



RESEARCH ARTICLE

ENVIRONMENTAL SUSTAINABILITY AT MANCHESTER UNITED

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ARTICLE INFO

Article History

Received 14th December, 2025
Received in revised form
20th January, 2026
Accepted 15th February, 2026
Published online 29th March, 2026

Keywords:

Environmental Sustainability, Circular Economy, Premier League, Manchester United, Stadium Operations, Football Governance, Corporate Social Responsibility, Stakeholder Engagement.

ABSTRACT

This paper examines the critical and evolving role of environmental sustainability in the English Premier League (EPL), using Manchester United Football Club (MUFC) as an in-depth case study. Amid growing global pressure for corporate environmental responsibility, the professional sports industry, and elite football in particular, faces increasing scrutiny over its substantial environmental footprint. This research investigates the key barriers and drivers shaping the adoption of sustainable practices at one of the world's most iconic football clubs. It specifically explores the potential for circular economy (CE) principles to be integrated into large-scale stadium operations, infrastructure renovation, and broader club strategies to foster long-term ecological and financial resilience. The study employs a mixed-methods approach, triangulating quantitative data from a large-scale survey of 857 football community members with qualitative insights from semi-structured interviews with eight senior stakeholders from MUFC, UEFA, the Premier League, and other expert organisations. The findings reveal strong stakeholder support for sustainability initiatives, even in the face of financial costs, yet also highlight a significant awareness gap regarding existing club efforts. Key statistical correlations demonstrate a powerful link between environmental consciousness and support for corporate responsibility, as well as a willingness to accept the practical implications of sustainable infrastructure projects. The research synthesises these findings to provide a nuanced understanding of the complex interplay between governance, finance, stakeholder expectations, and operational realities in shaping the sustainability agenda of elite football clubs. It concludes with a set of strategic, evidence-based recommendations for Manchester United and other Premier League clubs to advance their environmental performance, arguing that a proactive and deeply integrated sustainability strategy is not merely a reputational asset but a fundamental component of modern, responsible business practice in the 21st century, essential for securing the long-term social license and commercial viability of the sport.

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Citation: Prof Vincent English and Hayley Ladd. 2025. "Environmental Sustainability at Manchester United", *International Journal of Recent Advances in Multidisciplinary Research*, 13,(03), 12236-12244.

INTRODUCTION

The escalating climate crisis has firmly positioned environmental sustainability as a central and non-negotiable concern in global business strategy, compelling industries across all sectors to re-evaluate their operational paradigms and long-term impacts. The increasing pressure on organisations to adopt and demonstrate sustainable practices has led to heightened scrutiny of corporate social responsibility (CSR) and environmental, social, and governance (ESG) initiatives (Carroll, 2000). The professional sports industry, a global cultural and economic powerhouse, is by no means exempt from these profound and urgent considerations. Football clubs, operating as large-scale, publicly visible commercial entities, command significant environmental footprints, primarily through the operation of vast stadia, intensive energy consumption, substantial waste

production, and the extensive travel of millions of fans (Kellison & Hong, 2015). As the world's most-watched and commercially lucrative football competition, the English Premier League (EPL) holds a unique and influential position, bearing a significant responsibility to address the complex challenges of sustainability and to act as a leader in environmentally responsible business practices. The league's global reach offers an unparalleled platform to champion and normalise sustainable behaviours among a vast and diverse audience. Similarly, governing bodies such as the Union of European Football Associations (UEFA) and the European Club Association (ECA) have prominent and overarching responsibilities to administer governance frameworks that positively influence the environmental landscape of European football (European Club Association, 2023). This paper focuses on the state of environmental sustainability within the Premier League, utilising Manchester United Football Club

(MUFC) as a detailed case study to empirically examine the specific barriers and drivers that shape and influence the implementation of sustainability initiatives. The research critically explores how the principles of the circular economy (CE)—a model focused on resource optimisation, waste minimisation, and the regeneration of natural systems—can be effectively integrated into stadium management, infrastructure design, and club operations to promote both long-term environmental sustainability and enhanced financial resilience (Geissdoerfer et al., 2017).

Research Problem: Despite a growing awareness of environmental issues and a series of high-level policy commitments, the practical implementation of meaningful sustainability measures remains a complex and formidable challenge for many football clubs. This is particularly true for those with ageing stadia and deeply entrenched operational models. The scale of the problem is significant; according to the Life Tackle initiative, “the average European football match generates 0.8 kg of waste per spectator,” which for a stadium with a capacity of 25,000 spectators, equates to a fully loaded lorry of 20 tonnes of waste (UEFA, 2022). While league-wide commitments and emerging regulatory frameworks provide a foundational impetus for sustainability initiatives, substantial gaps persist in understanding how clubs can effectively transition from linear, resource-intensive operations to more sustainable, circular business models. Manchester United’s Old Trafford stadium, an iconic but ageing piece of infrastructure, presents a particularly salient case study for analysing these challenges. Its current state embodies both the significant barriers and the unique opportunities associated with implementing ambitious sustainable renovation or redevelopment projects.

The existing academic literature on environmental sustainability in football remains relatively nascent, with a large portion of research focusing on general sustainability principles rather than the specific, practical application of circular economy strategies within the unique context of stadium operations. Furthermore, critical dimensions such as governance structures, multi-stakeholder engagement, and the complex financial considerations that drive decision-making are often overlooked in the discourse surrounding sustainability in football.

