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Sport Management and Sustainability: An Impossible Theorem?

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ABSTRACT

This conceptual paper extends the debate about sustainability and sport management by transcending the dominant natural environmental perspective and offering a systems approach. Addresses the question, 'Is sustainability in sport management possible?' The nature of sustainability in sport management is discussed in the context of the tensions between the current growth model of sport, sport management research and teaching, and the sustainability imperative. Sustainability in sport management is concerned with a composite problem, and its goal is to understand and shape the interactions between complex adaptive natural systems and sport organizations as soft socio-economic entities at individual, organizational, and societal levels. A key feature that distinguishes sustainability in sport management from its current mainstream understanding and practices based on the ideology of growth ought to be its explicit prioritization of all types of sport participants as citizens, as opposed to treating them as consumers. At present, sustainability in sport management remains an impossibility.

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1. Introduction

Modern sport continues to demonstrate unfettered growth. Research and Markets (2025) projects a 5.7% growth of the sport industry, from $495 billion in 2025 to $617 billion in 2029. Deloitte Sport Business Group (2024). The Future of Sport report conveys the optimism of global sport leaders about the industry's growth, driven by women's sport and the diversification of sport experiences. Growth is a key constitutive word in the strategies of sport organizations worldwide as they aspire to grow participation, medals, and revenue. Thus, growth is a composite term encompassing an increase in the size and complexity of the whole sport system, including its interactions with the natural environment. The quest for growth occurs in parallel with an enhanced awareness about sustainability, and many sports organizations have developed dedicated strategies and become signatories to the UN

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Sports for Climate Action Framework. The simultaneous drive for growth and sustainability of sport poses conceptual, political, and management challenges. The most pertinent political challenge concerns overlaying a sustainability veneer over the current growth model of sport, which serves as a distraction from the fundamental need to think in new ways about sport. Conceptually and managerially, McCullough (2023) noted the dissonance between the stated environmental values of sport organizations and their actions. Research and Markets (2025) echoes this concern by acknowledging that sustainability is not just environmental, and that the current focus on profit and profile, instead of planet and people, promotes an untenable management model. Sport management research and teaching have also been criticized for serving the dominant commercial model of sport and for failing to address its sustainability (Hammerschmidt et al., 2024; Ličen & Jedlicka, 2022; Stokowski et al., 2022).

This study extends the debate about the environmental sustainability of sport initiated by Mallen and Chard (2011) by transcending the natural environment perspective and proposing a systems approach to sustainability in sport management. A systems theory lens interprets the environment as a field of meaning, including milieu, surrounding conditions, land, water, air, and other factors affecting sport. Sustainability concerns human-made systems, such as sport organizations and carries four major meanings, including a set of criteria, a vision, an object, and an approach (Salas-Zapata & Ortiz-Muñoz, 2019). It differs from sustainable development, which represents a normative concept designed to redirect societal development, which promotes values and expectations, but does not explain how sustainability in systems happens.

This conceptual article addresses the question, 'Is sustainability in sport management possible?' The question of what kind of sport we wish to sustain is an ontological one and needs proper scrutiny. Jaakkola (2020) elucidates that the main role of conceptual papers in management and marketing is the 'conceptual integration across multiple theoretical perspectives' with the main goal to 'summarizing and integrating current understanding; outlining the conceptual domain of a new phenomenon or idea; structuring a fragmented field by analysing it through a particular theoretical lens' (p. 22). Jaakkola further suggests that there are two starting points to developing conceptual papers, including the focal phenomenon and the focal theory. The study begins with a two-pronged focal phenomenon concerning: (i) sport organizations' developmental visions (i.e. policy) and their approach to sustainability (i.e. management) and (ii) sport management research and teaching, neither of which has been adequately addressed. In the focal phenomenon approach, 'the choice of concepts is based on their fit to the focal phenomenon and their complementary value in conceptualizing it' (Jaakkola, 2020, p. 19). This is achieved by integrating a public choice theory with a systems approach to the management of sustainability.

