

Presentation of The Avatar Technology Development Model in Sport Businesses

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Abstract

Purpose: This study aimed to introduce the avatar technology development model in sport businesses.

Method: The research method used was qualitative and conducted with a multi-grounded approach. The study involved 11 participants, comprising marketing experts, professors, and owners companies. Semi-structured interviews were the primary research tool, continuing until theoretical saturation was achieved with 11 participants. Validation was performed through a triangulation approach, In order to achieve this purpose, several types of triangulation including the use of several methods, several sources of data, and several coders were performed to verify the findings. Data analysis was conducted using MAXQDA software version 2020.

Results: The final research model consisted of 5 key components: 1- Internal action conditions (organizational acceptance, technological infrastructures), 2- External action conditions (organizational external environment), 3- The main avatar phenomenon (security considerations, avatar design, personality, research and development), 4- Strategies (pricing, location and distribution channels, promotion and advertising, communication with customers, products), and 5- Outcomes (financial implications, customer relations, branding).

Conclusion: Avatars offer immersive training and event experiences, attracting and retaining customers with tailored services. Integration of avatar tech is crucial for innovation and staying competitive in the digital age. New sport businesses are advised to focus on design, security, and widespread implementation to maximize benefits and improve branding across all operational aspects.

Keywords: Artificial intelligence, Marketing, Sport industry, Technology

Introduction

Marketing is a strategic instrument employed by companies, organizations, and individuals to influence perceptions and modify behavior. Effective marketing incorporates meticulously crafted strategies and a diverse array of techniques to modify individuals' cognition and interactions regarding targeted products or services. Conversely, ineffective marketing can lead to consumer indifference, resistance, or lack of awareness (Brown Jr, 2023).

The integration of technology in marketing facilitates the enhancement of marketing methods and tools, enabling businesses to adopt innovative and more effective approaches. According to Dongwu and Ghosh (2023), rapid advancements in information technology present marketers with novel opportunities and challenges in engaging and attracting customers. In the contemporary, rapidly evolving technological landscape, the performance and sustainability of small businesses hinge on various factors, including technical expertise, marketing strategies, social capital, and innovation. Understanding the complex interactions among these variables is crucial for devising effective strategies that bolster growth and competitiveness within the industry (Manafe et al., 2024). In today's competitive digital environment, where the Internet is an integral part of daily life, prioritizing user experience and satisfaction is paramount (Ahmeti & Bajrami, 2024). Gupta et al. (2024) assert that advancements in technology, particularly in data analysis, artificial intelligence, and virtual reality, play a fundamental role in enhancing marketing by providing personalized experiences and fostering emotional connections with consumers. The utilization of avatars represents one of the emerging technologies in the field of marketing.

Avatar marketing is an emerging topic in the agenda of researchers and experts (de Brito Silva & de Oliveira Campos, 2024). According

to Barta et al. (2024), avatars are distinctive entities that can adapt to the characteristics of future events. Avatars represent a complex multimedia expression of identity that influences both work and learning environments (O'Connor & Neville, 2024). Xiao et al. (2024) describe avatars as a technology capable of learning comprehensive representations from human-like single-eye or scattered videos, allowing customization in aspects such as pose, shade, shape, lighting, and texture. In contemporary societies, advancements in computer technology have facilitated the proliferation of virtual personalities, commonly known as avatars. These are defined as digital entities with human-like appearances, controlled by either humans or software, and capable of interaction (Hepperle et al., 2022). Generally, there is no strong consensus on their exact definition, but several terms can be used interchangeably to refer to avatars, such as automated shopping assistants, chat bots, virtual customer service representatives, or virtual/digital assistants. The ambiguity surrounding the definition of avatars, comparing empirical results, or drawing meaningful conclusions among studies poses challenges for researchers. For the advancement of scientific knowledge, a precise definition is needed to clearly delineate the boundaries of the structure (Pugliese & Vesper, 2022).

Marketing avatars, if used strategically, have great potential for optimizing digital marketing (Bansal & Pruthi, 2023). Interacting with a virtual human can provide valuable support during turbulent times (Pauw et al., 2022). Additionally, Zhang et al. (2020) asserted that personalized avatars help users express their ideas or desires, enabling better communication, sharing experiences, and engaging in virtual world presence. In general, these avatars assist users in meeting, socializing, interacting with each other, and forming connections with other users in a virtual space (Lin et al., 2023).

