



# Sports fandom in the metaverse: marketing implications and research agenda

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## Abstract

The metaverse is transforming how sports fans consume sports, express their fandom, and interact with sports brands representing professional sports leagues, teams and athletes. However, scholars and practitioners lack an understanding of how sports brands can effectively appeal to their fans using the metaverse. This conceptual study aims to address this gap by combining marketplace evidence and extant research through the lens of social identity theory. The study suggests that sports brands should engage their fans in the metaverse by offering exclusive experiences that strengthen fans' identification as a fan, facilitating opportunities for fans to demonstrate their fandom and reinforce their association with the fan community, and fostering immersive experiences that enable fans to interact with each other and the sports brand. This study outlines several potential areas for future research based on three themes, namely experiences, personalization, and inclusivity. By addressing these areas, sports brands can better understand and optimize their engagement strategies with fans using the metaverse.

**Keywords** Metaverse · Fandom · Social identity theory · Sports fans · Sports marketing · Non-fungible tokens (NFTs)

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## 1 Introduction

Technology innovation is increasingly changing the sports industry (Hirshon, 2020; Ratten, 2020). However, the application of these technologies in sports marketing remains unclear (Schmidt, 2020). One such innovation is the metaverse, which refers to “a network of digitally mediated spaces that immerses users in shared, real-time experiences” (Hadi et al., 2023 p. 2). Sports brands representing professional sports leagues, teams, and athletes can use the metaverse to engage with their fans in new ways (Vallejo 2023). For example, in the metaverse, sports brands can offer virtual sports competitions between professional teams that fans can attend from anywhere in the world (Moneta, 2022). Leading sports brands are investing in the metaverse, and private equity investors are betting on the sports industry to capitalize on new metaverse business opportunities (Vallejo 2023). Thus, marketing scholars must explore how virtual environments enable fans to experience live virtual events such as sports matches (Hill et al., 2022). However, despite the recent literature on marketing in the metaverse, many marketing practitioners and researchers still lack a clear understanding of how to use the metaverse to appeal to their target consumers (Barrera & Shah, 2023). For sports brands, these consumers are sports fans (hereon “fans”), the most powerful stakeholders in professional sports (Miah et al., 2020). A fan’s behavior is influenced by their fandom (Wann, 2006), which refers to their psychological connection and identification with the community of other fans who support the same team or athlete (hereon “team”) (Jones, 2000; Reysen & Branscombe, 2010). Thus, this conceptual study focuses on how sports brands can appeal to fans’ fandom in the metaverse.

The current study’s focus on the amalgamation of the metaverse and sports brands’ marketing is relevant and appropriate because the metaverse and professional sports marketing strategies are both community driven (Zunino, 2022) and based on intangible motives such as consumers’ growing needs for escapism, fantasy and diversion (Belk, 2023; Gantz, 1981). For sports brands, the metaverse serves as a catalyst to reach new and larger sports fan communities (Mohamad, 2023). For example, the Manchester City soccer club of the English Premier League uses the metaverse to engage virtually with their fans globally because only 1% are based in England (Walker, 2022). While the idea of non-geographically bound communities is not new (e.g., Muniz & O’Guinn, 2001) and brands have engaged with fans on traditional platforms such as television or social media, the metaverse enables brands to pioneer immersive and virtual experiences with consumers (Barrera & Shah, 2023; Li & Chen, 2023).

Experiences in the metaverse are novel because they comprise distinct features that exist *in unison* therein; they are mediated by digital technology, spatial, immersive, shared, and real-time. These experiences enable co-presence between avatars (i.e., a user’s idealized virtual representation of themselves in the metaverse) (Hadi et al., 2023) in a more intimate and engaging way than before (Belk, 2023). In addition, the metaverse uses blockchain technology, a decentralized peer-to-peer ledger that stores tokens. Non-fungible tokens (NFTs) are non-interchangeable digital tokens representing assets (Hofstetter et al., 2022; Chohan & Paschen, 2023), such as sports cards, game highlights, and athlete autographs (Mohamad, 2023), that can be traded

in the metaverse and create new revenue streams for brands (Barrera & Shah, 2023). For example, the NBA's Top Shot NFTs sold over \$826 million in NFT sales (Li & Chen, 2023). To effectively appeal to their target consumers in the metaverse, brands should create novel NFT experiences (Alkhudary et al., 2023). Given the metaverse's features and affordance to brands, sports brands are encouraged to adapt the experiences they offer to the metaverse during its nascency to gain a first-mover advantage (Mereu, 2023; Mohamad, 2023) by reimagining how the metaverse will change fan experiences (Baker, 2022). However, how sports brands can appeal to fans in the metaverse remains largely under-researched (Baker et al., 2022). Hence, this study takes a first step towards addressing an important yet overlooked gap in the literature and an unanswered question facing sports brands today: *How can sports brands appeal to fans using the metaverse?*