Research Aims and Objectives: The primary aim of this study is to assess the current environmental sustainability practices at Manchester United FC and to explore the potential for circular economy principles to enhance long-term sustainability outcomes. To achieve this overarching aim, the study pursues the following key objectives:

- To evaluate the current environmental impact of Manchester United FC, investigating existing sustainability initiatives and identifying key areas for improvement.
- To assess the feasibility of integrating circular economy principles into Old Trafford’s renovation or redevelopment, analysing the specific barriers and drivers that influence the adoption of CE strategies in stadium design and operations.
- To examine the perceptions and expectations of key stakeholders, including club management, fans, local communities, and governing bodies, regarding

sustainability efforts and the adoption of circular economy models.

- To analyse the influence of the broader governance landscape, exploring the role of the Premier League, UEFA, FIFA, and government regulations in shaping club-level sustainability decisions.
- To develop a set of evidence-based recommendations for enhancing environmental sustainability in football clubs, providing strategic insights for Manchester United and other Premier League clubs to improve their environmental performance.

Research Questions

To guide this investigation, the study addresses the following central research questions:

- What are the current environmental impacts and sustainability practices at Manchester United FC?
- How can circular economy principles be effectively and practically integrated into the renovation or redevelopment of Old Trafford Stadium?
- What are the perceptions, expectations, and levels of engagement of key stakeholders regarding the sustainable renovation of Old Trafford Stadium?
- What are the key governance, financial, and operational challenges that most significantly affect the progress of sustainability initiatives within Premier League clubs?

Significance of the Study

This research offers significant contributions to both academic knowledge and practical business strategy within the field of sustainability management and professional sports. By applying the theoretical framework of circular economy principles to the specific, real-world context of a professional football club, the study provides a novel and nuanced perspective on how these organisations can substantially reduce their environmental footprint while simultaneously maintaining, and potentially enhancing, their commercial viability. The findings are intended to be of direct value to club executives, policymakers, and sustainability professionals in the sports industry, offering evidence-based, actionable recommendations for integrating sustainability more deeply into the core business model of football. Moreover, the study’s dedicated focus on governance and stakeholder engagement highlights the broader, systemic challenges that must be addressed to advance the sustainability agenda within the Premier League. The data from this study were derived from Hayley Ladd’s MBA thesis.

LITERATURE REVIEW

The Imperative of Environmental Sustainability and the Circular Economy: The increasing urgency of climate change and resource depletion highlights the critical role of environmental sustainability in modern business practices, including professional football. The circular economy has emerged as a transformative approach that can bridge the gap between sustainability efforts and value co-creation, offering new economic and environmental opportunities for industries worldwide. In the context of sport, particularly the Premier League, integrating circular economy principles can help clubs

achieve long-term financial and environmental sustainability by reducing waste, enhancing resource efficiency, and extending the lifecycle of key assets such as stadiums, merchandise, and infrastructure. The transition to a circular economy (CE) is gaining momentum, particularly within the European Union (EU), where policies such as the EU Circular Economy Action Plan have accelerated the adoption of sustainable production and consumption practices (Camilleri, 2020). Over the past decade, new regulations and directives have driven progress in CE initiatives at a faster pace than before. However, despite these advancements, the transition remains in its early stages, with full implementation still a distant goal both within the EU and globally (van Langen et al., 2021). As industries worldwide strive to align their operations with environmental sustainability objectives, the sports sector holds a unique opportunity. By integrating circular economy principles into their business models, sports organisations can contribute significantly to global climate goals while also demonstrating the economic and operational benefits of sustainable practices. However, achieving this transition requires systemic changes across multiple societal dimensions, not just within the economic sphere.

Governance in Football: A Multi-Level Perspective:

Governance in European football has evolved from a model of self-governance to a complex multi-level, multi-actor system influenced by a confluence of political, legal, and economic factors. Key stakeholders in this ecosystem include overarching governing bodies like UEFA and FIFA, national leagues and associations, individual clubs, public authorities, and civil society. Each of these actors plays a distinct and often overlapping role in shaping sustainability strategies, from setting broad, aspirational regulations to implementing highly localised, practical initiatives. Clubs like Manchester United must navigate this intricate and often fragmented framework to embed sustainability into their core operations while balancing the demands of regulatory compliance with their own commercial objectives. The drivers of sustainability in football are multifaceted, including mounting regulatory pressure from governmental and non-governmental bodies, emerging economic incentives tied to efficiency and innovation, and a growing demand from stakeholders—most notably fans and sponsors—for greater environmental responsibility.

EU and UK Government Influence: The European Union and the UK government play a significant role in shaping the environmental sustainability efforts of Premier League clubs through a combination of regulations, policies, and funding initiatives that create a powerful impetus for clubs to adopt greener practices. The EU has been at the forefront of setting ambitious carbon reduction goals, such as the 2030 climate targets, which aim to reduce carbon emissions by at least 55%. This has had a cascading impact on numerous organisations, including football clubs, requiring compliance with a growing body of Circular Economy regulations. For instance, stringent waste reduction and recycling targets compel clubs to adopt more rigorous waste management practices in their matchday operations, training facilities, and stadium maintenance routines. Additionally, the EU Circular Economy Action Plan and corresponding UK laws encourage clubs like Manchester United to critically review the sustainability of their products, including merchandise and kits, by designing them to be more durable, repairable, and recyclable.