The utilization of avatars in marketing allows businesses to engage more closely with customers, thereby enhancing the user experience. Ishigaki and Nabaghan Madhabika (2023) noted that avatars have been a subject of study for years and are now being employed as effective marketing tools. The advancement of artificial intelligence technology has significantly amplified the use of avatars in marketing. Avatars are regarded as dynamic brands that must adhere to established principles rooted in marketing, branding, and effective customer communication. Through the application of data science and artificial intelligence, avatars can replicate human behavior in marketing contexts (Torabi et al., 2023). Jahandideh (2023) observed that avatars are increasingly integrated into modern marketing strategies, although their impact on performance outcomes, such as purchase likelihood, varies significantly in practice. Furthermore, Bansal and Pruthi (2023) found that in the digital era, consumer engagement on social media platforms is escalating more rapidly than ever before. This trend necessitates that marketers explore innovative approaches to promote their offerings on these platforms. Avatar marketing is increasingly being adopted as a preferred tactic for branding endorsements.

Despite significant advancements, achieving high-fidelity real-time avatar animation remains challenging, with existing methods needing to trade off between speed and quality. The use of 3D Gaussian in creating avatar heads continues to pose a major challenge due to the difficulty in modeling head shape changes resulting from variations in expressions and poses for 3D Gaussian (Zhao et al., 2024). Finding academic research that can provide a comprehensive foundation on avatar marketing concepts and design is rare and difficult, as marketing strategies or successful commercial phenomena often surpass academic research due to experience-driven execution based on ideas and creativity, given the scattered literature in this field and the lack of a precise and conceptual

definition (Konieczek & van der Laan, 2021).

Avatars, akin to product brands, are considered dynamic entities that require an acceptable and standardized foundation grounded in concepts of marketing, branding, and effective customer relations (Baba et al., 2021). The popularity of avatars is not solely attributable to their 3D character immersion but involves more complex factors. These factors include consumers' experiences and insights, the type of seller organization, brand personality, and the satisfaction derived from interactions with avatars (Wang, 2022). Investigating the reasons and features involved in designing a successful avatar in marketing necessitates research to uncover key success factors in the concurrent design of graphic artistry and consumer psychological marketing (Xu et al., 2022).

The sports industry is undergoing a digital transformation, with fans increasingly seeking immersive and personalized experiences. While existing technologies offer various forms of engagement, a gap exists in creating a persistent and interactive virtual presence for both fans and athletes. Avatar technology presents a potential solution, but its effective integration within sports businesses remains a challenge. Current research on avatar technology in sports marketing primarily focuses on isolated aspects like design, security, or specific marketing applications. However, a comprehensive model for integrating avatar technology across all facets of a sports business is lacking. This lack hinders the development of a holistic strategy that maximizes the potential benefits of avatars for both fan engagement and business growth. Therefore, this research aims to address this gap by developing a comprehensive model for avatar technology in sports businesses. By developing and validating this model, this research will contribute valuable insights to the field of sports marketing. It will provide sports businesses with a framework for effectively integrating avatar technology, fostering deeper

fan engagement, driving innovation, and securing a competitive edge in the evolving digital sports landscape.

Materials and Methods

The research method used was qualitative and conducted with a multi-grounded approach. (Goldkuhl & Cronholm, 2010; Goldkuhl & Lind, 2010). According to Goldkuhl and Cronholm (2010), in multi-grounded, the integration and harmonization of relevant knowledge should be considered. This implies that common theories can be actively utilized, and abstractions derived from field data can be integrated with them. The participants included 11 individuals (6 males and 5 females) from marketing professionals, professors, and owners companies (table 1). The research tool was a semi-structured interview. The interview process continued until theoretical saturation was reached (11 participants). In the next stage, numerous articles and books on "avatars in marketing" were extracted from scientific databases and examined. In this stage, researchers investigated the combination of

keywords "avatar", "marketing", and "Businesses" as well as the most commonly used models and theories in reputable scientific databases such as Scopus, Science Direct, Magiran, etc. All data extracted from interviews and research backgrounds were analyzed, and based on them, conceptual codes, sub-categories, and main categories were extracted. Regarding the validation (validity and reliability) of the research, Wolcott (2008) believes that triangulation or comprehensive consideration is the best strategy to enhance internal validity in qualitative research. To achieve this goal, several types of triangulation, including the use of multiple methods, multiple sources for data, and multiple examiners to confirm emerging findings, were employed. Therefore, considering that in this research, firstly, multiple methods (interview and article review) were used, secondly, the data sources were different, and thirdly, there were more than one examiner, the validation of the research can be confirmed. All data were analyzed using MAXQDA 2020 software.