This study offers two important contributions that offer solutions for practitioners while laying the groundwork for researchers. First, despite the emerging metaverse literature in the sports context (see Table 1), guidance for sports marketers on how to use the metaverse to appeal to their fans' fandom remains unclear. This study introduces novel implications and research agendas critical to the future success of sports brands and scholars. Second, while prior studies applied social identity theory (SIT) to study fans (e.g., Lock & Heere, 2017; Toder-Alon et al., 2019) and fandom (e.g., Zhao & Wu, 2021), this study is the first to do so with a focus on sports fans' fandom in the metaverse. The remainder of this study follows with a review of the related literature on sports fans' fandom and SIT. Thereafter, we propose implications for sports brands, pertinent future research questions and conclude with potential risks.

## 1.1 Sports fans' fandom

A fan is an individual who expresses intense interest, attachment to, and affection for a particular object (Jensen, 2002). For sports fans, the object refers to the team or athlete they support and attach meaning to (Lanier & Fowler, 2013; Wann, 1995). Fans join and participate in the community of other fans who support the same team (Botorić, 2022). They derive membership in these communities from emotional attachment to and evaluation of the community (Heere, 2015). Being a community member gives fans a sense of camaraderie, solidarity, social status, and self-esteem (Zillmann et al., 1989). Fans identify as passionate team followers and supporters to maintain this sense of belonging to the community (Wann, 2006). Fandom refers to a fan's psychological identification and connection with a community of fans supporting the same team (Jones, 2000; Reysen & Branscombe, 2010). Their fandom informs their behavior and the emotions they experience when following their team (Wann, 2006). This behavior can be active (e.g., posting on social media) or passive (e.g., watching a game from home) (Hirshon, 2020).

Traditionally, in the offline world, fandom was understood as fans supporting their teams by watching games in person or through a traditional media channel such as television (Wann, 1995) or wearing fan gear to showcase their support for their team. In turn, sports brands appealed to fans by persuading them to support and participate in events (Guschwan, 2012) and purchase the team's merchandise. Traditional fandom evolved with the advent of new technologies (Schmidt, 2020).

**Table 1** Representative metaverse-related studies within the sports and/or fandom context

Author(s) (Year)	Context	Key findings
Baker (2022)	Discusses the opportunities and limitations of virtual sports stadiums in the metaverse	There is a pressing need to reimagine the virtual sports stadium experience in terms of economic impact, fan experiences, licensing, and integrity.
Baker, Pizzu and Su (2022)	Explains the implications of using NFTs in sports through the lens of signaling theory.	Unlike traditional fan fiction or collectibles such as trading cards, NFTs enable fans to earn direct royalties from sales.
Hollensen et al. (2022)	Explains the metaverse concept by drawing on the Nikeland-Roblox case study. In Nikeland, users can interact with others, play games, and create their own experiences using interactive sports materials.	The Metaverse will be the new future marketing platform for presenting and giving life to all kinds of brands in the 3D interactive digital space.
Lee and Wei (2022)	Reports on metaverse usage patterns, success factors, and effective affordances by drawing on a K-pop band as a case study.	Fans can participate in engaging experiences to express their fandom in the metaverse. To encourage fandom using the metaverse, fan-generated content and its shareability should be supported to encourage alliances between users through social interaction and enable experiences that reflect or exceed those in real life.
Mereu (2023)	Consumers' intentions to adopt sports brands' metaverse experiences depend on the consumers' perceived value.	Consumers are more likely to adopt metaverse experiences that they perceive to be unique, engaging, and unmatched in real life, such as interacting with famous athletes and coaches.
Mohamed (2023)	Discusses how the metaverse will impact sports technology, accuracy, and performance.	The sports industry can accept the metaverse as part of sports. The metaverse will improve fan experiences before, during, and after games by removing geographical and physical constraints. The sports industry is ready to enter the metaverse, and some have already started doing so to guide the sporting world into the future.
<b>The current study</b>	<b>How can sports brands use the metaverse to appeal to fans' fandom?</b>	Sports brands can appeal to fans in the metaverse by offering exclusive experiences that strengthen fans' identification as a fan, facilitating opportunities for fans to demonstrate their fandom and reinforce their association with the fan community, and fostering immersive experiences that enable fans to interact with each other and the sports brand.

