metaverse Marketing

This section examines four emerging application domains in which brands are actively deploying metaverse marketing strategies. In each case, promising early evidence is tempered by unresolved questions about scalability, sustainability, and the durability of consumer engagement.

4.1 | Virtual Retail and Immersive Showrooms

Virtual retail environments seek to combine the convenience of e-commerce with experiential aspects of physical retail, reflecting broader trends toward experience-oriented consumption [28]. Rather than presenting merchandise on static product pages, immersive showrooms allow consumers to navigate branded spaces, manipulate three-dimensional product representations, and interact with other shoppers or brand representatives.

Early implementations offer instructive evidence. Nike's Nikeland attracted millions of users who participated in game-like brand challenges, embedding the Nike brand within a community experience rather than a transactional encounter. Gucci's Garden Experience in Roblox enabled users to explore themed virtual exhibitions and purchase digital accessories, some of which commanded prices exceeding their physical-world equivalents, affirming that principles of scarcity and exclusivity operate within virtual economies [7]. Academic research corroborates the commercial intuition: laboratory studies of VR shopping environments report higher product recall and, in some cases, elevated purchase intentions relative to conventional online listings [17], [29].

Significant practical challenges nonetheless remain. Creating and maintaining compelling virtual showrooms demands substantial investment, and engagement may diminish if experiences are not regularly refreshed. Hardware and connectivity barriers further restrict reach. The critical strategic challenge is not simply to recreate physical retail in a digital medium but to leverage the distinctive affordances of immersive environments, personalization, socialization, and exploratory play, to deliver value that conventional e-commerce cannot provide.

4.2 | Immersive Storytelling and Experiential Advertising

The metaverse offers brands an alternative to conventional interruptive advertising: the creation of immersive narrative environments in which consumers choose to participate. Rather than viewing a commercial, users inhabit it [30]. Travis Scott's virtual concert in Fortnite is the paradigmatic example, more than 27 million participants experienced an event combining performance, visual spectacle, and brand association in ways that passive media consumption cannot replicate [9]. Fashion brands have pursued analogous strategies: Gucci and Balenciaga have developed digital events that integrate their creative identities into participatory narratives, positioning their campaigns closer to cultural entertainment than to conventional advertising.

Preliminary evidence indicates that immersive experiences generate stronger emotional resonance and longer retention than static or video-based advertising [7], [31]. However, the financial and creative demands of immersive storytelling are considerable, and translating heightened emotional engagement into measurable commercial outcomes, brand loyalty, repeat purchase, advocacy, remains empirically underexplored. As immersive campaigns proliferate, distinguishing meaningful brand experiences from short-lived novelties will require both more rigorous measurement frameworks and more sustained strategic commitment from brands.

4.3 | Virtual Brand Communities

A distinctive capability of metaverse platforms is the hosting of persistent social environments, spaces in which consumers gather, interact, and build shared identities, not merely transact [32]. Platforms such as Roblox, Decentraland, and Horizon Worlds provide infrastructure for branded social spaces: Nike's Nikeland, for example, functions as a community hub where users play, socialize, and engage with the brand organically, without the primary framing of a commercial transaction. Branded music festivals and art exhibitions in Decentraland offer comparable models of community-centered engagement.

This model aligns with established research on brand communities, which consistently demonstrates that peer-to-peer interaction within a shared brand context generates more durable loyalty than direct brand–consumer communication alone [7]. The risk, however, is equally well-established: digital communities require ongoing investment in moderation, programming, and platform development to sustain participation. Without such investment, even well-resourced virtual environments risk becoming abandoned spaces, 'ghost towns' in Mystakidis's [17] phrase, once initial novelty dissipates. For researchers, core questions concern the conditions under which community vitality is sustained over time; for practitioners, the managerial imperative is to treat virtual communities as living assets requiring continuous cultivation rather than one-time launches.