The Role of Football's Governing Bodies: UEFA and FIFA significantly impact environmental sustainability efforts in Premier League clubs through the policies, frameworks, and initiatives they establish. While their direct authority is more limited at the domestic league level, they have introduced ambitious sustainability agendas that influence club practices indirectly. For example, UEFA's Football and Social Responsibility (FSR) Policy actively promotes environmental sustainability, encouraging football organisations, including Premier League clubs, to integrate sustainable practices across all their operations. The European Clubs Association (ECA) is the sole, independent body representing football clubs at the European level, with a membership base of over 650 professional clubs. The ECA recently announced its first-ever sustainability strategy, which has aligned its objectives and key performance indicators with global frameworks such as UEFA's sustainability strategy, the UN Sustainable Development Goals, and the EU Green Deal. As a founding member of the ECA, Manchester United is directly influenced by this strategic direction.

The Premier League's Commitment: In February 2024, Premier League Clubs reached a consensus on the Premier League Environmental Sustainability Commitment, a landmark agreement aimed at establishing a baseline standard for addressing environmental concerns within both individual clubs and the league as a whole (Premier League, 2024). The Commitment requires each club to:

- Develop a robust environmental sustainability policy by the end of the 2024/25 season
- Designate a senior employee to lead the club's environmental sustainability activities
- Develop a greenhouse gas (GHG) emissions dataset (scope 1, 2, and 3) by the end of the 2025/26 season and work towards a standardised football-wide approach to measuring emissions
- Support the development of a common framework for action via the Premier League Sustainability Working Group (PLSWG)

This commitment is intended to build upon existing work and provide a foundation to underpin more ambitious, long-term environmental goals. These minimum requirements could provide greater momentum within Premier League clubs, where there has traditionally been a wide and inconsistent variation in the degree of uptake of sustainability initiatives.

Gaps in the Literature: Despite the growing importance of the topic, there remain significant gaps in the academic literature concerning environmental sustainability in professional football. There is a clear lack of research that evaluates the environmental sustainability efforts of Premier League clubs in a systematic and comparative manner. Given the recent introduction of the league's new commitment, no studies have yet been able to assess its effectiveness or long-term impact. The diverse ownership structures, varying levels of club resources, and the inherent governance complexities of the Premier League further complicate the landscape for sustainability progress. Furthermore, the growing influence of Financial Fair Play (FFP) regulations adds another layer of uncertainty and complexity. While evidence from other sports suggests that sustainability initiatives can provide significant environmental, commercial, and reputational benefits, a key question remains unanswered: should football clubs—many of

which generate substantial revenue—require financial incentives to act sustainably, or should stronger and more prescriptive regulatory frameworks be the primary driver of change?. The challenges faced by Premier League clubs with older stadiums in achieving environmental sustainability are significant, primarily due to the inherent inefficiencies of outdated infrastructure. Clubs such as Liverpool FC and Chelsea FC encounter similar dilemmas to Manchester United, highlighting a broader and more systemic issue within English football. However, strategic solutions—such as targeted renovations, the application of circular economy practices, and the formation of collaborative partnerships—offer potential pathways for progress.

METHODOLOGY

Research Design: This study employs a triangulation mixed-methods research design, integrating both quantitative and qualitative data to provide a comprehensive and nuanced understanding of the research problem. The methodology is structured as an explanatory sequential design, which is characterised by the collection and analysis of quantitative data in the first phase, followed by the collection and analysis of qualitative data in a second phase that builds upon and helps to explain the initial quantitative findings (Creswell & Plano Clark, 2017). According to Creswell and Plano Clark (2017), a sequential mixed-methods design facilitates a more in-depth understanding of complex research problems by synergising the broad, generalisable insights from numerical data with the rich, detailed perspectives from qualitative inquiry.

Quantitative Phase (QUAN): The initial quantitative phase of the research focused on gathering numerical data to investigate the knowledge, beliefs, and attitudes of the broader football community towards environmental sustainability. This phase was designed to provide a comprehensive overview of stakeholder perspectives and to identify broad trends and patterns that could inform the subsequent qualitative investigation. The primary instrument for this phase was a structured online questionnaire comprising eighteen questions, which was distributed to a wide and diverse audience of individuals who identified as being part of the football community. To ensure the validity and clarity of the instrument, a pilot study was conducted to test the survey questions before full distribution. The questionnaire was then disseminated through the researcher's personal social media accounts on platforms including Twitter, Instagram, and LinkedIn. To further broaden the reach of the survey, direct messages were sent via WhatsApp to known contacts within other Women's Super League (WSL) teams and to the Director of Football at the Football Association of Wales. This multi-pronged distribution strategy resulted in a robust final sample of 857 completed responses.

Quantitative Data Analysis: The quantitative data collected from the survey were analysed using the Statistical Package for the Social Sciences (SPSS). The analysis began with the calculation of descriptive statistics to summarise the dataset and provide a clear overview of the key variables. The internal consistency and reliability of the survey instrument were assessed using Cronbach's Alpha. The Kolmogorov-Smirnov Test of Distribution was performed to determine whether the data followed a normal distribution, a critical step that guided the subsequent choice between parametric and non-parametric

statistical tests. A comprehensive trend analysis was then conducted, which involved assessing the correlations across the dataset using Pearson's Correlation Coefficient. Significant correlations between the responses to different questions were closely examined to draw initial conclusions and to formulate more targeted questions for the qualitative phase of the research.