For example, smartphones changed how fans watch and consume sports (Ratten, 2020), and social media enabled fans to showcase their fandom online and virtually engage with other fans (Belk, 2013). Scholars began associating fandom with mass culture, digital media (Duffett, 2013), and fans' creation and exchange of digital fan fiction (Fuschillo, 2020). These advances derived a new understanding of fandom (Lanier & Fowler, 2013; Jenkins, 2018), which is that fans use technology to widely disseminate fan-related texts, interact with other fans, create and share fan fiction, and co-create fandom online (Jenkins, 2018; Lanier & Fowler, 2013). For example, social media gave fans greater access to athletes and their content on and off the pitch

(Shields & Rein, 2020). Essentially, technology has enabled fans to interact with each other and gain closer access to sports teams and athletes (Miah et al., 2020).

The metaverse advances fandom further because it has unique features that enable fans to engage in new immersive experiences to showcase their fandom and interact with other fans (Lee & Wei, 2022; Mohamad, 2023). For example, since the metaverse enables avatars to be in a location that is unconstrained by their geographic location (Hadi et al., 2023), fans can watch live games virtually while sitting next to other fans in a virtual stadium (Baker, 2022; Hirshon, 2020). In addition, the metaverse extends the fan's experience from simply sitting and observing to participating and engaging (Miah et al., 2020). Despite the metaverse's affordances to fans, there are few representative metaverse-focused studies within the context of sports marketing and fandom, as shown in Table 1. The current study addresses this important yet overlooked area by drawing on SIT, which is explained next.

## 1.2 Social identity theory

This section explains how SIT's core premises can be used to understand sports fans' fandom. First, SIT suggests that individuals tend to categorize themselves and others based on group membership. They use this categorization to define their sense of identity and belonging to society (Tajfel, 1974; Tajfel & Turner, 1979). Similarly, fans identify as part of a community of other fans supporting the same team (Heere & James, 2007; Lock & Heere, 2017). They feel connected to the community when they strongly identify as fans of the team (Wann et al., 2001). Fans demonstrate their identification with the team by wearing its merchandise to strengthen their association with the community (Hirshon, 2020). In turn, the fan feels a sense of belonging to the community of fans, which improves their self-esteem and reaffirms their perceived identity as a fan of the team (Gantz, 1981; Ye et al., 2019). This connection is strengthened when fans share experiences with other fans from the group (Funk et al., 2009). For example, fans from different backgrounds can attend the same virtual matches and engage in immersive discussions with the community about their team. They might unite fans watching the game together, such as high fiving each other when their team wins (Hirshon, 2020).

Second, SIT explains that individuals hold positive associations with members of their group ("in-group") and prejudice or discrimination against members of other groups ("out-group"). They use their perceived differences with out-group members, such as location, to inform their identities (Tajfel, 1982). Among sports fans, this translates to competition and rivalry between fans who support competing teams. For example, when there are disagreements in games, fans tend to blame the competing team to avoid damaging their own social identities (Wann & Dolan, 1994) or insult athletes who moved to a rival team (Rubenson & Dawes, 2022).

Third, SIT suggests that group membership influences individuals' attitudes, behaviors, and self-esteem by giving a sense of pride or belonging (Tajfel & Turner, 1979). This relates to fandom because fans increase (decrease) their association with their sports team after a win (loss) (Snyder et al., 1986; Wann & Branscombe, 1990). For example, when their team wins, fans are more likely to increase their association with the winning team (Cialdini et al., 1976; Gantz, 1981), such as posting about

the win on social media (Hirshon, 2020). Alternatively, fans can engage in negative behavior when their teams lose, such as acting aggressively toward fans of rival teams (Hirshon, 2020). Drawing on these premises of SIT to understand sports fans' fandom, we offer the following implications.

