



**VIRTUAL REALITY AS A STRATEGIC
SPORT MARKETING TOOL IN PROFESSIONAL
FOOTBALL: EVIDENCE FROM EUROPE AND GREECE**

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Abstract:

This research article examines the strategic use of virtual reality (VR) as a sport marketing tool in professional football, with particular attention to the European and Greek contexts. The study investigates whether immersive VR applications can strengthen fan engagement, emotional attachment, perceived commercial value, sponsorship appeal and organizational marketing effectiveness. A mixed-methods design was employed. Quantitative evidence was collected through a structured questionnaire administered to a sport-related sample of 166 respondents, while qualitative evidence was gathered through semi-structured interviews with sport organization executives and marketing decision makers. The quantitative analysis used descriptive statistics, one-sample t-tests against the neutral point of five-point Likert scales, Pearson correlations and linear regression models. Interview data were examined thematically. The findings show that VR is perceived as a powerful mechanism for enhancing fans' emotional connection with football clubs, increasing participation in live and digital events, improving social-media engagement and creating new commercial assets for sponsors and clubs. The results further indicate that European football organizations are perceived as more advanced than Greek organizations in adopting and strategically integrating VR. Cost, lack of specialized personnel, technological infrastructure and organizational readiness remain the most important barriers in the Greek market. The article contributes to sport marketing research by positioning VR not merely as an entertainment technology but as a strategic, experiential and commercial platform for value creation in football. It also provides practical recommendations for phased implementation, sponsor integration,

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fan-centered content design and evaluation of VR campaigns in markets with different levels of digital maturity.

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1. Introduction

Professional football has become one of the most visible laboratories of digital transformation. Clubs are no longer competing only through sporting performance, stadium attendance, merchandising and broadcasting rights. They also compete through the quality of the experiences they design around the team brand (Choustoulakis & Pastelakos, 2024). In this environment, virtual reality (VR) is becoming a particularly important technology because it can transform the spectator from a distant observer into an immersed participant. A fan can virtually enter a stadium, experience a training environment, watch selected moments from alternative angles, visit restricted facilities, interact with branded content or access sponsor activations that are not possible in a conventional media setting.

The marketing relevance of VR lies in its capacity to connect technology, emotion and commerce. Sport products are highly experiential, symbolic and identity-based. Unlike many consumer products, a football club is not consumed only for functional utility; it is consumed through memory, belonging, ritual, pride and collective identity. Technologies that increase perceived presence, interaction and personalization may therefore have greater marketing value in football than in less affective markets. VR can add a new layer to the football consumption journey by extending the matchday experience before, during and after the game.

The academic literature recognizes that new digital touchpoints have changed the way sport organizations interact and co-create value with fans, sponsors and other stakeholders (Stegmann et al., 2023). VR has also been examined as a channel of sport consumption and technology acceptance among fans (Rynarzewska, 2018; Kunz and Santomier, 2019). However, empirical research that connects VR with football marketing strategy, fan attachment, sponsor value and organizational readiness remains limited, especially in markets where digital maturity is uneven. The European football market includes clubs with advanced digital capabilities, but also national contexts, such as Greece, where adoption may be slower and more resource-constrained.

This article addresses that gap by converting doctoral dissertation research into a journal article. The dissertation investigated the use of VR in team sports, with football as the focal case, and compared European and Greek conditions of adoption. Its central research question was how VR affects the relationship between fans and football teams

and how it can be strategically utilized within sport marketing. The study also examined technological, economic, cultural and institutional factors that influence adoption.

The article makes three contributions. First, it integrates technology acceptance, fan engagement, customer experience and sport marketing perspectives into a single framework for analyzing VR in football. Second, it provides empirical evidence from a mixed-methods study combining survey data and executive interviews. Third, it develops managerial recommendations for Greek and European football organizations seeking to use VR as a sustainable marketing platform rather than as a short-term novelty.

2. Literature Review

VR is commonly understood as a computer-generated environment that creates a sense of immersion, interactivity and presence. In marketing, these qualities are important because they can alter the customer experience by allowing consumers to explore products, services, places and narratives in a more embodied way than through traditional digital media. Flavian et al. (2019) showed that virtual, augmented and mixed reality technologies influence customer experience, while Hoyer et al. (2020) positioned VR, augmented reality, mixed reality, chatbots, virtual assistants and other emerging technologies as central mechanisms transforming customer interactions. In football, this means that the team experience can be redesigned beyond the physical stadium and the conventional broadcast screen.

