Shahid Bahonar University of Kerman

Journal of New Studies in Sport Management

Online ISSN: 2717 - 4069

Homepage: https://jnssm.uk.ac.ir

Iranian Scientific Association of Sport Management

A Structural Model of Fans' Perceptions toward Sustainable Social, Environmental, and Economic Outcomes in Football Clubs

Sajjad Pashaie [1] | **Hamed Golmohammadi** [2] | **Mücahit Fişne** [3]

1. Corresponding Author, Assistant Professor, Department of Sport Management, Faculty of Physical Education & Sport Sciences, University of Tabriz, Tabriz, Iran. Email: sajjad.pashaie@yahoo.com
2. Ph.D. Candidate, Department of Physical Education and Sport, Institute of Health Science, Sivas Cumhuriyet University, Sivas, Turkey. Email: golmohammadi.hamed@yahoo.com
3. Associate Professor, Department of Sport Management, Faculty of Sports Sciences, Sivas Cumhuriyet University, Sivas, Türkiye. Email: mfisne@gmail.com

ARTICLE INFO

Article type:
Original article

Article history:
Received: 19 February 2025
Received in revised form: 06 July 2025
Accepted: 10 July 2025
Publish online: 21 August 2025

Keywords:
Fan perception
Sports sustainability
Environmental initiatives

ABSTRACT

This study investigates the impact of fan perceptions on the social, environmental, and economic benefits of sustainability initiatives, using Tractor FC in Tabriz as a case study. Employing structural equation modeling (SEM), it examines how fans' attitudes toward their club's environmental and social responsibility efforts translate into meaningful behavioral, societal, and economic outcomes. Findings show that positive fan perceptions significantly strengthen community cohesion, promote pro-environmental behaviors, and stimulate economic interaction, including merchandise purchases and match attendance. This study emphasizes the coherence of the sustainability framework and shows how sports organizations can act as important drivers for sustainable development. By empirically testing these relationships within a diverse cultural context, this study extends the understanding of how culturally specific factors shape sustainable practices in sport, offering valuable insights for both scholars and practitioners.

Introduction

Sustainable management is gradually becoming a key part of political, social, and economic agendas, as we urgently need to address future challenges that are increasingly becoming our present reality (Fernández-Villarino, 2021). A development is regarded as sustainable only when it remains economically viable, is socially embraced, aligns with ecological principles, and receives responsible and consistent political backing (Firouzy et al., 2025). Today, sports are connected to many parts of society, including the economy, environment, and social life. In terms of the environment, sports can help bring people from different races and nations together in one country. Economically, sports can support society by creating jobs and improving income. Socially, sports can help people feel more confident (Mondalizadeh et al., 2021).

How to Cite: Pashaie, S., Golmohammadi, H., & Fişne, M. (2026). A Structural Model of Fans' Perceptions toward Sustainable Social, Environmental, and Economic Outcomes in Football Clubs. *Journal of New Studies in Sport Management*, 7(2), 53-67. DOI: 10.22103/jnssm.2025.24862.1367

Publisher: Shahid Bahonar University of Kerman
DOI: 10.22103/jnssm.2025.24862.1367

A powerful driver of sustainable development, sport contributes to social inclusion, environmental responsibility, and economic advancement (Pashaie & Perić, 2023). Sports clubs can have a big impact on societal objectives, promoting social cohesion and environmental awareness in addition to their benefits to physical and mental health (Dai & Menhas, 2020). Importantly, the success and influence of clubs are influenced by sports fans, especially in team sports. In addition to helping clubs be financially stable, fan loyalty, perception, and active support also help them take part in socially and environmentally conscious projects (Badri Azarin et al., 2018; Hamdi et al., 2024). Despite these advantages, many sports teams struggle to successfully incorporate sustainable practices, frequently as a result of low fan participation and unclear communication regarding social and environmental objectives (Abutalebi et al., 2023). As a result, the development of sports can play an important role in the progress of societies. Making plans for sports development is common in both developing and developed countries, but the way these plans are carried out and evaluated can have a major effect on achieving sustainable development in society (Mondalizadeh et al., 2021).

While fans' attachment to their team and sense of superiority over competitors encourage increased engagement in social events and support, this sense of duty strengthens social interactions and promotes a sense of community belonging, which substantially affects the social benefits associated with football (Wolfson et al., 2005). Furthermore, the good social interactions and enjoyment that come from playing team sports give people intrinsic motivation (Nielsen et al., 2014). Therefore, we can better comprehend football as a significant cultural and social phenomena by looking at the role of fans and its socio-cultural repercussions (Mohammadi et al., 2025). In addition to highlighting the value of fan connection, this study shows how these exchanges support the larger social fabric of the sport.

Sports have increasingly played a key role in fostering awareness of environmental issues and motivating action (Kellison et al., 2025). Social identity theorists examine how belonging to a group fosters shared values and characteristics among its members, forming the foundation for socially normative behavior (Lock & Heere, 2017). From the perspective of social identity theory, one effective strategy to encourage stronger pro-environmental behavior is to highlight identities that embrace environmental norms and/or to create opportunities for individuals to develop a stronger connection with pro-environmental social groups (Fielding & Hornsey, 2016). Environmental sustainability is a key priority within the current research agenda of business studies (Aguilera et al., 2021). The literature emphasizes the need to identify and understand the factors that influence individuals' environmentally friendly choices and behaviors (Phipps et al., 2013). Actually implement these behaviors in their daily lives, instead of merely yielding to societal pressure to societal pressure (Samuelson & Zeckhauser, 1988). Fans are an important stakeholder group in the complex landscape of sports (Biscaia et al., 2018), and engaging them on sustainability issues can enhance their participation and support for environmental protection initiatives (Casper et al., 2023; Do et al., 2024; Francis et al., 2024; Huang & Chiu, 2024). As climate issues gain prominence, research has increasingly examined fans' reactions to the environmental actions taken by sports organizations and their subsequent responses (Casper et al., 2020). However, due to the profound emotional connection between fans and sports organizations, further research is necessary to understand fans' attitudes and expectations regarding the pro-environmental sustainability initiatives promoted by these organizations (Cayolla & Escadas, 2022).