Sport management is understood as the effective utilization of human, financial, material and decision-making resources to achieve organizational goals, thereby achieving political objectives. In the context of this study, the focus is on the political objectives of sport management, specifically those concerned with sustainability, rather than operational matters.

This article is organized in four sections: the first section introduces the two-pronged focal problem; the second section establishes the criteria for judging the possibility of sustainability in sport management using the general possibility theorem; the third section develops a systems perspective on sustainability; and finally, the fourth section follows up with a conceptual outline of sustainability in sport management.

2. The Focal Phenomenon: (i) Sport Organizations' Development and Sustainability Visions

Sustainable strategies of one international sport federation, World Athletics (WA), and one national governing body of sport, Paddle UK, are used to illustrate the phenomenon concerning the simultaneous drive for growth and sustainability. Research on sport organizations' interpretation and implementation of sustainable strategies has been limited to the environmental and social dimensions (Hugaerts et al., 2023; Moon et al., 2023). The strategies of these Olympic sports represent examples of two distinctive approaches to sustainability, which could be termed isomorphic (WA) and organic (Paddle UK). The two strategies exemplify specific visions of the relationship between one nature and one traditional sport (Howe, 2019) and the sustainability imperative.

WA is the international governing body of running encompassing track and field, road running, race walking, cross-country, mountain and trail running, and has 214-member National Federations (NF). WA signed up to the United Nations' Framework for Climate Action in Sport as one of the first organizations with a 10-year sustainability strategy (World Athletics, 2020a). The WA's vision of sustainability is 'to become the leading International Sports Federation in delivering best-in-class sustainable events' (p. 2). The strategy emphasizes all types of events run by the WA and its member NF, because they represent the main interface between millions of runners, the environment, and billions of spectators and other stakeholders.

WA's sustainability strategy is modeled on a framework originally promoted by the International Olympic Committee (IOC (International Olympic Committee), 2017a) – hence isomorphic), and addresses the environmental, social, and economic pillars of sustainability. It includes three levels of responsibility and structures, including the WA as an organization, WA's owned events, and WA's permit/licensed events. The goal of the first level of responsibility is political and envisages 'embrace sustainability principles and practices within World Athletics and MFs organisations and operations' (p. 2). For the WA-owned events, the ambition is managerial and concerns 'Include sustainability in all aspects of planning and staging WA Events'. WA's licensed events represent a major mechanism for promoting running as well as a significant source of revenue. The task here is both political and operational and concerns 'embed sustainability delivery into permit/licence criteria' (p. 2). Nonetheless, Geeraert and Gauthier (2018) criticized the IOC's approach to environmentally sustainable Olympic Games as ineffective because the organization's control over the implementation of environmental plans on the ground diminishes progressively across the three levels of responsibility of the framework.

WA's commitment to sustainability is declaratively developmental because it requires running events of all kinds to reconsider their contribution to sustainable living and to make a concerted effort to use the power of running to transform people's and communities' lives. Although the strategy does not include the institutional/governance dimension of sustainability, it places a great deal of emphasis on the management of sustainability. Sustainability management is charged with delivering several key benefits, among others, greater efficiency in the use of resources to reduce operational costs and to increase investments in sport, and expanding partnerships to enable greater social, economic, and environmental benefits to local communities.

WA's (2020b) *Strategy for Growth 2020–2030* claims to give 'every child in the world access to our sport and to create a healthier and better world' (p. 2). The strategy identifies three main priorities for delivering this ambition, including more participants, people, fans, and partnerships. This policy document emphasizes growth, couched in business management language, and defines the three key areas of sport to be explored as 'our organisation, our products and our markets'. The implementation of WA's ambitions involves a strong physical dimension requiring an ever-increasing number of participants, competitions, and equipment, plus the passive consumption of athletics through spectating and sharing experiences on social media.