The technology acceptance tradition is also relevant. Davis (1989) argued that perceived usefulness and perceived ease of use are central predictors of user acceptance. These dimensions are directly applicable to VR sport marketing: fans and clubs are more likely to adopt VR when the experience is valuable, easy to access and clearly connected to meaningful football consumption. Rynarzewska (2018) specifically examined VR as a new sport consumption channel and used a technology acceptance perspective to understand factors affecting sport fans' adoption. Kunz and Santomier (2019) also emphasized that empirical research at the intersection of sport content and VR technology acceptance remains limited, which confirms the need for studies focused on concrete sport contexts.

From a sport marketing perspective, fan engagement is not limited to attendance or purchase behavior. It includes emotional, cognitive, social and behavioral participation in the life of the team. Santos et al. (2019) conceptualized and measured fan engagement through social networking sites and highlighted the relevance of online interactions for sport organizations. Jones et al. (2019) described fan engagement as a specific form of customer engagement in sport and noted that engaged fans may display extra-role behaviors such as word-of-mouth, social interaction, knowledge sharing and other expressions of fandom. VR can intensify these behaviors by giving fans richer touchpoints through which to experience and communicate the brand.

Immersive sport technologies also create new advertising and sponsorship possibilities. Lupinek et al. (2021) argued that VR is more interactive and immersive than

conventional media and can become a sport marketing medium through which advertisers reach consumers inside virtual environments. More recent sport marketing research has examined VR-induced flow in spectator sport contexts (Chang et al., 2024) and the effects of sport VR on brand recall and recognition (Walton, 2025). These studies suggest that VR should be assessed not only as an entertainment feature but also as a medium with measurable marketing consequences.

The literature on augmented reality in sport marketing offers useful parallels. Goebert (2020) argued that sport is a high-value market for augmented reality because it can be used in several marketing contexts and because consumer interaction with immersive technologies remains under-researched. Although augmented reality and VR differ technologically, both belong to a broader family of immersive media that can be used for fan experience, brand communication, sponsorship activation and service innovation. Theoretical guidance from immersive sport marketing research is therefore relevant for VR adoption in football.

The European-Greek comparison is theoretically important because technology adoption is rarely uniform. Financial resources, infrastructure, technical expertise, institutional support, consumer expectations and organizational culture shape the pace and depth of adoption. Large European clubs may integrate VR into broader digital ecosystems that include data analytics, social media, e-commerce, sponsor platforms and membership programs. Greek clubs may face stronger resource limitations, smaller digital departments and slower institutional coordination (Kothroulas, Choustoulakis & Alexopoulos, 2025). The present study, therefore, treats VR adoption as both a marketing issue and an organizational capability issue.

Based on this literature and the dissertation framework, the study examined six hypotheses: H1, VR applications positively affect fans' emotional connection with the team; H2, VR increases fan participation in sporting and side events; H3, VR as a marketing tool improves perceived commercial value; H4, technological and economic factors significantly influence VR adoption; H5, cultural and institutional factors differentiate VR adoption between European and Greek football markets; and H6, organized VR integration strategy is positively associated with sport marketing effectiveness.

3. Material and Methods

The study used a mixed-methods design combining quantitative survey research and qualitative semi-structured interviews. This design was appropriate because VR in football is both a measurable consumer-response phenomenon and a strategic organizational phenomenon. The quantitative phase measured attitudes, perceived effects, adoption factors and marketing-related outcomes. The qualitative phase explored how professionals interpret VR, what barriers they experience and how they imagine future applications in sport marketing.

The quantitative sample consisted of 166 respondents from the broader sport public, including individuals connected with sport as spectators, athletes, coaches, club members or other sport-related roles. The questionnaire was distributed online and was designed to capture perceptions of VR use in sport and football marketing. Because participation was open and voluntary, the sample should be understood as a broad exploratory sample rather than as a strictly probability-based population sample.

The qualitative sample consisted of sport organization executives and professionals involved in communication, marketing, commercial development and technology-related decision making. Participants were selected purposively because they were considered key informants with knowledge of organizational realities and potential VR applications. Semi-structured interviews allowed the study to explore strategic perceptions that could not be fully captured through closed questionnaire items.