Although stakeholder theory holds considerable importance, limited focus has been placed on the value it creates and the implications of that value (Yiapanas et al., 2024). The stakeholder theory offers a suitable framework for examining the multifaceted nature of the value desired by stakeholders, along with alternative approaches for its assessment (Harrison & Wicks, 2013).

Football represents a domain where stakeholders have established distinctive and enduring relationships (Yiapanas et al., 2024). Without a doubt, football is one of the greatest phenomena of the 20th century. Over the course of a century since its emergence, this sport has transformed from a simple sporting activity into a multidimensional phenomenon that has had great impacts in the social, economic, cultural, and other fields (Badri Azarin et al., 2018). Because of these traits, sports teams try to use marketing techniques that draw in more fans so they can get a bigger cut of media sales and enhance their profitability (Freydoni et al., 2020). In light of this, club management and marketers need to be proactive in understanding the behavior and reactions of their fans throughout both good and unsuccessful times (Wann, 2006). Changes in the football sector have led to a professional football environment influenced by broader economic factors, including purchasing and selling merchandise associated with the club, participation in stock markets, and many other aspects, all of which play a significant role in the economic development of football across various leagues (Mumcu et al., 2016).

The recent changes in the football industry, including the turning of sport into a commodity, the strong focus on making profits, and the lack of sufficient attention to social and environmental issues, have resulted in a legitimacy crisis for football clubs (Raimo et al., 2021). Clubs and society at large must thus acknowledge that their operations have a quantifiable effect on the environment (Casper et al., 2017). Professional sports teams are effective avenues for promoting environmental sustainability (Kellison & Cianfrone, 2020), because they capitalize on the emotional connections of their fans (Walzel et al., 2018). Similarly, the environmental dimension of sustainability has gained prominence, emphasizing the role of sports organizations in influencing fans' pro-environmental attitudes and behaviors (Inoue & Kent, 2012). Professional sports clubs can utilize the strong connections they have with fans to encourage sustainable practices both at the stadium and in fans' homes (Cayolla et al., 2023).

There is still little knowledge on the precise role that sports fans play in furthering sustainability objectives, despite an expanding corpus of research on the social benefits of sports, including enhanced community cohesion, better health outcomes, and a decrease in crime (Gilchrist & Wheaton, 2017). Given its enormous cultural, social, and economic significance, football—the most favored sport in the world—is well suited to close this gap (Mohammadi et al., 2025). Prior research has highlighted the potential of fans to act as change agents, adopting pro-environmental behaviors when inspired by their team's initiatives (Inoue & Kent, 2012; Trendafilova & McCullough, 2018). However, the special relationship between fans and football clubs and how this connection affects efforts to support sustainability has not been studied very much. This is especially true in countries outside the Western world, where these relationships might work differently and have different impacts on sustainability practices.

By focusing on Tractor FC in Tabriz, one of the most culturally significant football teams in Iran and Asia, this study fills this void. Due to its large and loyal fan base, Tractor FC provides a valuable case for quantitatively analyzing the impact of sustainability initiatives on fan attitudes and behavior. This study elucidates the relationship between cultural identity, regional pride, and sustainability initiatives, in contrast to numerous regional or international studies that primarily focus on sports organizations in the West. Tractor FC's recognition as the most popular team in South and Central Asia by the Asian Football Confederation (AFC) in 2020 underscores its relevance as a case study for understanding fan engagement in a distinct cultural and economic context (AFC, 2020). This focus enriches the global discourse on sustainability in sports by offering insights from an underrepresented region.

This study introduces a conceptual model (Fig. 1) designed to statistically assess how fan perceptions influence the economic, social, and environmental benefits derived from sustainability

initiatives. This model posits that fans' perceptions of their club's actions influence their approval, loyalty, and engagement with sustainability goals. Specifically, it examines how fans' identification with the club influences pro-social and pro-environmental behaviors, thereby contributing to the sustainable objectives of both the club and broader society. The model's relevance lies in its capacity to integrate the emotional and cognitive dimensions of fan engagement, providing a comprehensive framework for understanding how sustainability initiatives can strengthen fan-club relationships and drive long-term commitment.

This study adds to conversations in academia and in practice by tackling these problems. In addition to providing useful insights for sports management and legislators looking to improve fan involvement, it highlights the significance of culturally contextualized research in sports sustainability. In the end, it illustrates how important fans are as stakeholders in accomplishing sustainable development objectives both inside and outside the sports industry.

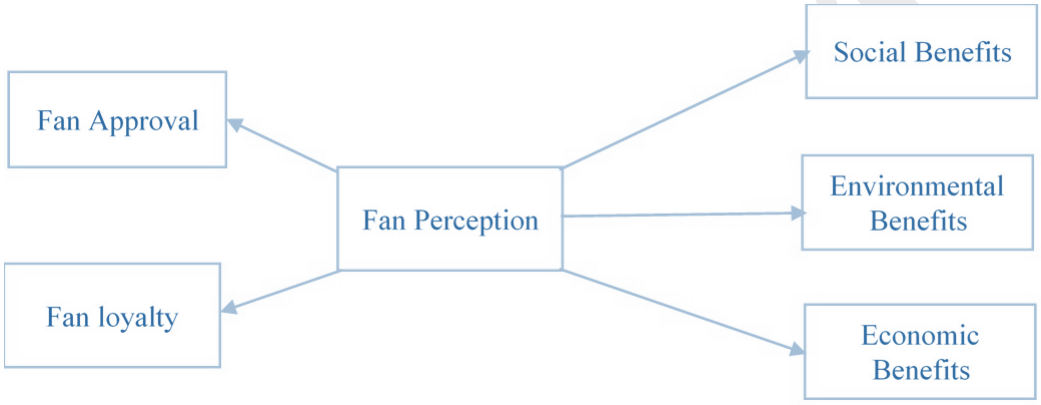

Figure 1. Conceptual model of research.
Source: (Cayolla et al., 2023)

Methodology

The aim of this research is to examine the social, environmental, and economic impacts of sustainability initiatives from the perspective of the fans of Tractor FC football club in Tabriz of Iran. This study seeks to statistically analyze how these initiatives affect fans' behaviors and attitudes, and to evaluate the strength of the relationships between fans and the club.