Table 1. Demographic characteristics of research participants

Row	gender	Age	education	Work Experience
1	Man	38	Master	12
2	Man	46	Ph.D	15
3	Female	28	Ph.D	5
4	Man	33	Ph.D	8
5	Female	32	Ph.D	10
6	Female	36	Ph.D	13
7	Man	37	Master	10
8	Man	36	Ph.D	16
9	Female	27	Ph.D	6
10	Man	29	Ph.D	7
11	Female	28	Ph.D	6

Results

In the data analysis process, initially, 192 open codes were obtained through coding, which eventually reduced to 105 concepts after eliminating duplicate items. Among these, 71 concepts were from interviews, 16 concepts from backgrounds, and 18 concepts were

common between interviews and backgrounds. Subsequently, in the axial coding stage, after identifying conceptual labels in the open coding phase, 15 axial codes were identified through combining and summarizing the initial codes. Finally, in the selective coding stage, through integrating and refining axial codes, 5 selective

codes were specified within a theoretical framework (table 2). The final research model was organized into 5 main axes: 1- Internal Interaction Conditions (organizational acceptance, technological infrastructures), 2- External Interaction Conditions (external organizational environment), 3- The main

phenomenon of avatars (security considerations, avatar design, personality, research and development), 4- Strategies (pricing, distribution channels, promotion and advertising, customer relations, products), 5- Consequences (financial consequences, customer-related, branding).

Table 2. Selective, axial and open codes

Selective code	Axial code	open code
Internal action conditions	Organizational Acceptance	Organizational Culture (1), Compatibility with organization/company resources (1), Alignment of Avatar Values with Organizational Culture (3)
	Technological Infrastructure	Securing financial budget for R&D (3), Specialized human resources for avatar guidance (3), Organizational/company software systems (1), Hardware infrastructure (3), high speed Internet (1), Virtual space expansiveness (1)
External action conditions	External Organizational Environment	Social and cultural transformations (1), Economic conditions (1), Development of new technologies in marketing (1), High competition among similar companies (2)
The main phenomenon of Avatar	Security considerations	Software systems updates (1), Maintaining the confidentiality of organizational secrets (1), Preventing cyber-attacks and system hacking (3), Fix security bugs (1), Protection against malware (1), Safeguarding customer information (3)
	Avatar Design	Fantasy content (2), Use of augmented reality (2), Use of virtual reality (2), Innovation and creativity (1), Synchronization with customer feedback (1), Simplicity in design (1), Visual appearance (2D and 3D) (2), Alignment of avatars with Iranian culture (2), Attractive graphic design (color, appearance...) (3), Creating quick believability in the mind of the audience (1), Avatar shape compatibility with products (2), Avatar compatibility with brand (1), Use of trustworthy elements (1)
	Character	Creating a character for the avatar (type of clothes, type of face, etc.) (1), Avatar accessibility (3), Understandable for all ages (2), Uniqueness of the avatar character (2), Having emotional feelings and emotional intelligence (3), Use of voice for human interaction (2), Extraverted character for more effective customer interaction (3), Possessing human-like personality and ethical values (2), Mastery of various languages based on customer location (2)
	Research and Development	Updating input data for the avatar (1), Evaluation of services performed by the avatar (1), Needs assessment of services that can be provided by the avatar (1)
Strategies	Pricing	Transparent provision of pricing information to customers (1), Assessing product pricing through stickers (1), Engaging with customers on pricing (1), Controlling product prices through avatars (1), Easy pricing of products (1)
	Location and distribution channels	Providing a variety of suggestions for product delivery times (1), Presenting locations of sport product stores (1), Analyzing customer locations for product delivery (1)
	Promotion and advertising	Appearance attractiveness of avatars (1), Content production (2), Providing accurate and sufficient information to customers (3), Highlighting products with avatars (2), Advertising in cyber space with more productivity (1), Product advertising tailored to customer needs by avatars (1), Creativity in advertising content by avatars (1), Variety in television and online advertising (1)
	Communication with the customer	Support and services provided by avatars (3), Receiving ideas and suggestions from customers (1), Guidance and providing information to the audience (1), Expressing customer emotions through avatars (1), Providing accurate information to customers (1), Simultaneous communication with multiple customers (2), Building relationships through emotions (3), Understanding customer needs (1), Increasing interaction with customers (3), Responding to customer inquiries (1), Making the right purchase by customers (1), Alignment of avatar behavior with demographic characteristics of customers (1)