The structured questionnaire included demographic and sport-involvement questions, items on digital familiarity, previous exposure to VR, perceptions of VR as a sport marketing tool, perceived effects on fan experience and participation, perceived commercial value, adoption barriers and expectations for future use. Most evaluative items used five-point Likert scales, where 1 represented the lowest level of agreement or perceived effectiveness, and 5 represented the highest level.

The interview guide covered perceptions of VR in sport, perceived usefulness for fan interaction, marketing applications, sponsorship potential, adoption barriers, cost, staff training, Greek-European differences and future innovations. Interview questions were semi-structured so that comparable topics could be covered across participants while still allowing interviewees to discuss unexpected issues.

The quantitative analysis used descriptive statistics to summarize response patterns, one-sample t-tests to compare construct means with the neutral Likert midpoint of 3.00, Pearson correlation analysis and linear regression. The dissertation also reports normality checks using Kolmogorov-Smirnov tests and reliability checks using Cronbach's alpha for multi-item subscales. For H5 and H6, correlation and regression models were used to assess market differentiation and the relationship between strategic VR integration and marketing effectiveness. The qualitative material was analyzed thematically through open coding and the grouping of recurring meanings into broader themes.

Ethical procedures included informing participants about the purpose of the research, voluntary participation, confidentiality and anonymity. As with many cross-sectional mixed-methods studies, the design allows the identification of patterns, associations and perceived effects, but it does not establish causality. In addition, hypothesis-specific valid cases vary because constructs were measured through relevant subsamples and item-level valid responses.

Table 1: Operationalization of the main constructs

Construct	Operational meaning in the study	Indicative measurement dimensions
Fan emotional attachment	The extent to which VR strengthens identification, closeness, emotional involvement and loyalty toward the football club.	Team identification; Perceived closeness to players and club; Emotional involvement; fan loyalty
Fan participation	The extent to which VR increases willingness to participate in football events and related digital or promotional activities.	Attendance intention; VR experience participation; Digital platform engagement; Event participation.
Perceived commercial value	The perceived contribution of VR to the club's market image, differentiation, sponsorship appeal and new product development.	Brand image; Product differentiation; Sponsor attraction; New services.
Technological and economic adoption factors	The resources and capabilities required for football clubs to adopt and exploit VR.	Equipment cost; Technological readiness; Specialized personnel; Funding access.
Cultural and institutional differentiation	The degree to which national and organizational environments shape VR use in European and Greek football markets.	Intensity of VR use; Marketing strategy; Fan acceptance; Digital investment.
Marketing effectiveness	The perceived effectiveness of VR-based marketing practices when VR is strategically integrated.	Fan engagement; Commercial outcomes; Communication reach; Strategic planning.

Abbreviations: VR = Virtual Reality.

4. Results and Discussion

The empirical findings support the overall proposition that VR can function as a strategic football marketing tool. Respondents evaluated VR positively in relation to fan experience, emotional connection, participation, sponsor appeal and commercial differentiation. At the same time, they identified adoption barriers that are particularly salient for the Greek football context.

A large share of respondents saw VR as effective for digital fan engagement. In the questionnaire, 64.5% considered VR extremely effective for increasing fan engagement on social media, while 16.9% considered it very effective. This suggests that respondents do not view VR only as a stadium or headset experience; they also see it as content infrastructure for social-media interaction, digital storytelling and community activation. Respondents expressed strong preferences for practical VR marketing applications. The most attractive application was virtual stadium tours, selected by 88% of participants. VR sponsor experiences were selected by 72.9%, VR training for athletes by 57.8% and VR matches for fans by 53.6%. These findings indicate that VR value is perceived across several domains: fan access, sponsorship activation, athletic preparation and alternative match consumption.

The commercial orientation of VR was also visible in sponsor-related responses. More than half of the respondents, 53.6%, believed that VR could positively affect commercial agreements with sponsors, while only 3.6% expected no effect and 4.8%

feared negative consequences because of cost. Expectations for the next five years were similarly commercial: 77.1% expected revenue growth through VR advertising and personalized experiences, 66.9% expected the development of new markets and 42.2% expected improvements in the fan experience.