### 1.3 Implications: how can sports brands appeal to fans' fandom using the metaverse?

In this section, we draw on SIT to explain how sports brands can leverage the metaverse to appeal to fans' fandom by enabling them to strengthen their identity as a member of the community of fans supporting the same team. The following implications are based on three themes derived from the extant literature and marketplace evidence, as listed in Table 2.

### 1.4 Exclusive experiences

Sports brands should offer exclusive experiences that appeal to fans' fandom in the metaverse. Exclusive experiences can give fans a sense of esteem, social status and stronger identification as an "in-group" member of the fan community (Zillmann et al., 1989). Today, fans are more prepared to pay for exclusive sports experiences in the metaverse (Mohamad, 2023). This is because there is a declining interest in passively consuming traditional live sports since more fans expect sports brands to offer exclusive experiences that are unique, interactive, personalized, and flexible (Miah et al., 2020). An example of an exclusive experience is a game seat in a virtual stadium next to sports legends' avatars, such as Michael Jordan's avatar.

**Table 2** Marketing implications

Implication	Extant literature	Marketplace evidence
Offer exclusive metaverse experiences that strengthen fans' identification as a fan.	Zillmann et al. (1989); Miah et al. (2020); Hirshon (2020); Li and Chen (2023); Mohamed (2023)	<ul style="list-style-type: none"> <li>• Kansas City Royals</li> <li>• Tom Brady's NFT collection</li> <li>• Lionel Messi's "Messiverse" NFTs</li> </ul>
Allow fans to demonstrate their fandom in the metaverse and reinforce their association with the fan community.	Gantz (1981); Baker (2022); Hollensen et al. (2023); Li and Chen (2023); Kennedy, Gonzales and Pegoraro (2022)	<ul style="list-style-type: none"> <li>• NFL's digital merchandise for avatars</li> <li>• Manchester City and PUMA's virtual kits</li> </ul>
Offer immersive metaverse experiences for fans to interact with "in-group" fans and the sports brand.	Hill et al. (2022); Lee and Wei (2022); Mohamed (2023)	<ul style="list-style-type: none"> <li>• NBA's "Netaverse"</li> <li>• UFC's Amanda Nunes' virtual gym</li> <li>• Floyd Mayweather's immersive boxing ring</li> <li>• WimbleWorld and Andy Murray</li> </ul>

Exclusive experiences can strengthen fans' association and identification with the team. For example, when the Kansas City Royals won the World Series, their team invited fans on Twitter to celebrate with them at a bar and get free drinks, making the team more personable to their fans (Hirshon, 2020). Sports brands can offer these exclusive experiences to fans as rewards (Li & Chen, 2023), such as NFTs representing access to exclusive fan communities who share in celebrating their team's success (Belk et al., 2022). Tom Brady's NFT collection gives fans access to exclusive experiences, such as joining him at events (Autograph.io, 2022). Lionel Messi's "Messiverse" NFT collection gives fans access to exclusive experiences and enables them to engage with him (Fadilpasic, 2021).

### 1.5 Demonstrate fandom

Sports brands should enable fans to demonstrate their fandom in the metaverse because it allows fans to feel connected to the fan community and strengthens their identification as a fan (Gantz, 1981). One way for sports brands to do this is by encouraging fans to accessorize their avatars with the sports brand's digital merchandise that fans can buy, store, wear, or showcase in the metaverse (Baker et al., 2022). By enabling fans to own and wear the sports brand's digital merchandise, sports brands can deepen their fans' association with their brand (Hollensen et al., 2023).

This can be offered through NFTs, which fans can use to express their fandom (Baker et al., 2022). For example, the NFL partnered with Meta to give the Cincinnati Bengals and Los Angeles Rams fans the opportunity to accessorize their avatars with their team's virtual shirt (Shorman, 2022). Manchester City soccer club partnered with PUMA to launch and sell their new virtual kits as NFTs to fans who engaged with the brand in the metaverse (Walker, 2022). In addition, since the metaverse uses blockchain technology, brands can use fans' recorded data to sell personalized virtual branded merchandise to fans (Baker et al., 2022; Li & Chen, 2023), which would favor the fan's self-esteem and identification as a member of the community. However, since there are valid concerns about consumer privacy in the metaverse (Dwivedi et al., 2022), sports brands must use fans' data responsibly.