This research employs a quantitative approach and focuses on examining numerical and statistical data. In this context, a survey method will be used to collect data, allowing us to systematically gather and analyze the opinions and perspectives of the fans.

Procedure and Sample

The research population for this study consists of the fans of Tractor FC football club in Tabriz during the 2024-2025 period. Random sampling was conducted to ensure a representative sample of the fan community. Based on Krejcie and Morgan's sample size determination table, and given the large population of supporters, a sample of approximately 390 individuals was selected. The criteria for selecting participants in this research included being over 18 years of age, having at least two years of experience as fans of Tractor FC, and attending at least once live match in the stadium to demonstrating their active engagement and commitment as supporters. Additionally, participants needed to be willing to complete the questionnaire, ensuring that the collected data reflects genuine insights from dedicated supporters.

Measures

Data are collected using a standardized questionnaire adapted from Cayolla et al. (2023), which consists of 15 questions designed to measure fans' attitudes and behaviors in social, environmental, and economic areas. The questions are arranged on a five-point Likert scale, ranging from "strongly disagree" to "strongly agree". This questionnaire was distributed online among fan groups and channels on social media platforms, such as Telegram and Instagram, allowing for a wider reach and enabling the research to connect with a larger and more diverse audience of Tractor FC supporters.

Distributing the questionnaire through these channels facilitates quick and efficient data collection. Online surveys can be completed at the participants' convenience, which increases the likelihood of participation and improves response rates. Additionally, fans are often part of multiple groups and channels, which can lead to a snowball effect, further expanding the reach of the survey as participants share it within their networks.

Moreover, using social media for distribution aligns with contemporary research practices, where digital engagement is increasingly important. It allows for real-time feedback and interaction, enhancing the overall research experience for participants. Finally, the anonymity of online surveys can encourage more honest and candid responses, as fans may feel more comfortable sharing their opinions in a digital environment rather than in person. Overall, the decision to distribute the questionnaire online through social media channels is justified by the advantages of accessibility, efficiency, and enhanced participant engagement.

Validity and reliability

To ensure the validity and reliability of the questionnaire, a pilot test was conducted with a small sample from the statistical population, which helped identify and correct any potential issues with the questions. Construct validity was assessed using confirmatory factor analysis (CFA), and reliability was measured using Cronbach's alpha (α) coefficient. The results indicated that all validity and reliability indicators were at satisfactory levels, confirming that the data collection tool was appropriate for this research.

Data Analysis

After data collection, statistical analyses were performed using SPSS® $_{TM}$26 and Smart PLS $_{TM}$3 software. Initially, the data were prepared for analysis, including data cleaning, handling missing data, and ensuring no outliers were present. Partial least squares (PLS) modeling was then used to analyze the relationships between variables. The estimated model was evaluated using various criteria. The model comprised two sections: the measurement model and the structural model. To assess the validity and reliability of the measurement tools, confirmatory factor analysis (CFA) was utilized. The structural part of the model was evaluated using path coefficients (β), predictive relevance (Q^2), and the goodness-of-fit index (GoF), along with the standardized root mean square residual (SRMR) to simultaneously assess the fit of both the structural and measurement models.

Results

Demographic description

The descriptive findings presented in Table 1 illustrate the demographic characteristics of the participants in the study. Among the respondents, the majority were aged 18-24 years (43.07%), followed by those aged 25-34 (29.48%). In terms of education, most participants held a Bachelor's degree (38.97%), while 13.58% had an associate degree or lower. The gender distribution was

significantly skewed towards males, who comprised 77.43% of the sample. Regarding occupation, students represented the largest group at 28.20%, followed closely by self-employed individuals (25.89%). Income status revealed that nearly half of the participants (49.23%) reported an average income, while 18.97% considered their income status weak.

Table 1. Demographic Characteristics of the Participants

level		Frequency	%
Age	18- 24	168	43.07
	25-34	115	29.48
	35-44	74	18.97
	45<	33	8.46
Education	Associate degree and below	53	13.58
	B.Sc	152	38.97
	M.Sc	108	27.69
	Ph.D	77	19.74
Gender	Man	302	77.43
	Female	88	22.56
Occupation	Student	110	28.20
	Employee	92	23.58
	Independent worker/Self-employed	101	25.89
	Unemployed	76	19.48
	Retired	11	2.82
Income status	Weak	74	18.97
	Average	192	49.23
	Good	81	20.76
	Excellent	43	11.02

Evaluation of Psychometric Properties of Indicators and Measurement Model

Table 2 presents the psychometric properties of various measures related to fan perception and environmental sustainability initiatives of sports teams. The constructs assessed include Fan Perception, Social Benefits, Environmental Benefits, and Economic Benefits, each with associated questions and statistical metrics. The lambda or factor loadings ($\lambda \geq 0.40$) values indicate the factor loadings for each question, demonstrating the strength of the relationship between the questions and their respective constructs; most loadings are above 0.80, indicating strong correlations. Cronbach's alpha ($\alpha \geq 0.70$) values, which measure internal consistency, range from 0.83 to 0.91, suggesting high reliability for the constructs. Composite Reliability (CR $\geq$ 0.70) and Average Variance Extracted (AVE $\geq$ 0.50) values further confirm the constructs' validity, with CR values above 0.58 and AVE values above 0.62, indicating good construct validity. Additionally, Rho_A values, which assess the reliability of the constructs, also reflect strong internal consistency. In this study, the average Rho_A index was reported as 0.83, indicating high internal validity of the constructs under

investigation. This value exceeds the minimum standard of 0.7, indicating that the scales used in this research have high reliability.