Qualitative Phase (QUAL): The second phase of the research involved the collection of qualitative data through semi-structured interviews with key stakeholders. This phase was designed to explore the nuances and complexities of the research questions in greater depth, and to identify the key factors that influence the varied levels of sustainability uptake in Premier League clubs in general, and at Manchester United in particular. The participants for the qualitative phase were purposively selected to ensure a diverse and expert range of perspectives. The sample of eight participants included four senior employees of Manchester United Football Club, with remits spanning infrastructure, sustainability, and finance. In addition, four external 'expert opinion' participants were interviewed, representing UEFA, Sport Positive, the Premier League, and the sustainability workforce of the FIFA World Cup in Qatar. This selection strategy ensured that the data would capture a rich variety of viewpoints, from those directly involved in the day-to-day operations of a major club to those shaping the broader governance and policy landscape. Interviews were conducted either in person or via Zoom, with the Zoom interviews being transcribed in real-time using Otter.ai software. All participants were given the option to decline being recorded, and all were provided with copies of the recordings and transcripts to review and validate the authenticity of the data.

Qualitative Data Analysis: The qualitative data from the eight interviews were analysed using NVivo software. The analysis began with the generation of a word cloud to visualise the key terms and concepts that were most frequently mentioned across all the interviews. The data were then coded systematically, and a rigorous thematic analysis was conducted to identify recurring patterns, themes, and narratives. These themes were analysed both within and across participants to draw out insights into commonalities and differences in perspective, which helped to directly inform the research questions and the overall conclusions of the study.

Data Integration and Triangulation: The final step in the methodological process involved the integration and triangulation of the findings from both the quantitative and qualitative phases. The two datasets were systematically compared and contrasted to identify areas of convergence, divergence, and complementarity. This process of triangulation allowed for a more robust and holistic interpretation of the findings, strengthening the validity and reliability of the conclusions and enabling the development of more nuanced and well-supported recommendations.

RESULTS

Quantitative Findings: Stakeholder Attitudes and Perceptions: The survey of 857 members of the football community yielded a rich dataset on stakeholder attitudes towards environmental sustainability in football.

The analysis revealed a generally positive and engaged sentiment, albeit with nuances related to cost, convenience, and awareness.

Sample Characteristics and Statistical Validity: The quantitative phase achieved a robust sample size of 857 respondents, providing a margin of error of $\pm 3.3\%$ at the 95% confidence level. This sample size exceeds the minimum requirements for statistical significance across all standard confidence levels (90%, 95%, and 99%), ensuring the reliability and generalisability of the findings. The Kolmogorov-Smirnov test revealed that the data significantly deviated from normal distribution (test statistic = 0.31, $p < 0.001$), which appropriately guided the selection of non-parametric statistical methods for subsequent analysis.

Descriptive Statistics: A Strong Mandate for Sustainability: The descriptive statistics, based on a 5-point Likert scale, indicate strong support for the integration of sustainability into football club operations. Key findings include:

Corporate Responsibility and Infrastructure: There is a powerful consensus that football clubs have a corporate responsibility to address social and environmental issues, with this metric achieving a high mean score of 4.42. This is complemented by very strong support for the integration of sustainable infrastructure, such as solar panels, which received the highest mean score of 4.45. Stakeholders also demonstrated a strong belief that such investments are financially beneficial in the long term (mean score of 4.19).

Cost and Disruption Tolerance: Crucially, this support for sustainability is not merely abstract. Respondents indicated a willingness to accept the practical consequences of such initiatives, showing moderate support for sustainable measures even if they incurred significant costs (mean score 3.90) or led to potential disruptions to stadium attendance during construction (mean score 3.73). This suggests a level of genuine commitment that transcends superficial enthusiasm.

Behavioural Intentions: Stakeholders also expressed positive behavioural intentions, with moderate support for using environmentally friendly containers at matches (mean score 3.98) and for being motivated to sort their waste correctly (mean score 3.76). This indicates a receptive audience for club-led initiatives aimed at changing fan behaviour.

The Awareness Gap: A key finding, however, was the relatively lower mean score for awareness of existing environmental initiatives (3.35). This score, hovering around neutral, suggests a significant gap between the sustainability work that clubs may undertake and the perception of that work among the wider football community.

Figure 1: Environmental Sustainability Survey Results: A comprehensive visualization of the key survey findings, illustrating the mean scores for various sustainability-related attitudes and beliefs among the 857 survey respondents. The chart highlights the strong support for corporate responsibility and sustainable infrastructure, alongside the notable awareness gap regarding existing initiatives.

Correlation Analysis: Connecting Attitudes and Beliefs: The correlation analysis provided deeper insights into the

relationships between different stakeholder attitudes. The most significant correlations found were:

- A strong, positive correlation ($r = 0.676$) was observed between advocacy for environmentally conscious infrastructure and a willingness to accept the associated financial costs. This is a critical finding, suggesting that the most vocal supporters of sustainability are also the most pragmatic about its implementation.
- A strong, positive correlation ($r = 0.511$) was found between considering the environment a priority for football clubs and advocating for sustainable infrastructure. This demonstrates a consistent and logical alignment in stakeholder priorities.
- A moderate, negative correlation ($r = -0.347$) was identified between indifference to non-recyclable waste and support for sustainable infrastructure. This indicates that concern for tangible environmental issues like waste management is a strong predictor of broader support for sustainability.
- A moderate, positive correlation ($r = 0.303$) between familiarity with environmental terms (e.g., 'Climate Crisis') and the belief that clubs should take corporate responsibility highlights the crucial role of education and awareness in fostering a culture of accountability.