There is another often concealed dimension of growth aspirations concerning its externalities or international spillovers. Sachs et al. (2022) Global Sustainability Report explicates that international spillovers occur when 'one country's actions generate benefits or impose costs on another country that are not reflected in market prices and therefore are not "internalized" by the actions of consumers and producers' (p. 28). There are three categories of international spillovers in the context of SDG and WA and Paddle UK, including environmental and social spillovers embodied into trade; direct cross-border flows in air and water; and spillovers related to economic and financial flows. Both the WA's sporting calendar and the manufacturing industry that makes running possible contribute significantly to the international spillovers. The Sustainable Development Goals (SDGs) explicitly recognize the importance of international spillovers, which is reflected in partnership for Goals (17), responsible consumption (12), and decent work (8), calling for 'policy coherence', 'sustainable production and consumption', and 'education of modern slavery', respectively. Nonetheless, many countries developed major sports event policies because of their perceived contribution to growth (Grix & Houlihan, 2014). Capitalism is grounded in the notion of growth that does not consider externalities, and the growth model of sport mirrors the same logic.

Paddle UK is the national governing body of canoeing and kayaking in the UK, which includes nine disciplines. Paddle UK is a voluntary organization boasting over 90,000 members, 6,333,000 recreational paddlers, a network of 175 canoe trails, and which won 62 medals in World and European Championships in 2021 (BC (British Canoeing), 2023). BC's sustainability strategy grew organically out of concerns for the environment in which this sport is practiced and is directly connected to the UN SDG 14, Life below water. SDG 14 is aimed at the protection and sustainable use of seas and oceans but naturally applies to rivers and inland canals. The strategy sits at the complex intersection of sport, politics, and the environment.

In 2018, BC published the *Clear Access Clear Water: Access and Environment Charter,* in which it made a case for 'improving access on and along waterways, promoting responsible access and environmental awareness' (BC (British Canoeing), 2021a, p. 2). The rationale behind this ambition was political and managerial. The former concerns access and points out that of the 42,700 miles of inland waterways in England, only 1400 miles (or less than 4%) can be paddled uncontested by some 1,9 million people annually. The latter notes that to protect clear water and the natural environment, we need to be able to interact with it.

BC's (2021b) *Stronger Together* (2022–2026) strategy policy objective is to bring together members, clubs and partners to achieve four core pledges concerning to champion the case for fair, shared, sustainable open access on and along inland waters to be confirmed in law; commit to inspire more people to be active outdoors; connecting people with their environment and promoting the benefits on mental and physical well-being; and continue to act to protect and improve the health of our rivers; working to protect, preserve and enhance the natural environment (p. 4). Those pledges are spelt out in ten ambitions, which together address the social, economic, environmental, and institutional pillars of sustainability.

Stronger Together's overarching purpose is to 'encourage everyone to go paddling for enjoyment, health, challenge of achievement' (BC (British Canoeing), 2021b, p. 4). The word 'more' features in all 10 ambitions and suggests that by 2026, there should be more paddlers, members, clubs, trials, competitions and events, partnerships, equality and diversity, access, and digitalization. While the language of BC's strategy is less business-like compared to that of WA, it nonetheless relies on powerful management techniques for quantifying growth in 10 measurable ambitions and 20 KPI.

WA's and Paddle UK's developmental and sustainability visions aptly illustrate the focal phenomenon concerning a fundamental tension between these two visions. This tension gained public prominence with the publication of *The Limits to Growth* (Meadows et al., 1972), which posited a conflict between growth and sustainability. The authors contended that if the uncurbed growth of the world economy continues, this would seriously deplete the world's resources and overwhelm ecosystems with pollution, leading to the collapse of human civilization. The key question is whether growth in the purported value of sport outputs in terms of contribution to wellbeing can increase indefinitely while the use of resources stays constant or declines as required by long-term ecological, social, and economic sustainability.