4.4 | Brand Co-creation and Virtual Goods

The metaverse enables a form of consumer participation that extends beyond engagement into economic co-production [32]. Virtual goods, including branded avatar skins, accessories, and digital collectibles, function simultaneously as objects of consumption, symbols of identity, and stores of value. Belk's [33] concept of the extended self applies directly: consumers invest in virtual assets that have personal meaning, treating them as extensions of their digital identities. NFT-based ownership mechanisms further amplify this dynamic by enabling verifiable scarcity and transferability of digital assets, creating conditions for genuine secondary markets.

Prahalad and Ramaswamy's [13] framework of co-creation takes on new dimensions in this context: consumers do not merely co-create experiences but co-construct the very value chains through which digital goods circulate. The commercial implications are significant, as demonstrated by virtual goods commanding premiums above their physical counterparts. However, the risks are equally salient. Poorly executed NFT projects, pricing irregularities, and high-profile fraud cases have eroded consumer confidence in digital asset markets. Whether co-creation and virtual ownership generate durable brand loyalty or are primarily driven by speculative interest and novelty is a critical unresolved question for both theory and practice.

5 | Discussion

The foregoing review and application analysis support a coherent picture of metaverse marketing as a domain of significant opportunity constrained by substantial structural and ethical challenges. Three cross-cutting themes emerge with particular clarity: the imperative of sustainability, the centrality of trust, and the strategic necessity of inclusivity.

5.1 | Sustainability as a Strategic Imperative

The environmental cost of immersive platforms is not a peripheral concern. The computational infrastructure required to sustain large-scale virtual environments, combined with the energy demands of blockchain-based asset systems, generates carbon emissions on a scale that increasingly invites scrutiny [18]. As environmentally conscious consumers, particularly younger demographics, extend their expectations of corporate ecological responsibility into digital contexts, brands that conduct energy-intensive immersive campaigns without credible sustainability commitments face reputational exposure [7]. The adoption of proof-of-stake protocols and green-themed virtual campaigns represents a starting point, but systematic integration of sustainability principles into immersive marketing strategy remains nascent. Future research should investigate how

sustainability practices in the metaverse affect consumer trust, brand equity, and long-term engagement, and develop practical frameworks for embedding environmental accountability into immersive campaign design.

5.2 | Immersive Engagement and the Limits of Novelty

Immersion generates demonstrably stronger affective and experiential consumer responses than conventional digital formats [9], [31]. However, the relationship between heightened initial engagement and durable commercial outcomes remains poorly understood. Early evidence suggests that some immersive initiatives produce lasting brand loyalty while others generate transient excitement that dissipates once novelty fades. Future campaigns will likely achieve greater effectiveness by integrating immersive touchpoints within broader omnichannel strategies, combining virtual events with social media, physical retail, and ongoing community management, rather than treating immersive experiences as standalone activations. Academics face a corresponding challenge: developing measurement frameworks that capture the distinct, longer-term effects of immersive brand encounters on consumer behavior.

5.3 | Experiential Commerce and the Blurring of Transaction and Experience

The metaverse enables a significant departure from conventional e-commerce: integrating commercial transactions into an immersive, experiential context, so that the act of purchasing becomes indistinguishable from the act of participation. A consumer attending a virtual fashion show, customizing a digital garment, and purchasing both a virtual and physical version without leaving the experience represents a qualitatively new consumer journey. Early experiments with limited-edition NFTs and branded skins demonstrate consumer willingness to pay premiums for goods whose value derives from social capital, identity expression, and community membership rather than utility alone. For marketers, the design challenge is to make such transactions feel natural, secure, and consistent with brand values. For researchers, the more fundamental question is whether experiential commerce represents a durable restructuring of consumer behaviour or an evolutionary refinement of existing digital commerce patterns.