Table 2. **Psychometric Properties of the Measures**

Construct	Questions	λ	α	CR	AVE	
Fan Perception	**Fan Approval**		0.89	0.89	0.58	0.81
	○ FA1: My favorite sports team's initiatives in the field of environmental sustainability have a positive impact on my support as a fan.	0.80				
	○ FA2: I am more proud of a club that promotes environmental sustainability initiatives.	0.88				
	○ FA3: I have more loyalty to my favorite sports team because it takes steps towards environmental sustainability.	0.80				
	Fan loyalty					
	○ FL4: I am aware of the environmental sustainability initiatives being undertaken by my favorite sports team.	0.88				
	○ FL5: I am interested in the environmental sustainability initiatives being promoted by my favorite sports team.	0.90				
	○ FL6: I will participate in the environmental sustainability initiatives being promoted by my favorite sports team.	0.84				
Social Benefits	○ SB7: My favorite sports team's environmental sustainability initiatives make me more aware of the importance of environmental sustainability.	0.88	.880	0.80	0.71	0.80
	○ SB8: The environmental sustainability initiatives undertaken by my favorite sports team influence my environmental behaviors at other social events (music, arts, culture, or sports).	0.92				
	○ SB9: The environmental sustainability initiatives of my favorite sports team influence my environmental behaviors with my family and friends at home.	0.88				
Environmental Benefits	○ ENB10: I control and reduce my water consumption.	0.90	0.91	0.79	0.77	0.91
	○ ENB11: I control and reduce my energy consumption.	0.93				
	○ ENB12: I separate and recycle waste.	0.92				
Economic Benefits	○ EB13: Fans may be more likely to attend games due to the club's environmental initiatives.	0.86	0.83	0.83	0.62	0.83
	○ EB 14: I intend to purchase more products/services from my favorite sports team	0.87				
	○ EB 15: Fans may recommend their favorite team's games to friends and family due to the club's positive environmental impact.	0.86				

Overall, the table demonstrates that the measures used in the study are both reliable and valid, effectively capturing the impact of environmental sustainability initiatives on fan behavior and perceptions.

Structural Model Fit

After evaluating the measurement model fit, the focus shifts to assessing the structural model fit. To evaluate the appropriateness of the structural model in the research, several criteria are used. The primary and fundamental criteria include the β and the t-values (standardized path coefficients and their significance). For evaluating the structural model, t-values should be greater than 1.96 to confirm their significance at a 95% confidence level. Additionally, for the β coefficient, if its value is less than 0.3, the relationship is considered weak; between 0.3 and 0.6, it is considered moderate; and above 0.6, it is considered strong. The results for the β coefficient and t-values are illustrated in Figures 2 and 3.

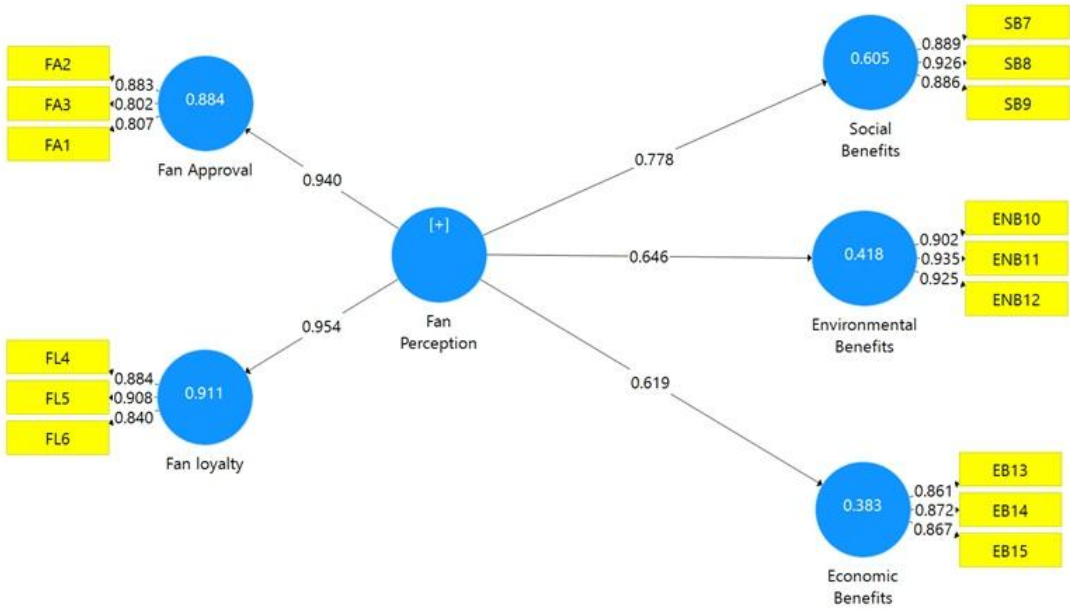

Fig 2. Paths of the beta coefficient (β)

Figure 2 illustrates the β between the constructs of the study, indicating the impact of fan perception on social benefits, environmental benefits and economic benefits in Tractor FC in Tabriz. A β coefficient above 0.60 signifies a strong relationship and significant influence of fan perception on these aspects, thereby supporting the main hypotheses of the research.