Taking a lead from Daly's (1993) critique of the notion of sustainable growth of the world economy as a bad oxymoron, we can formulate a similar proposition for sport. It suggests that sport cannot grow its way out of more of the same sport and environmental degradation. Daly (1993) makes a useful distinction between growth and development: 'to grow means to increase naturally in size by addition of material through assimilation or accretion. To develop means to expand or … to bring gradually to a fuller, greater or better state. When something grows, it gets bigger. When something develops, it becomes different' (p. 11). Gallopin (2003) echoes this view by noting that the word 'development' clearly points to the idea of directional and progressive change. Therefore, development does not equate quantitative growth; rather, it is more akin to the notion of qualitative unfolding of potentialities and

increasing complexity. Growth in the context of sport organizations is not spontaneous; rather, it is a consequence of decisions to expand membership or the number of participants and medals. Sport organizations, therefore, face the challenging task of how to solve the problem with the sustainable growth of their sport, which is a political decision.

Sport is an open system, and its current fundamentals have an irreducible physical dimension concerning spaces, facilities, participants, extensive travel (i.e. competition structure and tourism), and equipment, and their expansion will require growth rather than development (Bácsné-Bába et al., 2021). Sustainable sport needs to be different from its current version based on the ideology of growth (Haapanen & Tapio, 2016; Sachs, 2015).

3. The Focal Phenomenon: (ii) Sport Management Research and Teaching

Ličen and Jedlicka's (2022) investigation of the place of sustainability in the US graduate sport management programs raised concerns that the 'sport management graduate programs at major research institutions are generally unwilling to depart from a twentieth-century model of sport management education built around a supposition that the sport manager's primary responsibilities are revenue generation and liability mitigation' (p. 108). Thus, sport management education remains largely ill-equipped to offer alternative views of sustainability beyond the sport-as-business enterprise. Stokowski et al. (2022) echo this concern. Sustainability also did not feature high (10 out of 12) on the list of key skills employers within the sport and leisure industry in Australia expected from their employees (Rayner & Webb, 2022).

Hammerschmidt et al. (2024)'s bibliometric analysis of sport management research identified 1516 articles, but their study mentions the word 'sustainable' only twice, not about management but to community and tourism development. Similarly, Lachance et al. (2024) attempt to reframe the sport management debate does not refer to sustainability at all. Gammelsaeter and Anagnostopoulos (2022) noted the crisis in sport management studies: 'we should not stop asking whether we are doing work that matters to society, and if we can do better' (p. 638). Rajagopal et al. (2025) noted the absence of discussion of the growth of major sports events, echoing the main concern of this study.

Mallen and Chard's (2011) concern was explicitly about environmental sustainability and subscribes to the anthropocentric view grounded in individual needs (i.e. WCED, 1987). The authors acknowledge the inherent paradoxes in sustainability facing sport organizations, some of which overlap with the dilemmas discussed below (i.e. what to sustain), and pose questions about actions and the institutional frameworks needed for them. McCullough (2023) echoed these paradoxes and contrasted the ecocentrism approach, concerned with balancing sustainable sports development with a fragile ecosystem, with the ecocentric leadership approach, which acknowledges the limitations of growth and stresses the role of equity and access to sport. These issues transcend somehow the ecological approach to sustainability, but the debate remains confined to ecology and the relationship between sport organizations and their natural environment.