### 1.6 Fan interactions

Sports brands should create immersive experiences that encourage interaction between fans (Lee & Wei, 2022) to foster a sense of belonging and community among fans (Hill et al., 2022). This can be done at the metaverse's virtual stadiums, where fans can experience sports games together in a novel way and interact with each other as avatars. For example, the NBA Brooklyn Nets' "Netaverse" offers fans a 360-degree experience to watch real games together in the metaverse via angles that would not be possible by simply watching the game on television or a desktop (Copans, 2022).

In addition, the metaverse should be used to enable fans to engage with the sports brand and their athletes. The FIFA World Cup metaverse experience enabled fans to attend games with professional soccer players (FIFA, 2022). Moreover, the metaverse enables fans to virtually and immersively play sports or train with athletes

(Mohamad, 2023). Fans can exercise with UFC fighter Amanda Nunes in her virtual gym (Sports Metaverse, 2022) and train with Floyd Mayweather in his immersive virtual boxing ring (Miah et al., 2020). In Wimbledon's metaverse, "WimbleWorld", fans worldwide can virtually play tennis against each other, interact with Andy Murray's avatar, and watch real-life games (Bason et al., 2023). The fans play to win Wimblebux, which they can use to buy Ralph Lauren-sponsored digital apparel NFTs to customize their avatars (Ruvo, 2022). Next, we suggest future research avenues.

### 1.7 Future research avenues

We identify the following three future research themes and present pertinent future research questions, as listed in Table 3. The themes are based on extant literature and the SIT premises that inform this study's perspective.

### 1.8 Experiences

Sports brands can offer novel experiences and reach new fans using the metaverse. As new technologies pave the way for new forms of sports consumption (Miah et al., 2020), virtual experiences should be created to redefine and improve the fan's sensory experience while attending games. For example, haptic technology enables metaverse users to feel what they touch in the metaverse (Hadi et al., 2023). Thus, researchers can explore whether fans feel more connected to their team and its fan community when they physically feel an experience in the metaverse, such as catching a foul ball from the stand during a virtual baseball game.

Researchers should explore how sports brands can improve the sports experience to motivate fans to stay for the entire game and return for future games by creating alternative experiences such as fewer or shorter games. In addition, researchers should seek to understand how virtual games can become major global events, such as the Super Bowl, rather than simply games in the metaverse. Compared to physical games, where fans wait in lines and experience traffic or public transport, fan retention is important because fans can attend or leave virtual games by simply entering or leaving the metaverse (Shields & Rein, 2020). In addition, there are lucrative opportunities to leverage fans' experiences before (e.g., on-demand videos of athletes training) and after (e.g., authentic memorabilia) virtual games (Carlsson-Wall & Newland, 2020; Shields & Rein, 2020).

### 1.9 Personalization

Sports brands should use the metaverse to tailor and personalize the fan's experience, such as at virtual games (Baker, 2022; Chase, 2020). A future study can explore how sports brands should change their metaverse strategies based on the type of fan they are targeting (e.g., younger versus older, new versus die-hard) (Qian et al., 2022). For instance, Generation Z fans might be more comfortable at virtual rather than physical stadiums. Alternatively, sports brands can customize a fan's view at a virtual stadium, such as from their favorite athlete's perspective (Miah et al., 2020). Meta's XTADIUM is a virtual stadium, for example, offering 180-degree pay-per-view virtual