Qualitative Findings: Expert Insights on Barriers and Drivers: The semi-structured interviews with eight senior stakeholders from Manchester United and the wider football governance landscape provided rich, contextual data that helped to explain the trends observed in the quantitative analysis. Thematic analysis of the interview transcripts revealed several key themes related to the barriers and drivers of sustainability in the Premier League.

Theme 1: The Primacy of Finance and Governance: A dominant theme across almost all interviews was the central role of finance and governance in either enabling or constraining sustainability efforts. Participants from within the club emphasised the constant tension between long-term sustainability investments and the more immediate financial pressures of running an elite football club. As one senior Manchester United employee noted:

“Everything comes back to the business case... a project has to be financially viable on its own terms, or it's a very difficult sell.”

External experts from governing bodies echoed this sentiment, highlighting the limitations of the current governance frameworks. A participant from a major football governing body stated:

“We can encourage and we can guide, but at the end of the day, the clubs are independent businesses. Without hard regulations or very clear financial incentives, progress will always be patchy.”

Theme 2: The “Sleeping Giant” of Fan Engagement: Another key theme was the largely untapped potential of fan engagement. While the survey data showed a strong underlying support for sustainability, the interviewees suggested that this support is often passive. A sustainability expert commented:

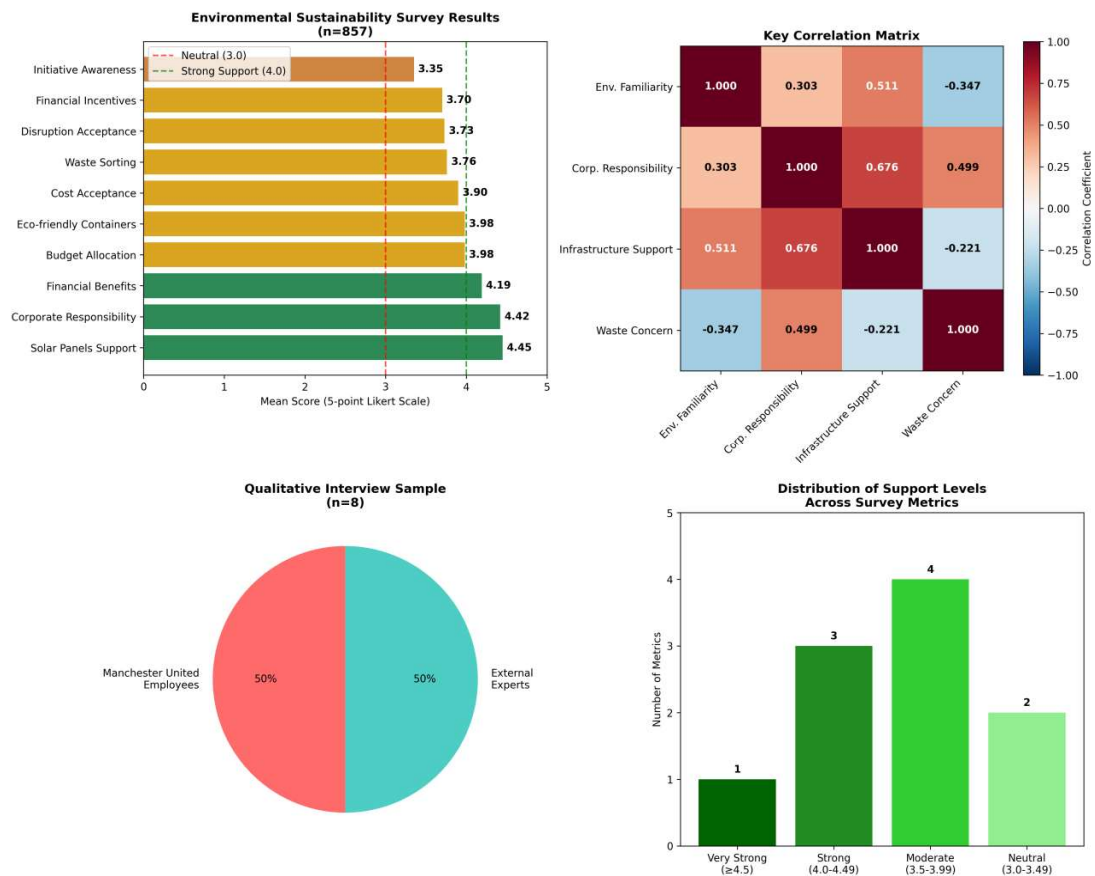


Figure 1. Environmental Sustainability Survey Results

Table 1. Key Statistical Correlations in Stakeholder Attitudes

Variable 1	Variable 2	Correlation Coefficient (r)	Strength	Interpretation
Infrastructure Advocacy	Cost Acceptance	0.676	Strong Positive	Supporters willing to accept financial implications
Environmental Priority	Infrastructure Support	0.511	Strong Positive	Consistent alignment in stakeholder priorities
Waste Indifference	Infrastructure Support	-0.347	Moderate Negative	Waste concern predicts sustainability support
Environmental Familiarity	Corporate Responsibility	0.303	Moderate Positive	Education enhances accountability expectations