The Greek-European difference was one of the clearest findings. A majority of participants perceived European teams as more advanced in VR adoption than Greek teams. Specifically, 56% considered VR use much more widespread in European football teams, and 37.5% considered it more widespread. Only a small minority perceived similar or lower levels of adoption in Europe. The main barriers identified for adoption were lack of specialized personnel, cost and technological limitations.

Table 2: Summary of hypothesis testing results

Hypothesis	Empirical focus	Statistical evidence reported in the dissertation	Decision
H1	VR applications and emotional connection with the team	M = 4.02, SD = 0.58; one-sample t-test against 3.00: $t(149) = 18.35, p < .001$; Cohen's $d = 1.50$.	Supported
H2	VR and fan participation in sporting and side events	M = 3.95, SD = 0.61; one-sample t-test against 3.00: $t(154) = 16.82, p < .001$; Cohen's $d = 1.35$.	Supported
H3	VR as a marketing tool and perceived commercial value	M = 4.02, SD = 0.65; one-sample t-test against 3.00: $t(149) = 17.48, p < .001$; Cohen's $d = 1.43$.	Supported
H4	Technological/economic factors and VR adoption	M = 4.08, SD = 0.68; one-sample t-test against 3.00: $t(144) = 19.02, p < .001$; Cohen's $d = 1.58$.	Supported
H5	Cultural/institutional factors and Greece-Europe differentiation	Pearson $r(148) = .38, p < .001$; regression: $\beta = .035, SE = .008, p < .001; R^2 = .145$; $F(1,148) = 25.36, p < .001$.	Supported
H6	Organized VR strategy and marketing effectiveness	Pearson $r(148) = .44, p < .001$; regression: $\beta = .037, SE = .008, p < .001$; $R^2 = .19; F(1,148) = 34.12, p < .001$.	Supported

Note: M = Mean; SD = Standard Deviation; SE = Standard Error.

Table 3: Key descriptive findings on VR marketing applications

Finding area	Result
Social-media engagement	64.5% rated VR as extremely effective and 16.9% as very effective for increasing fan engagement on social media.
Preferred VR applications in Greece	88% preferred virtual stadium tours; 72.9% sponsor-oriented VR experiences; 57.8% VR training for athletes; 53.6% VR matches for fans.
Sponsor agreements	53.6% believed VR could strengthen commercial agreements with sponsors; 3.6% expected no effect; 4.8% feared negative cost effects.
Five-year expectations	77.1% expected revenue growth through VR advertising/personalized experiences; 66.9% expected development of new markets; 42.2% expected improved fan experience.
Europe-Greece comparison	56% perceived VR as much more widespread in European football teams and 37.5% as more widespread in Europe than in Greece.

Adoption barriers	61.4% identified lack of specialized personnel as the main challenge; 21.1% identified cost; 16.9% identified technological limitations.
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The hypothesis tests show consistently positive evaluations of VR across emotional, behavioral, commercial and organizational dimensions. The means for H1 through H4 were all well above the neutral midpoint of 3.00, and the reported effect sizes were large to very large. This pattern indicates that respondents perceived VR as more than an optional entertainment enhancement; they saw it as a meaningful mechanism for building stronger relationships between fans and football clubs.

The strongest mean score was recorded for technological and economic adoption factors, which implies that respondents were highly aware that VR implementation depends on resources, infrastructure, human expertise and funding access. This is particularly important for the Greek context, where the qualitative evidence also shows concerns about cost, technical complexity and the limited availability of specialized staff. The correlation and regression findings for H5 and H6 add an organizational layer to the analysis. Cultural and institutional variables explain a meaningful share of the variance in VR differentiation between European and Greek markets. Likewise, strategic VR integration explains 19% of the variance in marketing effectiveness. The implication is that VR performance depends on strategic fit. A club that adopts VR without a clear content, sponsorship and fan-engagement strategy is unlikely to achieve the same marketing returns as a club that embeds VR in an integrated digital plan.

The qualitative findings reinforce the quantitative results. Interviewees recognized VR as innovative and interaction-enhancing, but they also framed it as a complementary technology rather than a substitute for traditional sport consumption. They identified virtual seats, behind-the-scenes access, exclusive training content, player interaction and sponsor-branded fan zones as promising applications. At the same time, they emphasized the Greek market's constraints: limited specialized expertise, high initial cost, uneven technological infrastructure and few documented domestic case studies.