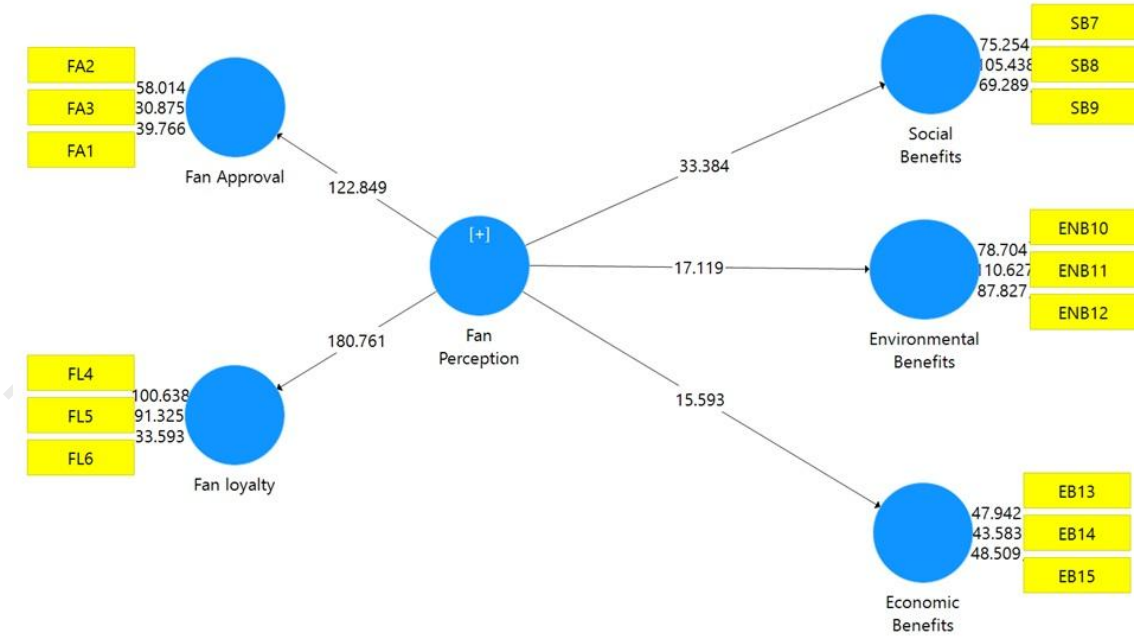

Fig 3. Structural equation model in standard and significance mode- t-value

Figure 3 shows that fan perception significantly contributes to social benefits, environmental benefits and economic benefits in Tractor FC in Tabriz, as the t-values for three hypotheses are above 2.58. This indicates that these relationships are confirmed at a 95% confidence level.

Overall, the β coefficients above 0.60 and t-values higher than 2.58 in Figures 2 and 3, show that the positive and significant effects of fans' perceptions on social, environmental, and economic variables significantly confirm the research hypotheses.

Evaluation of the Structural Model

In this phase, the key indicators for evaluating the structural model in Partial Least Squares (PLS) analysis are reported. Specifically, the coefficient of determination (R^2) is used to indicate the model's explanatory power, and the Q^2 is used to assess the model's predictive power. If the value of the Q^2 index is positive, it indicates that the model fit is favorable and the model has adequate predictive power.

Table 3. Evaluation indicators of the structural part of the model

Construct	Q^2	R^2
Fan perception		
Social benefits	0.46	0.60
Environmental benefits	0.33	0.41
Economic benefits	0.27	0.38

Table 3 outlines the evaluation indicators utilized to assess the structural component of the model, specifically focusing on its explanatory power (R^2) and predictive power (Q^2). According to Chin (1998) guidelines, R^2 values are categorized as weak (0.19), moderate (0.33), and strong (0.67). In this study, the observed R^2 values indicate a range from moderate to strong explanatory power. Additionally, Q^2 values are classified as weak (0.01), moderate (0.25), and strong (0.36) based on Purwanto (2021) criteria. The results demonstrate that all constructs show moderate to strong predictive power. Overall, the findings indicate that the structural model demonstrates good explanatory and predictive power in capturing the relationships between fans' perceptions and the identified social, environmental, and economic benefits.

Overall Model Fit

Given that the use of multiple fit indices is common in evaluating structural models in many reputable studies, this research also employs various indices for a comprehensive assessment of model quality. The GoF index is utilized to evaluate the overall model fit. It is computed using the geometric mean of the R^2 values and the average of the communality indices. According to Tenenhaus (2008), the GoF criterion is calculated as follows:

$$GOF = \sqrt{\text{average (Commonality)} \times \text{average } (R^2)}$$

$$GOF = \sqrt{0.67 \times 0.46} = 0.30$$

Wetzels et al. (2009) proposed three values for assessing the GOF index: a range of 0.1 to 0.25 is considered weak, 0.25 to 0.36 is regarded as moderate, and any value above 0.36 is deemed strong.

In addition, the SRMR index is used to examine the differences between the observed and predicted correlation matrices. If the SRMR value is less than 0.1, it indicates a good fit of the model.

Table 4. Structural model fit indices

Construct	GoF	SRMR
Fan perception	0.30	0.09
Social benefits		
Environmental benefits		
Economic benefits		

Based on the results, the GoF index for this study was found to be 0.30. This value indicates that the model exhibits a good fit and moderate, with the combination of commonality indices and the coefficient of determination effectively explaining the model's structure. Additionally, the

SRMR was reported as 0.09, which reflects a satisfactory fit of the model. The concurrent reporting of these indices provides a more comprehensive view of the model's quality and reinforces the validity of the results.

Given the significance of the relationships between the constructs in the study, the next step is to test the research hypotheses. The results of the hypothesis testing, based on structural equation modeling, along with the paths, β, and significance levels (t-values) are presented in Table 5.

Table 5. Values of beta coefficient (β) and significance coefficients (t)

Hypotheses			β	t	Sig	Relationship Strength	Result
Fan perception	→	Social benefits	0.77	33.38	0.000	Strong	✓Confirmed
Fan perception	→	Environmental benefits	0.64	17.11	0.000	Strong	✓Confirmed
Fan perception	→	Economic benefits	0.61	15.59	0.000	Strong	✓Confirmed

Table 5 highlights the results of the structural model's hypothesis testing by reporting the beta coefficients (β) and significance coefficients (t-values) for the examined relationships. The findings reveal strong and statistically significant relationships between fan perception and the dependent variables, including social benefits (H^1: β = 0.77, t = 33.38), environmental benefits (H^2: β = 0.64, t = 17.11), and economic benefits (H^3: β = 0.61, t = 15.59). All t-values exceed the critical threshold of 1.96 at a 95% confidence level, confirming the hypotheses with strong empirical support. These results underscore the pivotal role of fan perception as a driver of multiple sustainability outcomes, reinforcing the interconnectedness of social, environmental, and economic dimensions within the structural model.

Discussion

Besides serving as venues for athletic competition, sports clubs are acknowledged as key players in the social and economic development of local communities. The findings of this study, which concentrated on Tractor FC in Tabriz, demonstrate how important fan perception is in providing social, environmental, and financial advantages for professional football teams. By showing strong links between fan perception and these three sustainability traits, the study demonstrates how clubs may employ fan engagement to promote larger societal and environmental objectives while reinforcing their own financial stability.