	Products	Personalization of products (1), Alignment with sales strategies (1), Customer satisfaction assessment (1), Survey of customers (1), Product development (1), Product familiarity and recognition (1), Introducing attractive and head-warming products (1), Show products (1), Selling products (1), Increasing the value and attractiveness of products (1), Improving the design process of sport products (1), Making it easy to buy products (1)
Outcomes	Financial Implications	Increasing product value (1), Boosting product sales (1), Reducing side costs (1), Increasing market share (3)
	Customer-Related	Improve the shopping experience (1), Encouraging customers to repurchase the product (2), Increasing customer satisfaction (3), Increase customer trust (3), Attracting customer attention (3), Creating a good feeling in the audience (1), Increasing loyalty (1)
	Branding	Trending products (1), Product Exclusivity Creation (1), Brand Fame Enhancement (1), Branding (1), Identity Building (3), Virtual representative of the product brand (1), Increasing brand equity (1), Brand Awareness Boost (1), Brand Design and Development (1), Brand Awareness Increase (1)

Codes extracted from the interview (1) Codes extracted from the research background and literature (2) Common codes between the interview and research background and literature (3)

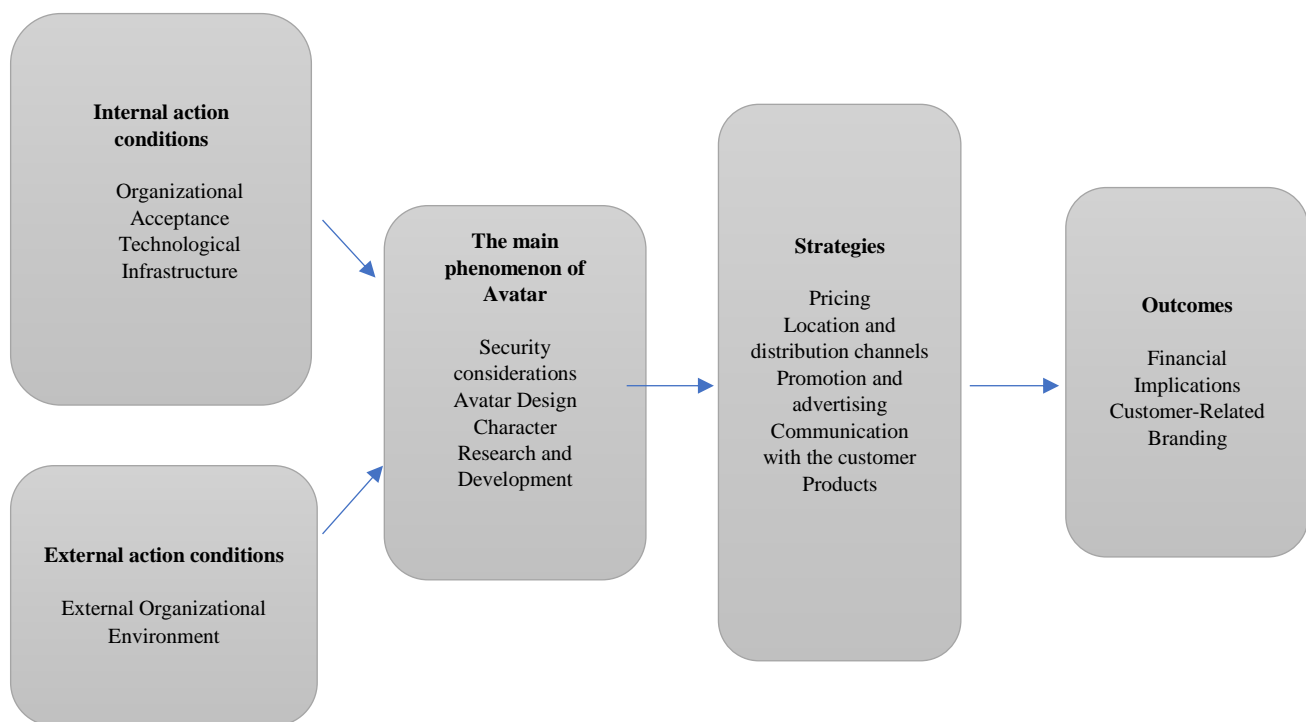


Figure 1. Avatar technology development model in sport business

Discussion

The purpose of this research was to present the development model of avatar technology in sport businesses.

The results revealed that internal factors such as organizational acceptance and technological infrastructure play a crucial role. This aligns with previous studies by Toaldo et al. (2013) on organizational acceptance, and the emphasis placed by Sanaei and Sobhani (2018) and Dwivedi et al. (2022) on technological infrastructure in marketing management. Toaldo et al. (2013) found a positive link between innovative organizational culture, marketing strategy process, and organizational performance. The rise of information technology has brought both success and challenges to e-business marketing. Information technology governance is connected to price leadership and differentiation strategies in a positive way, but has a negative association with focus strategy (Sanaei & Sobhani, 2018). Dwivedi et al. (2022) suggest that the Internet's virtual space is continuously growing, encompassing websites, social networks, blogs, email, and other online communication tools. This virtual community enables people to communicate, share information, and establish social connections. Avatars play a significant role in this space, serving as digital representations of individuals in cyberspace. Users often utilize avatars to express their identity. With the expanding virtual space, individuals have the freedom to design avatars to reflect their identity and personality within this digital realm.