Table 4: Thematic synthesis of interview evidence

Theme	Interpretation
VR as an innovation with practical uncertainty	Participants recognized VR as innovative and interaction-enhancing, but some considered it still developing, costly or difficult to implement.
VR as a complementary rather than indispensable tool	Most interviewees viewed VR as a supporting technology for training, entertainment and fan experience rather than as a full replacement for traditional sport practices.
Fan experience and presence	Virtual seats, alternative viewing, behind-the-scenes access, exclusive training content and player interaction were identified as ways to deepen fan experience.
Marketing and sponsorship potential	Premium VR content, virtual meet-and-greets, sponsor packages, branded experiences and VR fan zones were identified as commercial opportunities.

Greek adoption barriers	Participants emphasized lack of expertise, high cost, technological limitations, limited organizational commitment and few documented Greek case studies.
Future innovation pathways	Interviewees mentioned mobile VR, lower-cost hardware, e-sports partnerships, metaverse-style environments, pay-per-view experiences and data-driven campaign evaluation.

5. Recommendations

Football clubs should treat VR as part of an integrated fan-centered marketing architecture, not as an isolated publicity experiment. The most promising starting points are scalable applications such as virtual stadium tours, 360-degree behind-the-scenes content, sponsor-branded fan experiences and limited pilot programs connected with membership schemes or social-media campaigns.

Greek football organizations should adopt phased implementation. The first phase can focus on low-cost and mobile-accessible VR or 360-degree content. The second phase can integrate sponsor activations and premium fan content. The third phase can develop data-supported personalization, paid experiences and partnerships with technology providers, universities and e-sports communities.

Sponsors should be treated as experience partners rather than only logo providers. VR environments allow brands to be integrated into narrative, interactive and emotional experiences. However, sponsor content should be designed carefully so that it supports the fan experience instead of interrupting it. Congruence between club identity, sponsor message and VR content is essential.

Clubs should measure VR marketing performance through clear indicators. These may include the number of users, time spent in experience, repeat use, social sharing, conversion to ticket or merchandise purchase, sponsor recall, sponsor recognition, digital membership sign-ups, fan satisfaction and willingness to pay for premium immersive content.

Future research should move beyond perceived effectiveness and measure actual behavior. Experimental studies could compare conventional video, 360-degree video and fully immersive VR experiences. Longitudinal studies could examine how adoption changes as hardware becomes cheaper, content quality improves, and fans become more familiar with immersive media. Comparative research across European football markets would also clarify how institutional and cultural factors affect adoption.

6. Conclusion

The study demonstrates that VR is not merely a spectacular add-on to football marketing. It is a strategic technology that can influence how fans experience the team, how clubs design commercial products, how sponsors are integrated into digital experiences and how organizations position themselves within an increasingly competitive entertainment

market. The strongest empirical signals concern emotional connection, participation, commercial value and strategic integration.

The findings contribute to the literature by linking VR adoption with both fan-level and organization-level outcomes. Prior research has examined VR technology acceptance, digital sport consumption, fan engagement and immersive advertising as separate issues. This study brings these dimensions together in the context of professional football and shows that VR can function simultaneously as an engagement platform, a sponsorship tool, a brand differentiator and an innovation capability.

For Greek football organizations, the findings suggest both opportunity and urgency. The market appears to lag behind more advanced European environments, yet the willingness of fans and professionals to recognize VR's value is substantial. This creates a strategic window for clubs that can build partnerships, develop technical competence and design meaningful immersive experiences.

The main limitations of the study are the non-probability nature of the quantitative sample, the reliance on self-reported perceptions, the cross-sectional design and the rapid evolution of VR technology. Only conclusions supported by the empirical results should therefore be generalized. In conclusion, VR has the potential to become a core component of football marketing strategy in Europe and Greece, provided that organizations invest not only in equipment but also in content design, human expertise, partnerships and strategic evaluation.