Table 2. Qualitative Themes and Supporting Evidence

Theme	Key Stakeholder Groups	Primary Barriers Identified	Potential Solutions Mentioned
Finance and Governance	Club executives, Governing body representatives	Short-term financial pressures, Weak regulatory frameworks	Stronger regulations, Clear financial incentives
Fan Engagement	Sustainability experts, Club marketing	Passive support, Poor communication	Interactive campaigns, Community building
Infrastructure Decisions	Club infrastructure team, External consultants	Heritage vs. efficiency trade-offs, High capital costs	Phased renovations, Circular economy principles

The fans are a sleeping giant. They care, but they aren't yet mobilised in a way that puts real, consistent pressure on the clubs. The club that figures out how to awaken that giant will have a huge advantage." Participants discussed the need for clubs to move beyond generic awareness campaigns and towards more interactive and rewarding forms of engagement. The idea of using sustainability initiatives to build a deeper sense of community and shared purpose with fans was a recurring point.

Theme 3: The Old Trafford Dilemma: Renovation vs. Rebuild

The specific case of Old Trafford's future was a central topic of discussion, particularly with the Manchester United employees.

The interviews revealed the profound complexity of the decision, with the financial, logistical, and emotional dimensions of a potential rebuild being weighed against the challenges of retrofitting a century-old stadium. A club representative involved in infrastructure planning explained:

"A new build allows you to embed sustainability from the ground up... from energy systems to waste management to transport links. Retrofitting is always a compromise. But Old Trafford is our home. That's not a variable you can just plug into a spreadsheet."

Triangulation: Synthesising the Findings: Integrating the quantitative and qualitative findings provides a holistic and robust understanding of the research problem. The survey data clearly establishes a strong 'mandate' from the football

community for clubs to act on environmental sustainability. The high levels of support for corporate responsibility and sustainable infrastructure, even when costs are involved, provide a powerful counter-argument to the notion that fans are not interested in these issues. The qualitative data, however, provides a crucial layer of context, revealing the significant institutional and financial barriers that prevent this mandate from being fully realised. The interviews highlight that while the 'will' of the stakeholders is present, the 'way' is often blocked by the financial realities and governance structures of elite football. The convergence of both datasets on the importance of governance confirms that a combination of stronger regulation and more effective incentives is likely necessary to drive meaningful and consistent progress across the league. Similarly, the strong correlation in the survey between infrastructure advocacy and cost acceptance is given depth by the interview data on the Old Trafford dilemma, suggesting that while fans are willing to accept costs, the scale of investment required for major infrastructure projects presents challenges of a different order of magnitude.

DISCUSSION

The Evident Mandate and the Persistent Awareness Gap:

The quantitative results present an unequivocal message: there is a strong and deeply held desire among the football community for clubs to embrace environmental sustainability. The high mean scores for corporate responsibility (4.42) and support for sustainable infrastructure (4.45) are not merely indicative of a passive agreement but represent an active mandate from stakeholders. This finding robustly challenges any lingering perception within the industry that fans are apathetic to issues beyond on-pitch success.

Perhaps the most crucial finding in this regard is the stakeholders' willingness to accept the financial and logistical consequences of sustainability initiatives. The strong positive correlation ($r = 0.676$) between advocating for sustainable infrastructure and accepting the associated costs is a powerful piece of evidence. It suggests that the support for sustainability is not shallow or conditional but is grounded in a pragmatic understanding that meaningful change requires investment. However, this clear mandate is paradoxically coupled with a significant 'awareness gap'. The neutral mean score (3.35) for awareness of existing initiatives is a stark indication that clubs are failing to effectively communicate their sustainability efforts. This resonates with the findings of Wood et al. (2023), who noted a disconnect in the environmental communication of Premier League clubs. The qualitative data from our study further illuminated this issue, with one expert describing fan engagement as a "sleeping giant."

The Primacy of Finance and the Ambiguity of Governance:

While the stakeholder mandate is clear, the qualitative findings reveal that the path to implementing that mandate is fraught with financial and structural barriers. The interviews with senior club and governance officials consistently highlighted the primacy of the 'business case' in all major decisions. This is not to say that clubs are inherently opposed to sustainability, but rather that sustainability initiatives must compete for capital and resources in a high-pressure commercial environment. This financial reality is compounded by a governance landscape that is both complex and ambiguous. While bodies like UEFA, FIFA, and the Premier League are increasingly vocal about the importance of

sustainability, their frameworks often lack the 'hard teeth' of mandatory, enforceable regulations. The Premier League's 2024 Environmental Sustainability Commitment is a case in point. While it is a laudable and necessary step forward in establishing a baseline, the qualitative data suggests that experts are sceptical about its ability to drive transformative change without more stringent accountability mechanisms.