The research findings indicated that external factors influencing avatar codes in sport marketing encompass the organizational environment. Green et al. (2021) suggested that avatars possess the capacity to acclimate to various cultures and societies, fostering friendships with customers that transcend mere transactions. Aljaroodi et al. (2023) noted that avatars establish a sense of shared identity with

customers through cultural symbolism, fostering alignment through companionship. From a different viewpoint, Takano and Taka (2022) concluded that avatar communication, offering a wide range of emotional expressions while maintaining anonymity, can effectively offset the lack of social resources in real life. Conversely, Chen (2023) suggested that technological advancements may pose challenges for companies in the emerging economic landscape. As per Elsharnouby et al. (2023), avatars, utilized as a technological and marketing strategy, can serve as virtual representatives to embody consumer-facing personas and mirror their real-world roles on corporate websites. Despite the significance of this technology, there has been limited exploration of avatars from a marketing standpoint.

The research results indicate that key aspects of avatar in sport marketing encompass security considerations, avatar design, personality, and research and development. These findings align with Gujar (2024) and Zaddach et al. (2014), who underscored the importance of security in avatar utilization. Similarly, they are in line with Neri (2022) and Konieczek and van der Laan (2021), who focused on graphical aspects in avatar design. Moreover, the outcomes of this study are consistent with Gonçalves et al. (2017) and Dolata and Schwabe (2023). Additionally, they correspond with the research and development focus highlighted by Zhang and Wu (2024). According to Gujar (2024), in the current digital era, avatars have evolved beyond their traditional function to become a crucial protective instrument. They enable individuals to safeguard themselves online more effectively compared to conventional authentication methods. Leveraging this security can enhance online protection significantly. In this context, Zaddach et al. (2014) argue that avatar codes are varied to uphold security. Avatars possess remarkable capabilities that aid in safeguarding society. Safeguarding customer data stands as a