The results reveal a significant and robust relationship between fan perception and social benefits, underscoring the critical role of sports organizations as influential platforms for fostering community cohesion and social capital. Positive fan perceptions contribute to enhanced community participation and stronger social ties, consistent with prior research that highlights the social integration potential of sports (Abutalebi et al., 2023; Hamdi et al., 2024, Wolfson et al. (2005). In the case of Tractor FC, the club’s cultural significance amplifies its ability to drive community-oriented initiatives, fostering solidarity and regional pride. In this context, Mohammadi et al. (2025) highlight how culturally significant clubs like Tractor FC can strengthen the socio-cultural fabric of their regions, promoting values of solidarity and inclusiveness. These findings highlight the importance of culturally contextualized strategies that resonate with the local fan base and address their social aspirations. These results also provide empirical evidence for the idea that sport can act as an agent for social change (Parker et al., 2019) and the creation of shared value (Cook et al., 2023), particularly in the context of social values or benefits (Cayolla et al., 2023).

According to the findings of this study, fans who perceived that their team genuinely cares about and is attentive to environmental issues demonstrated a significantly higher likelihood of engaging in environmental protection activities. This involvement could take the form of actions such as supporting green programs in stadiums or participating in community activities outside the world of sports (Abutalebi et al., 2023). According to the findings of Cayolla et al. (2023), this is consistent with the idea of "sustainability identity", where environmental stewardship becomes a crucial part of team loyalty. The club's aims and local values are reflected in Tractor FC's projects, which have a deep emotional connection with fans. However, sports teams need to launch important and impactful environmental programs that can emotionally engage fans and translate their contributions into meaningful action to reap the full benefits of these initiatives.

The relationship between fan perception and economic benefits underscores the tangible financial value of fostering positive fan engagement within sports organizations. Supportive fan perceptions translate into higher loyalty, increased attendance, and greater merchandise sales, thereby enhancing financial sustainability (Abutalebi et al., 2023). This study extends the literature by emphasizing how economic incentives can be integrated into sustainability strategies, such as offering eco-friendly products or organizing community events that align with fans' values (Cayolla et al., 2023). In addition, this research empirically shows that the economic value of a sports organization can increase while creating environmental value for society as a whole (Menghwar & Daood, 2021). This may become a clear incentive not only for sports organizations to engage in environmental sustainability initiatives (McCullough et al., 2019), but also to encourage other organizations—sports and non-sports—to follow the same practices (Cayolla et al., 2023). These strategies contribute not only to revenue generation but also to strengthening the club's social and environmental reputation, thereby fostering a virtuous cycle in which enhanced fan support fuels financial growth and long-term organizational sustainability.

Overall, we find that sports clubs are also recognized as important factors in the social and economic progress of local communities. Meanwhile, the role of sports fans as the main focus of developing and implementing marketing strategies for sports teams has become increasingly important. The findings of this study give credence to the transformative potential of fan perceptions in advancing sustainability goals. By cultivating positive perceptions and set themselves as agents of change in social, environmental and economic spheres, sports teams can increase their influence beyond the stadium and act as role models for other organizations in creating positive change.

Practical Implications

According to the findings, legislators and sports managers should take a detailed and culturally aware approach to sports sustainability. Clubs should create sustainability programs that reflect the cultural and emotional values of their fans to optimize the social, environmental, and financial benefits found in this study. For example, Tractor FC might effectively engage with fans by utilizing local customs and values and promoting initiatives like waste management and water conservation through its cultural and local significance.

It's also essential to convey information clearly and consistently about environmental initiatives. Clubs can inform their fans of their environmental accomplishments through matchday events and social media. Fans' behavior can be changed by providing them with environmental incentives, such as exclusive admission to events or discounts on eco-friendly goods. Furthermore, developing workshops and educational initiatives to enhance fan understanding of sustainability can

be very effective. Club projects can also have a greater impact if they collaborate with governmental organizations, non-profits, and private businesses on sustainability.

Lastly, the club can improve fan relations and accomplish social and environmental objectives by integrating sustainability into its core operations, such as the use of green technologies and renewable energy sources, and putting in place feedback systems to gauge how fans are responding to sustainability initiatives. All things considered, Tractor FC is a shining example of how culturally relevant activities and clear communication may result in sustainability, community growth, and fan devotion.

Theoretical Contributions

This study contributes significantly to existing theories and provides a better understanding of how fan perceptions influence sustainability outcomes in sport, particularly in culturally diverse contexts. By focusing on the fan–club relationship at Tractor FC, the findings enrich stakeholder theory and demonstrate the pivotal role of fans as key stakeholders and sustainability agents in sport organizations. The research also contributes to identity theory and demonstrates how fans' identification with their club reinforces environmental and social behaviors. The conceptual model of this study establishes the link between fan perceptions and tangible social, environmental and economic benefits and provides a comprehensive framework for understanding the impact of sustainability initiatives.

Furthermore, this research fills gaps in the sports management literature by providing empirical evidence on how fan engagement and organizational performance can be improved through sustainability efforts. This study expands on current theories and offers a strong basis for further research by situating our findings within accepted theoretical frameworks and contextualizing them in a distinct cultural context. Our knowledge of how sports support global sustainability initiatives will grow as a result of more investigation into these interactions in various organizational and cultural contexts.

Conclusion

This study emphasizes how important Tractor FC fan views are to achieving sustainability goals in professional sports. The results show that sports teams may serve as drivers for sustainable development by highlighting the interrelated social, environmental, and financial benefits of fan interaction. The study also emphasizes the importance of culturally significant sports organizations in fostering community cohesion, promoting pro-environmental behaviors, and enhancing financial sustainability. These outcomes are achieved by aligning sustainability initiatives with fans' values and cultural contexts, offering a replicable framework for leveraging sports as a tool for positive change.

Future research should explore these dynamics in broader contexts, focusing on cross-cultural comparisons to uncover universal principles and region-specific challenges. Additionally, investigating innovative communication strategies and their effectiveness in engaging fans would provide actionable insights for sports managers. By applying these findings globally and exploring sustainability efforts in underrepresented regions, such as grassroots clubs, women's sports teams, and non-traditional sports, future research can deepen understanding of sports' transformative potential and contribute to global sustainability goals.