The Circular Economy and the Old Trafford Dilemma:

The principles of the circular economy offer a compelling framework for resolving some of these tensions. By designing systems that minimise waste and maximise resource efficiency, the circular economy can create pathways to sustainability that are also financially advantageous. The research highlights several areas where circular principles could be applied at a club like Manchester United, from closed-loop recycling systems for matchday waste to the use of modular, reusable components in stadium construction, as suggested by the work of Wergeland & Hognestad (2021) on the circular design of football architecture. The case of Old Trafford's future provides a powerful real-world illustration of these concepts. The qualitative data revealed the profound strategic dilemma facing the club: the trade-off between the environmental and operational benefits of a new, purpose-built sustainable stadium versus the cultural and emotional significance of the historic ground. A new build, as one interviewee noted, allows for sustainability to be "embedded from the ground up," a sentiment echoed in the ambitious plans put forward by Foster + Partners for the new stadium, which explicitly include energy and rainwater harvesting, sustainable transport links, and the use of prefabricated components to speed up construction and reduce waste (Foster + Partners, 2025).

Synthesising the Barriers and Drivers: In summary, the research identifies a clear set of interacting barriers and drivers that are shaping the sustainability agenda at Manchester United and, by extension, across the Premier League.

The key **drivers** are:

- **Strong Stakeholder Demand:** A clear and growing expectation from fans, sponsors, and the wider community for clubs to act as responsible corporate citizens.
- **Emerging Governance Frameworks:** Increasing pressure from governing bodies to adopt and report on sustainability measures.
- **Long-Term Economic Benefits:** The potential for operational cost savings, enhanced brand value, and new commercial opportunities.

The key **barriers** are

- **Short-Term Financialism:** The dominance of short-term financial priorities and the high capital costs of major sustainability projects.
- **Fragmented and Ambiguous Governance:** A lack of hard, enforceable regulations to create a level playing field and drive consistent action.
- **The Awareness and Engagement Gap:** A failure to effectively communicate sustainability efforts and mobilise the latent support of the fan base.
- **Institutional Inertia and Cultural Resistance:** The challenge of changing long-established operational

practices and overcoming a culture that has traditionally prioritised on-pitch success above all else.

The Broader Implications for the Football Industry: The findings of this research, while focused on Manchester United, have broader implications for the entire football industry. The challenges and opportunities identified at Old Trafford are reflective of a wider industry-wide dynamic. The tension between commercial pressures and sustainability goals, the complex web of governance, and the untapped potential of fan engagement are issues that resonate across the Premier League and beyond. This study suggests that the football industry is at a critical juncture. The traditional business model, with its focus on maximising short-term revenue from broadcasting, sponsorship, and matchday income, is increasingly at odds with the growing demand for social and environmental responsibility. The clubs that will thrive in the coming decades will be those that can successfully integrate sustainability into their core business strategy, transforming it from a cost centre into a source of competitive advantage. This will require a fundamental shift in mindset, from a reactive, compliance-based approach to a proactive, innovation-led one. It will require clubs to see their stadiums not just as venues for football matches, but as hubs for their communities, with the potential to act as living laboratories for sustainable technologies and practices. It will require a new kind of leadership, one that can articulate a compelling vision for a more sustainable future and inspire all stakeholders to play their part in achieving it.

Conclusion and Recommendations

Summary of Key Findings

This study set out to investigate the barriers and drivers of environmental sustainability in the English Premier League, using Manchester United as a detailed case study. The research has demonstrated that while the journey towards meaningful sustainability is complex and fraught with challenges, it is also underpinned by a powerful and growing momentum. The findings from our mixed-methods approach provide a clear and compelling narrative: the era of treating sustainability as a peripheral concern in professional football is over. It has become a central and defining issue for the future of the sport. The research yielded several key findings that have significant implications for Manchester United and the wider football community:

- **There is a powerful and undeniable stakeholder mandate for sustainability.** Fans and the wider football community not only support but expect clubs to take a leading role in addressing environmental challenges. This support is robust enough to withstand the financial and logistical implications of such a transition.
- **A significant ‘awareness gap’ persists.** Despite this strong mandate, there is a clear disconnect between the sustainability work being done by clubs and the perception of that work by stakeholders. This represents a major missed opportunity for engagement and brand building.
- **Finance and governance remain the most significant barriers.** The dominance of short-term financial priorities and the lack of stringent, mandatory regulations create a challenging environment for long-term sustainability investments.

- **The circular economy offers a viable and compelling pathway forward.** The principles of the circular economy provide a framework for developing sustainability initiatives that are not only environmentally effective but also financially astute.
- **The Old Trafford case encapsulates the core dilemma of heritage and progress.** The decision on the future of the stadium is a microcosm of the broader challenge facing many clubs: how to embrace a sustainable future without sacrificing a rich cultural heritage.

Strategic Recommendations

Based on these findings, we propose the following strategic recommendations for Manchester United and other Premier League clubs:

Recommendation 1: Close the Awareness Gap through Proactive and Authentic Communication: Clubs must move beyond passive reporting and develop a proactive and engaging communication strategy around their sustainability efforts. This should include telling a compelling story that frames sustainability not as a corporate obligation but as a core part of the club’s identity and values. Focus should be placed on concrete, relatable initiatives that fans can see and interact with, such as waste reduction at the stadium or the use of renewable energy. Leveraging digital platforms to create an ongoing dialogue with fans about sustainability, celebrating successes and being transparent about challenges, will be crucial.