Like Mallen and Chard (2011), McCullough, Orr, et al. (2020), and McCullough (2023) focus is explicitly on the relationship between sport and the natural environment, which is the subject matter of [sport] ecology. McCullough (2023) accepts that this relationship has been variously characterized by commentators as sustainable sport management and equates it with sustainability management. While the environment and ecology are closely related, they are not the same thing. For example, Chernushenko's (2001) interpretation is based on systems theory, and he examines not only the natural environment but also the socio-economic and political dimensions of sustainable sport. As Mebratu (1998) elucidates, 'an environment is something that an organism or a thing has, whereas ecology is the study of the relationship between the organism and the natural environment…the environmental crisis includes the economic, social, political, and cultural crisis within the human universe, besides the ecological crisis between humans and the natural universe' (p. 515). Mebratu calls the environment 'a field of meanings', which points to its interconnectedness and the meaning-carrying capacity of its constitutive elements that form a network of meanings. This interpretation of the environment differs from the ecological approach to sustainable sport management, which is discussed below.

A simplified explanation of the difference between sustainability and sustainable management would suggest that sustainability is the broader concept concerning the ability of the sport system to persist, adapt, transform, and transition in the face of constantly changing conditions, whereas sustainable development is the means to achieving this. The question is what model of the sport system we wish to sustain, and what should the role of management be? For Kellison and McCulough (2020), the solution to this riddle, and to continue growth in the sustainability space, is for 'both academy and industry must endeavor to enhance the general proficiency, technical expertise and communications skills of students and practitioners' (p. 446). For McCullough (2023), the answer to the fundamental tensions between the unbalanced growth of sport and the sustainability imperative seems to be in moral education and technological solutions, and ecocentered leadership (McCullough & Bramley, 2025). Despite advances in the use of technology in addressing environmental issues and genuine corporate social responsibility initiatives, this approach has been mired in a host of contentious issues, such as its real social impact and lack of accountability (Giulianotti, 2015). Furthermore, significant ontological and practical differences between CSR, sustainability, sustainable development, and corporate sustainability exist (Sheehy & Farneti, 2021). As Ruggerio (2021) elucidates, definitions of sustainability must comply with three core criteria, including to account for: 'the complexity of socio-ecological systems by encompassing economic, ecological, social and political factors; intergenerational and intragenerational equity; and hierarchical organization of nature, that is, acknowledge the feedback between SES and their surroundings' (p. 9).

4. The General Possibility (Impossibility) Theorem

Following Jaakola's (2020) assertion that the choice of concepts is based on their fit to the focal phenomenon and their complementary value in conceptualizing it, this section uses Arrow (1951) impossibility (or 'general possibility') theorem to examine the possibility of sustainability in sport management. The theorem was originally

conceived to explain public choices but has since been widely used in welfare economics, offering a novel perspective on the political choices facing sport. In 1972, Arrow received a Nobel prize in economics for his theorem, so it is beyond the scope of this analysis to do justice to this complex work. In a nutshell, the impossibility theorem addresses a basic question in the theory of collective decision-making. In the context of sport, the theorem can be summarized along the following lines: almost all decisions made by sports organizations involve alternatives, whether it is to decide on their strategic priorities, allocation of resources, athletes' selection, board members' appointment, or integrity policies. As with any sports organization, naturally, some people or groups' preferences within the organization will inform the choices it makes. Connelly (2007) reinforces the political dimension of the theorem: 'the linkages between social justice, environmental protection and public participation are a political rather than inherent in the concepts—it represents a particular choice amongst possible policy goals' (p. 267).

Arrow asked the question, which procedures are there for deriving, from what is known or can be found out about their preferences, a collective or 'social' ordering of the alternatives from better to worse. The answer to this question was that there are no such procedures whatsoever that satisfy certain otherwise reasonable assumptions concerning the autonomy of the people and the rationality of their preferences. Arrow then proposed that the best voting rule will be the one that fulfills four axioms, including being decisive, consensus-based, non-dictatorial, and independent of irrelevant alternatives. Decisiveness means that there should always be one winner; consensus implies that the majority decision is accepted; non-dictatorship entails that no party should have the power to always get its way, and the independence of irrelevant alternatives suggests independence of irrelevant views, groups, or candidates. Each of these axioms is highly desirable, but collectively they lead to impossibility. Arrow's four axioms suggest that sustainability in sport management ought to be able to satisfy certain quite reasonable assumptions concerning the autonomy of people within sport organizations and their preferences. The following sections apply the four axioms to examine the possibility of sustainable sport management.