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References

1. Chang Y, Warren C, Lee T, 2024. Virtual reality technology induced flow in the spectator sports context: empirical examinations of VR flow, its unique antecedents, and consequences. *Sport Marketing Quarterly* 33(1): 81-95. <https://doi.org/10.32731/smq.331.032024.06>
2. Choustoulakis E, Pastelakos E, 2024. Ai-Driven Analysis of Game Tactics and Player Performance, ICERI2024 Proceedings, 3350-3359. <https://doi.org/10.21125/iceri.2024.0871>
3. Davis FD, 1989. Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly* 13(3): 319-340. <https://doi.org/10.2307/249008>
4. Flavian C, Ibanez-Sanchez S, Orus C, 2019. The impact of virtual, augmented and mixed reality technologies on the customer experience. *Journal of Business Research* 100: 547-560. <https://doi.org/10.1016/j.jbusres.2018.10.050>
5. Goebert C, 2020. Augmented reality in sport marketing. *Sports Innovation Journal* 1: 134-151. <https://doi.org/10.18060/24227>
6. Hoyer WD, Kroschke M, Schmitt B, Kraume K, Shankar V, 2020. Transforming the customer experience through new technologies. *Journal of Interactive Marketing* 51(1): 57-71. <https://doi.org/10.1016/j.intmar.2020.04.001>
7. Jones CW, Byon KK, Huang H, 2019. Service quality, perceived value, and fan engagement: case of Shanghai Formula One Racing. *Sport Marketing Quarterly* 28(2): 63-76. <https://doi.org/10.32731/SMQ.282.062019.01>
8. Kothroulas D, Choustoulakis E, Alexopoulos P, 2025. The Transformative Role of Football Academies in the Modern Football Ecosystem. *European Journal of Physical Education and Sport Science*, 12(7). Retrieved from <https://doi.org/10.46827/ejpe.v12i7.6005>
9. Kunz R, Santomier J, 2019. Sport content and virtual reality technology acceptance. *Sport, Business and Management: An International Journal* 10(1): 83-103. <https://doi.org/10.1108/SBM-11-2018-0095>
10. Lupinek JM, Yoo J, Ohu E, 2021. Congruity of virtual reality in-game advertising. *Frontiers in Sports and Active Living* 3: 728749. <https://doi.org/10.3389/fspor.2021.728749>
11. Rynarzewska AI, 2018. Virtual reality: a new channel in sport consumption. *Journal of Research in Interactive Marketing* 12(4): 472-488. <https://doi.org/10.1108/JRIM-02-2018-0028>
12. Santos T, Correia A, Biscaia R, 2019. Examining fan engagement through social networking sites. *International Journal of Sports Marketing and Sponsorship* 20(1): 163-183. <https://doi.org/10.1108/IJSMS-05-2016-0020>
13. Stegmann P, Matyas D, Strobel T, 2023. Hype or opportunity? Tokenization as engagement platform in sport marketing. *International Journal of Sports*

- Marketing and Sponsorship 24(4): 722-736. <https://doi.org/10.1108/IJSMS-08-2022-0157>
14. Tsekeri P, 2026. The use of new technologies (VR) in team sports (football) as a marketing tool in Europe and Greece. PhD Thesis, University of Peloponnese, Sparta, Greece
 15. Walton D, 2025. Immersive impact: sport virtual reality effects on brand recall and recognition. Sport Marketing Quarterly 34(1): 46-59. <https://doi.org/10.32731/SMQ.341.032025.04>

Appendix: Research Instruments and Supplementary Material

Appendix A. Questionnaire construct map

The structured questionnaire included five-point Likert-type items covering digital familiarity, prior exposure to VR, perceived usefulness of VR in sport marketing, emotional attachment to the football club, willingness to participate in VR-supported events, perceived sponsor and commercial value, adoption barriers and future expectations. The neutral point of the scale was 3.00 and was used as the reference value for one-sample t-tests.

Appendix B. Interview guide themes

The semi-structured interviews covered perceptions of VR as a technology in sport and football; whether VR is considered a necessary, complementary or unnecessary tool; ways VR can improve the fan experience and interaction with clubs; marketing uses of VR, including premium content, sponsor packages, virtual tours and fan zones; examples of VR use in Greece and Europe; barriers to VR adoption in Greek sport marketing; cost, infrastructure, staff training and technology-readiness issues; possible revenue models and evaluation indicators for VR campaigns; and future applications such as mobile VR, e-sports, metaverse environments and data-driven personalization.

Appendix C. Abbreviations used in the study

VR: Virtual Reality; AR: Augmented Reality; H1-H6: Hypotheses 1-6; SD: Standard Deviation; M: Mean; SE: Standard Error.