Recommendation 2: Build a Robust Business Case for Sustainability: To overcome the barrier posed by short-termism, sustainability must be framed as a strategic investment, not merely a cost. This requires developing business cases that quantify the long-term financial benefits of sustainability, including operational cost savings, enhanced brand value, and new sponsorship opportunities. Sustainability considerations should be embedded into all significant business decisions, from infrastructure projects to procurement and retail. Clubs should also explore innovative funding models such as green bonds, fan-led investment schemes, or partnerships with specialist sustainability-focused organisations.

Recommendation 3: Embrace the Circular Economy as a Core Operational Principle: Clubs should move beyond a piecemeal approach and adopt the circular economy as a guiding principle for their operations. This could involve conducting a comprehensive audit of all resource flows within the stadium to identify opportunities for waste reduction, reuse, and recycling. Circular procurement policies should prioritise suppliers who share a commitment to circular principles, from catering to kit manufacturing. Fan-focused circular initiatives should be developed to encourage participation in the circular economy, such as cup-return schemes, repair workshops for merchandise, and collection points for recyclable materials.

Recommendation 4: Champion Stronger and More Collaborative Governance: While individual clubs can achieve a great deal, systemic change requires stronger, more collaborative governance. Premier League clubs should

advocate for stronger regulation by working with the Premier League and other governing bodies to develop more ambitious, mandatory sustainability standards for the entire league. Platforms for sharing knowledge and best practice on sustainability should be established to raise standards across the league. Opportunities for league-wide collaboration on major sustainability challenges, such as sustainable transport or renewable energy procurement, should be explored.

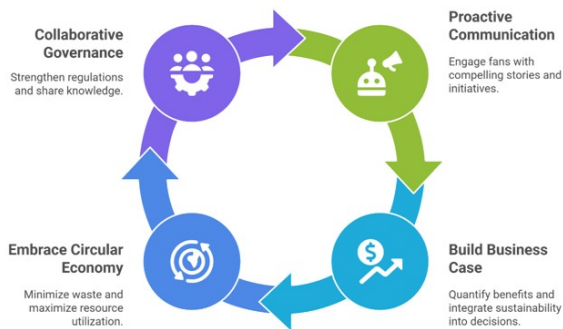


Figure 2. Sustainability Cycle for Premier League Clubs

Limitations and Future Research

This study, while comprehensive, has limitations. The case study approach, while providing depth, means the findings may not be generalisable across all clubs, particularly those with different financial and operational contexts. The reliance on social media for survey distribution may also have introduced self-selection bias. Future research should address these limitations by expanding the scope of the investigation to include a more diverse range of clubs and by employing more randomised sampling methods. Future research could also explore several areas in greater depth, including a more detailed quantitative analysis of the financial costs and benefits of specific sustainability interventions, a longitudinal study to track the impact of the Premier League's new sustainability commitment over time, and a more in-depth investigation of fan attitudes and behaviours in response to specific club-led initiatives. In conclusion, the challenge of environmental sustainability is one that the world of football can no longer afford to ignore. The findings of this research suggest that the path forward requires a combination of bold vision, strategic investment, authentic engagement, and a deep-seated commitment to responsible stewardship.

For clubs like Manchester United, the opportunity is not just to build a sustainable stadium, but to build a sustainable legacy.

REFERENCES

- Camilleri, M. A. (2020). European environment policy for the circular economy: Implications for business and industry stakeholders. *Sustainable Development*, 28(6), 1804-1812.
- Carroll, A. B. (2000). A Three-Dimensional Conceptual Model of Corporate Performance. *Academy of Management Review*, 4(4), 497-505.
- Creswell, J. W., & Plano Clark, V. L. (2017). *Designing and conducting mixed methods research*. Sage publications.
- European Club Association (ECA). (2023). *ECA Sustainability Strategy*. Available at: <https://www.ecaeurope.com/sustainability/>
- Foster + Partners. (2025). *Designs for Old Trafford Stadium District revealed*. Available at: <https://www.fosterandpartners.com/news/designs-for-old-trafford-stadium-district-revealed/>
- Geissdoerfer, M., Savaget, P., Bocken, N. M., & Hultink, E. J. (2017). The Circular Economy – A new sustainability paradigm? *Journal of Cleaner Production*, 143, 757-768.
- Kellison, T. B., & Hong, S. (2015). The new sports stadium and the promotion of environmental sustainability. *Sport & Society*, 18(6), 655-670.
- Ladd, H. (2025). MBA Thesis. Longford International College.
- Premier League. (2024). *Premier League Environmental Sustainability Commitment*. Available at: <https://www.premierleague.com/en/about/sustainability>
- UEFA. (2022). *UEFA Circular Economy Guidelines*. Available at: https://editorial.uefa.com/resources/0279-160d72d34a04-512e2e00e7d1-1000/uefa_circular_economy_guidelines_f_b_07092022_r_gb.pdf
- van Langen, S. K., Sferrazzo, G., & van der Vaart, T. (2021). On the road to a circular economy: a systematic literature review of circular economy practices. *Journal of Cleaner Production*, 293, 126123.
- Wergeland, E. S., & Hognestad, H. K. (2021). Reusing stadiums for a greener future: the circular design potential of football architecture. *Frontiers in Sports and Active Living*, 3, 692632.
- Wood, D., Chuang, L., Hart, J., & Elmore, M. P. (2023). *Environmental Communication in the Premier League*. Environmental Creative.