**Table 3** Future research opportunities

Extant Research	Future Research	Research Questions
<ul style="list-style-type: none"> <li>• Need to re-define virtual sports brand experiences</li> <li>• Fans want to stay for the entire game</li> <li>• Sports games in the meta-verse should be events</li> </ul>	Experiences	<ul style="list-style-type: none"> <li>• What type of interactions will influence fans to return to virtual games in the future? (i.e., one-on-one discussions versus exposure to on-demand training videos)</li> <li>• How should sports brands differentiate their immersive experiences before (e.g., training), during (e.g., the game played), and after (e.g., awards) virtual games in the metaverse?</li> <li>• How can sports brands use haptic technology to strengthen in-group membership for fans (i.e., other fans of the same team)?</li> <li>• How should sports brands differ their strategies to appeal to fans' fandom during virtual home games (in-group fans dominate the stands) versus away games (out-group members dominate the stands)?</li> <li>• What can sports brands do to encourage a positive impact on the attitudes, behaviors, and self-esteem of the fan community?</li> <li>• What type of sports brand metaverse experiences encourages in-group fans in the metaverse to influence other in-group fans who have not considered joining the metaverse?</li> </ul>
<ul style="list-style-type: none"> <li>• Sports brands should personalize fan experiences based on the type of fan and their personal preferences</li> </ul>	Personalization	<ul style="list-style-type: none"> <li>• What typology of fans in the metaverse should sports brands use? (e.g., new versus existing fan)</li> <li>• Which external factors influence variations in a sports fan's preferences (e.g., home versus away game)?</li> <li>• How do fans' avatar personality types influence their preferences? (i.e., extroverted avatar in the metaverse)</li> <li>• Can fans' engagement with sports brands in the physical predict their engagement in the metaverse? (e.g., would a season-ticket holder in the physical world extend their purchase to season tickets in the metaverse?)</li> <li>• How should sports brands personalize their metaverse marketing strategies based on different fan segments? (e.g., by familiarity with the metaverse, generation, developed versus developing country)</li> <li>• How do different types of fans react to sports brand experiences in the metaverse (e.g., die-hard versus new fans)? How do these reactions influence their attitude, behavior, and self-esteem when interacting with sports brand experiences in the metaverse?</li> </ul>
<ul style="list-style-type: none"> <li>• Sports brands should be encouraged to create more inclusive access to sports</li> <li>• Fans face barriers to using the metaverse (e.g., cost)</li> </ul>	Inclusivity	<ul style="list-style-type: none"> <li>• How should sports brands customize their metaverse experiences for specific target market demographics (e.g., women and elderly fans)?</li> <li>• How can sports brands representing less popular sports encourage more interest by fans in the metaverse?</li> <li>• What encourages disabled (abled) fans to identify with abled (disabled) athletes in the metaverse?</li> <li>• How can sports brands make their metaverse marketing strategies more accessible to fans from developing countries or lower-income households?</li> </ul>

reality footage where viewers can choose from eight camera angles to watch a game alone or with friends (Meta, 2022). This could lead to new communities based on the individual fan's preferences (Miah et al., 2020), such as an Erling Haaland fan watching a Manchester City soccer match while interacting with a broader community of Haaland fans. Thus, sports brands should understand how to tailor their metaverse experiences to appropriately appeal to the type of fan they are targeting.

## 1.10 Inclusivity

Sports brands should be encouraged to create more inclusive access to sports in the metaverse, where the distinctions of gender, race, socioeconomic background, age, and ability can be erased. For instance, fans from various economic, cultural, and demographic backgrounds can virtually watch games together as part of one community (Chase, 2020). In addition, fans of all abilities can interact with paralympic athletes (Schmidt, 2020). For example, paralympic athlete Blake Leeper participated in and promoted a virtual marathon in the metaverse.

Inclusivity extends to fans who follow lesser-known sports. For example, while soccer has more global recognition than a sport such as badminton, many fans would pay for immersive and virtual badminton experiences in the metaverse (Carlsson-Wall & Newland, 2020). Thus, sports brands should use the metaverse to create greater awareness of and access to less popular sports. Finally, some fans might be excluded from sports brands' metaverse experiences given the cost of purchasing the accessories needed to access the metaverse, such as headsets (e.g., Dwivedi et al., 2022). Since fan acceptance of such technology can take time (Miah et al., 2020), during the metaverse's nascency, researchers are encouraged to explore how sports brands can make their metaverse experiences more accessible to these fans. By addressing these areas, sports brands can better understand and optimize their engagement strategies with fans using the metaverse.

## 1.11 Concluding remarks

Although the metaverse is a business opportunity for sports brands (Baker, 2022; Mohamed 2023), it is not immune to risks (Dwivedi et al., 2022). First, not all consumers are prepared to engage with brands in the metaverse. Market leaders employing metaverse strategies, such as Microsoft, Disney, and Meta, have faced consumer resistance and subsequently downsized their metaverse divisions (Ngila, 2023). Second, the lack of metaverse regulations (Li and Chen 2022) exposes fans to unregulated negative experiences, such as harassment and abuse (Hirsch, 2022) by out-group fans' avatars during games. Third, sports brands using NFTs in the metaverse are susceptible to the NFT's volatility when their team experiences losses. The Argentine Football Association's NFT value dropped by 25% following Argentina's loss in a FIFA World Cup game (Linares, 2022). Sports brands must consider these risks when using the metaverse to appeal to their fans.

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## Declarations

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