6 | Conclusion

This paper has examined marketing in the metaverse through a conceptual framework organized around five dimensions of consumer engagement, immersion and presence, co-creation, trust, inclusivity, and sustainability, and has illustrated this framework through analysis of emerging application domains and real-world brand cases. Taken together, the evidence suggests that marketing in the metaverse differs from prior digital marketing paradigms not merely in technological terms but in its fundamental logic: attention gives way to experience, one-way communication yields to co-creation, and products are embedded within persistent, socially constituted worlds.

The cases of Nike, Gucci, Balenciaga, and others demonstrate that immersive brand strategies can generate significant engagement, community cohesion, and economic value. They also reveal the fragility of these gains: communities can stagnate, trust can erode due to governance failures, and initial novelty does not automatically translate into loyalty. The path to sustainable competitive advantage in the metaverse runs through ethical data governance, equitable design, environmental accountability, and the kind of sustained community investment that transforms virtual spaces from marketing activations into genuinely valued social environments.

Several research priorities emerge from this analysis. First, there is an urgent need for longitudinal empirical studies to assess whether immersive marketing campaigns generate durable outcomes, brand loyalty, trust, repeat engagement, and purchase intention—beyond the initial novelty phase. Second, research on inclusivity should examine whether emerging access solutions meaningfully narrow the digital divide or merely shift its boundaries, and how disparities in access affect the equity of immersive brand ecosystems. Third, the sustainability literature on immersive marketing requires systematic empirical development: how do energy practices and environmental commitments in the metaverse affect consumer perception, brand legitimacy,

and trust? Fourth, the mechanisms by which trust is constructed and maintained in immersive spaces, where data collection is more intimate and platform governance is less mature, deserve dedicated theoretical and empirical attention.

For practitioners, the core implication is clear: technological capability is a necessary but insufficient condition for metaverse marketing success. Brands that approach virtual environments as cultural and social spaces, rather than as advertising channels, and that design for trust, inclusivity, and responsibility alongside immersion and engagement, are best positioned to realize the distinctive value the metaverse offers. The task ahead is to innovate responsibly, design inclusively, and engage sustainably.

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Author Contributaion

Conceptualization, K.P. and B.S.; Methodology, K.P.; Formal analysis, K.P.; Investigation, K.P.; Resources, K.P. and B.S.; Writing — original draft preparation, K.P.; Writing — review and editing, B.S.; Visualization, K.P.; Supervision, B.S. All authors have read and agreed to the published version of the manuscript.

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Data Availability

No new empirical data were generated or analysed during the current study. The manuscript is based on conceptual analysis and review of existing literature and publicly available sources.

Conflicts of Interest

The authors declare no conflicts of interest related to this work.

References

[1] Sharifi, L., & Pourqasem, J. (2025). Cloud-based architecture for digital twins and augmented reality in the metaverse platform. *International journal of research in industrial engineering*, *14*(4), 808–822. https://doi.org/10.22105/riej.2025.504969.1537

[2] Kumar, R., Aneja, P., Jadaun, R., Kiran, P. B. N., Saxena, N., Saxena, S., … & Painoli, A. K. (2026). Metaverse marketing: A review and future research agenda. *Information discovery and delivery*, *54*(1), 35–49. https://doi.org/10.1108/IDD-05-2024-0066

[3] Pavón Delgado, A., Arteaga Sánchez, R., & Suárez Redondo, E. (2026). The metaverse revolutionises tourism marketing: A systematic review of the literature. *Journal of hospitality and tourism insights*, *9*(1), 355–374. https://doi.org/10.1108/JHTI-01-2025-0161

[4] Barari, M., Ngo, L. V., Quach, S., & Thaichon, P. (2026). Meta-analysis of augmented reality and virtual reality in marketing. *European journal of marketing*, *60*(4), 932–964. https://doi.org/10.1108/EJM-08-2023-0659