Acknowledgments

We express our sincere appreciation to everyone who contributed to the research process of this study.

Funding

No funding was received.

Conflicts of Interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Declaration of generative AI and AI-assisted technologies in the writing process:

During the preparation of this work the authors used ChatGPT in order to improve language and readability of certain parts of the article. After using this tool/service, the authors reviewed and edited the content as needed and takes full responsibility for the content of the publication.

References

Abutalebi, R., Nazari, M., & Salimi, M. (2023). The construction model of the role of sports on the sustainable development of Iran. *New Trends in Sport Management*, *10*(39), 195-212.

AFC. (2020). *The search for Asia's Most Popular Football Club: Tractor SC, Persepolis FC through to final | Football | News. the-AFC. Retrieved 2020-12-23.* https://www.the-afc.com/en/more/news/the_search_for_asias_most_popular_football_club_tractor_sc_persepolis_fc_through_to_final.html

Aguilera, R. V., Aragón-Correa, J. A., Marano, V., & Tashman, P. A. (2021). The corporate governance of environmental sustainability: A review and proposal for more integrated research. *Journal of Management*, *47*(6), 1468-1497. https://doi.org/10.1177/0149206321991212

Badri Azarin, Y., Pashaie, S., Hafezi, V., & Fateh, H. (2018). Analysis the mediating role quality of ticket sale electronic services the performance of electronic customer relationship management (E-CRM) of league football matches of iran. *Communication Management in Sport Media*, *5*(3), 15-26.

Biscaia, R., Hedlund, D. P., Dickson, G., & Naylor, M. (2018). Conceptualising and measuring fan identity using stakeholder theory. *European Sport Management Quarterly*, *18*(4), 459-481. https://doi.org/10.1080/16184742.2017.1413580

Casper, J. M., McCullough, B. P., & Pfahl, M. E. (2020). Examining environmental fan engagement initiatives through values and norms with intercollegiate sport fans. *Sport Management Review*, *23*(2), 348-360. https://doi.org/10.1016/j.smr.2019.03.005

Casper, J. M., Pfahl, M. E., & McCullough, B. (2023). Intercollegiate sport and the environment: Examining fan engagement based on athletics department sustainability efforts. *Journal of Issues in Intercollegiate Athletics*, *7*(1), 13.

Casper, J. M., Pfahl, M. E., & McCullough, B. P. (2017). Is going green worth it? Assessing fan engagement and perceptions of athletic department environmental efforts. *Journal of Applied Sport Management*, *9*(1), 11. https://doi.org/10.18666/JASM-2017-V9-I1-7690.

Cayolla, R. R., & Escadas, M. (2022). Environmental sustainability and sports management: a review of marketing contributions and discussion of future research opportunities. International Conference on Marketing and Technologies,

Cayolla, R. R., Escadas, M., Biscaia, R., Kellison, T., Quintela, J. A., & Santos, T. (2023). Fans' perceptions of pro-environmental sustainability initiatives in sport and triple bottom line benefits. *International Journal of Sports Marketing and Sponsorship*, *24*(2), 395-421. https://doi.org/10.1108/ijsms-07-2022-0141

Chin, W. W. (1998). The partial least squares approach to structural equation modeling. *Modern methods for business research*, *295*(2), 295-336. https://doi.org/10.4324/9781410604385-10

Cook, D., Biscaia, R., Papadas, K., Simkin, L., & Carter, L. (2023). The creation of shared value in the major sport event ecosystem: understanding the role of sponsors and hosts. *European Sport Management Quarterly*, *23*(3), 811-832. https://doi.org/10.1080/16184742.2021.1931394

Dai, J., & Menhas, R. (2020). Sustainable development goals, sports and physical activity: the localization of health-related sustainable development goals through sports in China: a narrative review. *Risk management and healthcare policy*, 1419-1430. https://doi.org/10.2147/RMHP.S257844

Do, C., Kim, M., McCullough, B. P., Kim, H. S., & Lee, H.-W. (2024). Increasing Sport Fans' Receptivity to Sustainability Messaging Through the Enhancement of Brand Authenticity. *International Journal of Sport Communication*, *1*(aop), 1-11. https://doi.org/10.1123/ijsc.2024-0025

Fernández-Villarino, R. (2021). Sustainability in the football industry: An approach to the gap between theoretical formulation and practical application, through the results of the social fair play project. *Heliyon*, *7*(6). https://doi.org/10.1016/j.heliyon.2021.e07318

Fielding, K. S., & Hornsey, M. J. (2016). A social identity analysis of climate change and environmental attitudes and behaviors: Insights and opportunities. *Frontiers in psychology*, *7*, 121.

Firouzy, H., Goodarzi, M., & Moshkelgosha, E. (2025). Strategic Positioning of Sports Diplomacy Capacities for Sustainable Development. *Journal of New Studies in Sport Management*, *6*(1), 53-74. https://doi.org/10.22103/jnssm.2024.23058.1275

Francis, A. E., Desha, C., Caldera, S., & Rundle-Thiele, S. (2024). Environmental sustainability in stadiums: harnessing industry drivers and priorities for improved outcomes. *Smart and Sustainable Built Environment*, *Ahead-of-print*. https://doi.org/10.1108/SASBE-05-2024-0153

Freydoni, M., Kalateh Seifari, M., & Razavi, S. M. H. (2020). Explaining and presenting a model of economic factors affecting the behavioral responses of football fans. *Sport Management Journal*, *12*(1), 101-120. https://doi.org/10.22059/jsm.2019.256397.2066

Gilchrist, P., & Wheaton, B. (2017). The social benefits of informal and lifestyle sports: A research agenda. *International Journal of Sport Policy and Politics*, *9*(1), 1-10. https://doi.org/10.1080/19406940.2017.1293132

Hamdi, K., Mohamed Amine, N., & Hassan, G. (2024). European football club market value and sporting performance: the moderating effect of player transfers, fans engagement and coaching changes. *Managerial Finance*. https://doi.org/10.1108/MF-05-2024-0363

Harrison, J. S., & Wicks, A. C. (2013). Stakeholder theory, value, and firm performance. *Business ethics quarterly*, *23*(1), 97-124.