5. A Decisive Concept of Sustainability in Sport

The first axiom entails that there must be a decisive answer to the question of the goal orientation of sustainability, whether a sport organization will opt for an absolute or relative approach to sustainability. This approach also needs to account for sustainability at individual, organizational, and societal (systems) levels. Both WA and Paddle UK have set up absolute goals and management targets, such as becoming carbon neutral, but there has been a lack of commitment to such targets at the individual and sport sector levels. It might be possible for the absolute and relative goal orientation to sustainability to exist concurrently in an organization, but this means that sustainability remains a floating concept.

A voluminous body of literature exists on sustainability spanning across all knowledge domains, including sport (Bácsné-Bába et al., 2021; Cury et al., 2023; Escher, 2020; Hautbois & Desbordes, 2023; Lindsey & Chapman, 2017; McCullough, Kellison,

et al., 2020; McCullough, Orr, et al., 2020; Tangen, 2021; Triantafyllidis & Mallen, 2022; Wicker, 2019). Extant literature suggests that sustainability is not only complex but a contested and controversial concept (Faber et al., 2005; Parris & Kates, 2003). This is because the concept is rooted in different ontologies and reflects competing views of the world and human relationships with the environment (Chu, 2023; Crippen, 2021; Li et al., 2016; Mebratu, 1998; Ruggerio, 2021; Van Norren, 2020). Various interpretations also illustrate the range of alternatives facing organizations when deciding which definition of sustainability to subscribe to. Thus, the sustainability solutions chosen by an organization will depend on its interpretation of the concept.

Behind each interpretation lies a different understanding of the sources of the crisis, the best solutions, and management mechanisms for the solution. That is, it is not possible to discuss sustainability outside the worldview of those who subscribe to a particular interpretation of it. The notion of linear sustainable development, as expressed in targets, such as the UN SDGs, runs counter to most world ontologies, as their expansiveness cannot be reduced to targets and numbers. Different interpretations also have material consequences, as they shape sports policies and management practices, making it problematic to determine what constitutes sustainable sports practices.

The notion of sustainability has been evoked to curb and counter the spiritual and material dimensions of the capitalist model of growth (Connelly, 2007; Cowen & Shenton, 1996; Parris & Kates, 2003). If we accept that the ultimate purpose of sport organizations is to grow their sport, as expressed in the number of participants, members, revenue, facilities, equipment, medals, and passive consumption in the form of spectating, betting, and merchandise, then we ought to ask if this is a sustainable ambition.

Chen's (2022) call to name capitalism in sport management makes this point clear. Acknowledging the role of the capitalist model of unsustainable growth in sport 'sheds light on the connections between capitalism and various other vectors of oppression already named, identified, and deliberated within the literature' (p. 677). He rejects the inevitability of the current sport model, impacted by a system obsessed with private accumulation, to address issues related to social justice, sustainability, and empowerment of communities. His argument, though, does not go far enough and suggests substituting management with organizing without consideration of power relations. In *The Age of Sustainable Development*, Sachs (2015) offers a solution to this riddle, which is not 'de-growth' but 'sustainable development'. This still requires us to determine the goal of sustainable sport development.

6. Sustainable Sport: In Search of Consensus

The second axiom involves achieving consensus on the question of what to sustain in sport? Multiple possibilities exist regarding sustaining levels of participation, club numbers, financial resources, or competition structures, each carrying different management implications. Neither WA nor Paddle UK made explicit what and how they wish to sustain in their sports. Achieving consensus across such a diverse array of possibilities will be highly problematic because it involves competing interests of

many stakeholders. It will suffice to note the 'extraordinary politics' over climate targets at the UN Conference of the Parties (COP), which demonstrated the divide between rich and poor countries (Albert, 2022). Significant capacity discrepancies also exist between sport organizations, which do not work in favor of consensus. At the same time, the IOC took several years to agree on the global TOP sponsorship program and for 206 NOC and all IF to sign the World Anti-Doping Code, but eventually, consensus was achieved in both instances.