[5] Chakranarayan, V., & Taneja, G. (2026). AI and augmented reality (AR) marketing: Enhancing product visualization and interactive advertisings. In *Sustainable innovations in management in the digital transformation era* (pp. 189–193). CRC Press. https://www.taylorfrancis.com/chapters/edit/10.1201/9781003684497-32/ai-augmented-reality-ar-

marketing-enhancing-product-visualization-interactive-advertisings-vishwas-chakranarayan-girish-taneja

[6] Minton, E. A., Kaplan, B., & Cabano, F. G. (2022). The influence of religiosity on consumers' evaluations of brands using artificial intelligence. *Psychology & marketing*, *39*(11), 2055–2071. https://doi.org/10.1002/mar.21727

[7] Dwivedi, Y. K., Hughes, L., Wang, Y., Alalwan, A. A., Ahn, S. J., Balakrishnan, J., ... & Wirtz, J. (2023). Metaverse marketing: How the metaverse will shape the future of consumer research and practice. *Psychology & marketing*, *40*(4), 750–776. https://doi.org/10.1002/mar.21767

[8] Kietzmann, J. H., Hermkens, K., McCarthy, I. P., & Silvestre, B. S. (2011). Social media? Get serious! Understanding the functional building blocks of social media. *Business horizons*, *54*(3), 241–251. https://doi.org/10.1016/j.bushor.2011.01.005

[9] Ball, M. (2022). *The metaverse: And how it will revolutionize everything*. Liveright Publishing. https://www.amazon.nl/-/en/Matthew-Ball-ebook/dp/B09KMWYHX8

[10] Slater, M., & Sanchez-Vives, M. V. (2016). Enhancing our lives with immersive virtual reality. *Frontiers in robotics and ai*, *3*, 74. https://doi.org/10.3389/frobt.2016.00074

[11] Cummings, J. J., Tsay-Vogel, M., Cahill, T. J., & Zhang, L. (2022). Effects of immersive storytelling on affective, cognitive, and associative empathy: The mediating role of presence. *New media & society*, *24*(9), 2003–2026. https://doi.org/10.1177/1461444820986816

[12] Gao, Y., & Spence, C. (2025). Enhancing presence, immersion, and interaction in multisensory experiences through touch and haptic feedback. In *Virtual worlds* (Vol. 4, No. 1, p. 3). MDPI. https://doi.org/10.3390/virtualworlds4010003

[13] Prahalad, C. K., & Ramaswamy, V. (2004). *The future of competition: Co-creating unique value with customers*. Harvard Business Press. https://www.amazon.co.uk/Future-Competition-Co-Creating-Unique-Customers/dp/1578519535

[14] Huang, M. H., & Rust, R. T. (2021). A strategic framework for artificial intelligence in marketing. *Journal of the academy of marketing science*, *49*(1), 30–50. https://doi.org/10.1007/s11747-020-00749-9

[15] Andreoletti, D., Leidi, T., Peternier, A., & Giordano, S. (2026). Emotion recognition in virtual reality: Toward adaptive and responsible technologies. *Empathic computing*, *2*(2), 202538. https://doi.org/10.70401/ec.2026.0019

[16] Xi, N., & Hamari, J. (2021). Shopping in virtual reality: A literature review and future agenda. *Journal of business research*, *134*, 37–58. https://doi.org/10.1016/j.jbusres.2021.04.075

[17] Mystakidis, S. (2022). Metaverse. *Encyclopedia*, *2*(1), 486–497. https://doi.org/10.3390/encyclopedia2010031

[18] Mora, C., Rollins, R. L., Taladay, K., Kantar, M. B., Chock, M. K., Shimada, M., & Franklin, E. C. (2018). Bitcoin emissions alone could push global warming above 2 C. *Nature climate change*, *8*(11), 931–933. https://doi.org/10.1038/s41558-018-0321-8

[19] Ismail, L., & Buyya, R. (2023). *Metaverse: A vision, architectural elements, and future directions for scalable and realtime virtual worlds*. https://arxiv.org/abs/2308.10559