paramount concern in all establishments. Preserving customers' data equates to upholding their privacy and security. This data encompasses financial details, contact information, personal data, and other sensitive information managed by avatars. Neri (2022), another crucial aspect of avatar graphic design is highlighted. Reflecting the realism of modern avatars, their spatial design is categorized into two-dimensional and three-dimensional forms. Society and avatar designers in the marketing realm should recognize their audience and create attire and color schemes accordingly. According to Konieczek and van der Laan (2021), an increasing body of research suggests that avatars and their visual representation not only impact user behavior and attitudes but can also foster and elevate creativity. In a study by Dolata and Schwabe (2023), they suggest that customizing avatars with precision, including facial expressions and digital attire, enables users to establish a feeling of presence in the metaverse. This presence is linked to human cognition and influences the quality of interactions with other avatars (users/brands), enhancing the immersive experience by enriching the perception of space and objects in the metaverse. Conversely, Gonçalves et al. (2017) found that facial expressions and associated emotions play a crucial role in determining the tone of messages and providing contextual information in verbal and sign language communication. The study proposes a method for parameterizing facial expressions in avatars to identify key facial cues and emotions relevant in the context of sign languages. According to Zhang and Wu (2024), avatar-based service evaluation is a novel and efficient approach to enhance user experience, enabling direct interaction with clients. Avatars serve as digital ambassadors for businesses or entities, aiding customers in inquiries and issue resolution. The key advantages of avatar-mediated service assessment encompass enhanced service delivery speed and efficiency, cost reduction, and heightened customer

contentment.

This study revealed that avatar strategies in sport marketing encompass pricing, distribution channels, advertising, promotion, customer communication, and product offering. Sidlauskienė et al. (2023) delved into pricing, Löllgen et al. (2022) and Amini Behbahani (2011) focused on distribution channels Coble et al. (2023) and Jin and Jin and Bolebruch (2009) examined advertising and promotion, Wang (2022) and Cortes et al. (2023) emphasized customer relationships, while Kang and Kim (2020) and Wuest et al. (2015) concentrated on products. In fact, Sidlauskienė et al. (2023) suggested that price control by avatars is a novel approach to establishing varied prices and values across different markets. This technique relies on artificial intelligence technology. Within this framework, avatars serve as virtual agents for individuals and businesses, responsible for determining prices and values using gathered data and AI algorithms. Avatars have the capability to adjust prices and values automatically, enhancing market efficiency and mitigating undesired fluctuations. According to Löllgen et al. (2022), the primary advantages of avatar and distance simulation are the reduction of travel, lower costs, decreased time in training, and improved communication and leadership training, particularly with avatars. Commonly mentioned obstacles include technical issues, limited non-verbal cue reception, and spatial gaps. Avatar simulation and spatial distance can also be effectively utilized. In this context, Amini Behbahani (2011) posited that leveraging location data allows users to extend their social interactions from the digital realm to physical reality. As per Coble et al. (2023), the intricacies of shaping digital identities play a crucial role in the efficacy of advertising, signaling a shift in marketing approaches tailored for virtual environments. Alternatively, Jin and Bolebruch (2009) contended that avatar-driven virtual worlds stand out as highly favored and rapidly advancing platforms,

offering a promising avenue for corporate communication, brand promotion, advertising, and interactive marketing. According to Wang (2022), one key benefit of avatars is that they enable computers to engage with humans as intelligent social actors, piquing the audience's interest in interacting with the awareness that they are engaging with computers. Cortes et al. (2023) suggest that having an avatar boosts the inclination to engage with chat bots, and incorporating emotional expression significantly enhances adherence to chat bot technology. Avatars facilitate the initiation of interactions with chat bots, and leveraging emotional design strategies, such as humor, offers various advantages. Kang and Kim (2020) suggest that avatars are extensively utilized in digital content and services, with personalizing one's avatar being a common user activity. Wuest et al. (2015) found that manufacturers of high-value consumer goods must innovate to meet customer needs, stand out from competitors, and tap into new revenue sources. Leveraging product service suites, including avatars, is a strategy to enhance the customer experience.