Huang, Y., & Chiu, W. (2024). Let's run green! Impact of runners' environmental consciousness on their green perceived quality and supportive intention at participatory sport events. *International Journal of Sports Marketing and Sponsorship*. https://doi.org/10.1108/IJSMS-12-2023-0250

Inoue, Y., & Kent, A. (2012). Investigating the role of corporate credibility in corporate social marketing: A case study of environmental initiatives by professional sport organizations. *Sport management review*, *15*(3), 330-344. https://doi.org/10.1016/j.smr.2011.12.002

Kellison, T., & Cianfrone, B. (2020). Superordinate social identity in a professional sport organization's environmental program. *International Journal of Sport Management*, *21*(1), 1-28.

Kellison, T., McCullough, B. P., Cianfrone, B. A., & Pelcher, J. A. (2025). Inter- and intra-team differences in professional sport fans' environmental attitudes. *International Journal of Sports Marketing and Sponsorship*, *26*(6), 1-13. https://doi.org/10.1108/IJSMS-07-2024-0174

Lock, D., & Heere, B. (2017). Identity crisis: A theoretical analysis of 'team identification'research. *European Sport Management Quarterly*, *17*(4), 413-435.

McCullough, B. P., Orr, M., & Watanabe, N. M. (2019). Measuring externalities: The imperative next step to sustainability assessment in sport. *Journal of Sport Management*, *34*(5), 393-402. https://doi.org/10.1123/JSM.2019-0254

Menghwar, P. S., & Daood, A. (2021). Creating shared value: A systematic review, synthesis and integrative perspective. *International Journal of Management Reviews*, *23*(4), 466-485. https://doi.org/10.1111/ijmr.12252

Mohammadi, S., Pashaie, S., & Ghaffarisadr, S. I. (2025). Aesthetics and Football: Aesthetics. In *Global Perspectives on Soccer and the Media and Entertainment Industry* (pp. 237-282). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3693-4298-5.ch009

Mondalizadeh, Z., Ehsani, M., Kozechian, H., & Honari, H. (2021). Sport Sustainable Development; Concepts, Barriers, and Proposals. *Journal of Sport Management and Development*, *10*(1), 1-10. https://doi.org/10.22124/jsmd.2021.5029

Mumcu, C., Lough, N., & Barnes, J. C. (2016). Examination of women's sports fans' attitudes and consumption intentions. *Journal of Applied Sport Management*, *8*(4), 6. https://doi.org/10.18666/JASM-2016-V8-I4-7221

Nielsen, G., Wikman, J. M., Jensen, C. J., Schmidt, J. F., Gliemann, L., & Andersen, T. R. (2014). Health promotion: the impact of beliefs of health benefits, social relations and enjoyment on exercise

continuation. *Scandinavian journal of medicine & science in sports*, *24*, 66-75. https://doi.org/10.1111/sms.12275

Parker, A., Morgan, H., Farooq, S., Moreland, B., & Pitchford, A. (2019). Sporting intervention and social change: Football, marginalised youth and citizenship development. *Sport, Education and Society*, *24*(3), 298-310. https://doi.org/10.1080/13573322.2017.1353493.

Pashaie, S., & Perić, M. (2023). The future of sports tourism in the light of the COVID-19 pandemic–Developing a new paradigm model. *Journal of tourism futures*. https://doi.org/10.1108/JTF-09-2022-0236

Phipps, M., Ozanne, L. K., Luchs, M. G., Subrahmanyan, S., Kapitan, S., Catlin, J. R., Gau, R., Naylor, R. W., Rose, R. L., & Simpson, B. (2013). Understanding the inherent complexity of sustainable consumption: A social cognitive framework. *Journal of Business Research*, *66*(8), 1227-1234. https://doi.org/10.1016/j.jbusres.2012.08.016

Purwanto, A. (2021). Partial least squares structural squation modeling (PLS-SEM) analysis for social and management research: a literature review. *Journal of Industrial Engineering & Management Research*.

Raimo, N., Vitolla, F., Nicolò, G., & Tartaglia Polcini, P. (2021). CSR disclosure as a legitimation strategy: evidence from the football industry. *Measuring Business Excellence*, *25*(4), 493-508. https://doi.org/10.1108/MBE-11-2020-0149

Samuelson, W., & Zeckhauser, R. (1988). Status quo bias in decision making. *Journal of risk and uncertainty*, *1*, 7-59. https://doi.org/10.1007/bf00055564

Tenenhaus, M. (2008). Component-based structural equation modelling. *Total quality management*, *19*(7-8), 871-886. https://doi.org/10.1080/14783360802159543

Trendafilova, S., & McCullough, B. P. (2018). Environmental sustainability scholarship and the efforts of the sport sector: A rapid review of literature. *Cogent social sciences*, *4*(1), 1467256. https://doi.org/10.1080/23311886.2018.1467256

Walzel, S., Robertson, J., & Anagnostopoulos, C. (2018). Corporate social responsibility in professional team sports organizations: An integrative review. *Journal of Sport Management*, *32*(6), 511-530. https://doi.org/10.1123/jsm.2017-0227.

Wann, D. L. (2006). Understanding the positive social psychological benefits of sport team identification: The team identification-social psychological health model. *Group dynamics: theory, research, and practice*, *10*(4), 272. https://doi.org/10.1037/1089-2699.10.4.272

Wetzels, M., Odekerken-Schröder, G., & Van Oppen, C. (2009). Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration. *MIS quarterly*, 177-195. https://doi.org/10.2307/20650284

Wolfson, S., Wakelin, D., & Lewis, M. (2005). Football supporters' perceptions of their role in the home advantage. *Journal of sports sciences*, *23*(4), 365-374. https://doi.org/10.1080/02640410400021567

Yiapanas, G., Thrassou, A., & Vrontis, D. (2024). The contemporary football industry: a value-based analysis of social, business structural and organisational stakeholders. *Accounting, Auditing & Accountability Journal*, *37*(2), 552-585. https://doi.org/10.1108/AAAJ-06-2022-5855