[20] Kotler, P., Keller, K. L., & Chernev, A. (2022). *Marketing management*. Pearson. https://sinhvien.dinhtienminh.net/wp-content/uploads/2019/01/Marketing-Management-Global-Edition-Philip-Kotler-Kevin-Lane-Keller-16th-2021_compressed-1.pdf

[21] Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business horizons*, *53*(1), 59–68. https://doi.org/10.1016/j.bushor.2009.09.003

[22] Boztas, C., Ghadafi, E., & Ibrahim, R. (2025). Metaverse architectures: A comprehensive systematic review of definitions and frameworks. *Future internet*, *17*(7), 283. https://doi.org/10.3390/fi17070283

[23] Jang, J., & Choo, H. J. (2025). Immersive VR fashion shopping: when and how mental imagery shapes consumer information processing. *Fashion and textiles*, *12*(1), 42. https://doi.org/10.1186/s40691-025-00450-x

[24] Ramadan, Z., & Ramadan, J. (2025). AI avatars and co-creation in the metaverse. *Consumer behavior in tourism and hospitality*, *20*(1), 131–147. https://doi.org/10.1108/CBTH-07-2024-0246

[25] Muneesawang, P., Yawised, K., & Apasrawirote, D. (2025). From digital marketing to immersive marketing strategies: Key enablers for effective immersive marketing abstract. *International journal of quality and service sciences*, 1–39. https://doi.org/10.1108/IJQSS-07-2025-0158

[26] Asif, M., Fazel, H., & Alghamdi, F. S. (2025). The ethical landscape of immersive marketing: virtual and augmented reality in advertising. *Marketing intelligence & planning*, *43*(7), 1515–1533. https://doi.org/10.1108/MIP-07-2024-0519

[27] Mondal, H., & Mondal, S. (2025). Adopting augmented reality and virtual reality in medical education in resource-limited settings: Constraints and the way forward. *Advances in physiology education*, *49*(2), 503-507. https://doi.org/10.1152/advan.00027.2025

[28] Pine, B. J., & Gilmore, J. H. (1998). *Welcome to the experience economy*. Harvard Business Review Press Cambridge, MA, USA. https://enlillebid.dk/mmd/wp-content/uploads/2012/03/Welcome-to-the-Experience-Economy-Pine-and-Gilmore.pdf

[29] Xi, N., Chen, J., Gama, F., Korkeila, H., & Hamari, J. (2024). Acceptance of the metaverse: A laboratory experiment on augmented and virtual reality shopping. *Internet research*, *34*(7), 82–117. https://doi.org/10.1108/INTR-05-2022-0334

[30] Tam, F. Y., & Lung, J. (2025). Luxury fashion brands in metaverse retailing--a review of literature and practice. *Foresight*, *27*(1), 169–199. https://doi.org/10.1108/FS-07-2023-0132

[31] Javornik, A. (2016). 'It's an illusion, but it looks real!'Consumer affective, cognitive and behavioural responses to augmented reality applications. *Journal of marketing management*, *32*(9–10), 987–1011. https://doi.org/10.1080/0267257X.2016.1174726

[32] Anwar, N., Gunawan, H., Sekti, B. A., Ichwani, A., Erzed, N., Laksana, R. P., ... & Yuhefizar, Y. (2025). Exploring the metaverse: Foundations of social interaction and community building. In *Unveiling social dynamics and community interaction in the metaverse* (pp. 1-26). IGI Global Scientific Publishing.

[33] Tran, T. (2026). From generativity to governance: Reframing co-creation in the artificial intelligence-metaverse era. *Social sciences & humanities open*, *13*, 102966. https://doi.org/10.1016/j.ssaho.2026.102966

[34] Belk, R. W. (2013). Extended self in a digital world. *Journal of consumer research*, *40*(3), 477–500. https://doi.org/10.1086/671052