The study also revealed that the impacts of avatar functions in sport marketing encompass financial, customer, and brand-related outcomes. The findings of this study are consistent with those of Gurney et al. (2019), Mogos Descotes and Pauwels-Delassus (2015), Neri (2022), McClure and Seock (2020), Bousba and Arya (2022), Fernández-Ruano et al. (2022), Pamucar et al. (2022), Hollebeek et al. (2020), Bagozzi et al. (2017), and Machado et al. (2019). According to Gurney et al. (2019), realistic humanoid avatars in marketing serve a purpose beyond conventional human marketing, as they can enhance customer purchases and encourage repeat buying, ultimately boosting market share. Mogos Descotes and Pauwels-Delassus (2015) highlighted the damaging impact of negative information on brand value, market share, and reputation. Brands that cultivate substantial

consumer-based brand equity foster trust, integrity, and goodwill among customers. Neri (2022) found that the creation of an avatar has a significant impact on trust in the avatar and online shopping, leading to increased purchase behavior. McClure and Seock (2020) suggested that consumer-based brand equity rises and positively influences purchase intent. Bousba and Arya (2022) noted that consumers engage with brands virtually across various platforms, favoring intangible products, sharing virtual experiences, considering peer opinions, and endorsing brands in the metaverse. In online shopping for virtual wearable products, gamification is valuable for enhancing consumer experiences, purchase intention, and creating consumer-based brand equity in the virtual world (Fernández-Ruano et al., 2022; Pamucar et al., 2022). Hollebeek et al. (2020) discovered that as users engage with the brand across various virtual platforms and build brand value, brand association becomes more vibrant. According to Bagozzi et al. (2017), brand love is positively and significantly related to consumer-based brand equity. Marketing researchers believe that establishing a strong consumer-brand relationship is the optimal strategy in this competitive environment. Furthermore, Machado et al. (2019) argued against the idea that engaging with a brand contributes to establishing a more profound emotional connection. They contended that such interactions enable consumers to form a stronger emotional bond and fondness for the brand, ultimately leading to brand love.

Conclusion

The study highlighted the introduction of new tech tools in sport businesses, focusing on causes, development strategies, and outcomes of their use. Sports businesses can leverage avatars to develop innovative offerings like personalized training programs, interactive product demonstrations, and captivating virtual events. These experiences empower users with

a strong digital presence, fostering a sense of community and loyalty. Furthermore, avatar technology provides a powerful tool for attracting and retaining customers. By tailoring experiences to individual needs and interests, businesses can build stronger relationships with their audience. The benefits extend beyond just engagement. Integrating avatars allows sports businesses to stay ahead of the digital curve, offering cutting-edge services and products. This fosters deeper audience connections, fostering brand loyalty and propelling business growth.

To harness the full potential of avatars, new sports businesses should prioritize key aspects (e.g. graphics and user experience, personality infusion, security and user control) during design and implementation.

Also, for seamless integration, we can consider incorporating avatars across various departments:

- **Customer relations:** Avatars can personalize customer support interactions, offering a more interactive and engaging experience.
- **Marketing:** Avatars can be powerful marketing tools, acting as brand ambassadors or influencers in the virtual world.
- **Product development:** Utilize avatars to gather user feedback and preferences during product development for a more targeted approach.
- **Pricing strategy:** Explore subscription models or tiered pricing structures based on avatar customization options or access to exclusive virtual experiences.

Based on the research findings, several operational recommendations can be made for sports organizations to effectively integrate avatar technology into their marketing and business strategies:

1. **Promote internal awareness and**

education: Sports organizations should cultivate internal awareness and understanding of avatar technology. This can involve educational workshops or seminars to highlight its potential benefits across various departments, fostering collaboration and buy-in.

2. **Invest in technological infrastructure:** Organizations should evaluate their current technological infrastructure to ensure seamless integration with avatar technology. Upgrades or investments in new hardware and software may be necessary to facilitate smooth operation.

3. **Prioritize secure and engaging avatar design:** When designing avatars, organizations must prioritize security considerations. Additionally, avatars should be designed to be engaging and resonate with the target audience. User control over their avatar data should also be ensured.

4. **Develop a continuous research and development strategy:** Sports organizations should establish a dedicated research and development (R&D) strategy focused on avatar technology. This can involve ongoing research into user preferences, emerging trends, and new functionalities for avatars, allowing them to adapt and remain competitive.

5. **Develop a comprehensive avatar marketing strategy:** Organizations need to create a full strategy for marketing their avatar technology. This strategy should cover pricing models, distribution channel selection, marketing and promotional campaigns, and customer communication strategies.

By implementing these recommendations and focusing on both internal and external factors, sports organizations can establish a robust operational framework for integrating avatar technology. This will allow them to benefit from the financial, customer, and brand-related advantages highlighted in the research.

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