The issue of what to sustain is compounded by the fact that sustainable development is characterized by duality because it represents both a normative and an analytical concept that offers simultaneously a way of understanding the world and a method for solving problems (Sachs, 2015). Views on the sustainability of sport differ, but most writers agree on the duality of sport (see Tangen, 2021). Duality permeates the natural and human-made world as expressed in the notion of 'social physics' that social phenomena are subject to the natural and invariable laws. Sport has been hailed for its contribution to wellbeing and nation-building, but it was also criticized for its role in reinforcing inequalities and environmental degradation (Orr, 2024; Spaaij et al., 2015). Analyzing the relationship between sport and sustainability, Bjørnaråa et al. (2017) argued that the physical dimensions of physical activity can be sustainable, but Loland pointed out that Olympic sport is unsustainable. Tangen (2021) agreed with Loland by placing sport in the wider civilization process and modernity. Tangen argued that the double code of sport of faster, higher, stronger 'is pathological with pathological consequences' (p. 6), and that the logic of modern sport threatens its internal sustainability. Loland's (2006) analysis deals with the critical issue of what is to be sustained and makes clear that 'if Olympic sporting life is to continue indefinitely, record sports have to be either abandoned or reformed' (p. 147). Barker et al.'s (2014) study of the relationship between high-performance sport and sustainability agrees with him. Lindsey (2008) also addressed the question of what is to be sustained in sport development and identified three domains, including the physical (i.e. individual sustainability – sports and programs), organizational (i.e. capacity and viability), and social (i.e. community sustainability). Hautbois and Desbordes (2023) pointed out the duality of sport as being both part of the problem of sustainability and the solution to the problem. They allowed for future development with sustainability in mind but also noted the lack of theories and knowledge in the field.Gammelsæter and Loland 2023 drew attention to the external good of sport as the dominant perspective in sport management is concerned with the values of 'enhanced health, social inclusion, prestige and profits' (p. 109). The authors argued that it is sport, as a means to external good, that is compatible with sustainability, whereas the internal goods of personal excellence align with degrowth. The challenge with this characterization of the external and internal goods of sport is that they reflect two different levels of sustainability, including system and individual, respectively. How can we possibly 'degrow' individual technical and tactical knowledge and skills of sport while delivering sustainable external system-level goods of prestige, profits, and other social outcomes?

To unpack the meaning of sustainable sport, the analytical framework of Faber et al. (2005) is employed. It is based on three key properties of the sustainability

concept. The first property concerns what to sustain and is labeled concrete artifacts, which in our case include facilities, people and medals as entities, and abstract artifacts such as sustainable sport as constructs. The second property (i.e. goal orientation) concerns the reference point used to determine if an artifact is sustainable, where there are two possibilities, including the absolute and relative approaches. The absolute approach to sustainability can be placed on a continuum with two opposing ends – sustainable and non-sustainable. The relative approach to sustainability views it as being less bad or better. The third property (i.e. relational) of attributing sustainability to an artifact considers the dynamics between the artifact and its environment. To be sustainable in this sense, both the artifact and its environment can either change or remain unchanged.

The idea of sustainable sport expresses the relationship between an artifact in the form of a specific sport practice (i.e. basketball, golf, and rowing) and the environment with which it interacts. This relationship exemplifies the duality of sport as straddling the social and natural laws simultaneously. In other words, sustainability is an attribute of a sport, and a form of relationship where an unsustainable sport interacts with its environment that exists indefinitely. This interaction between the artifact and its environment takes place without mutual detrimental effects. As Faber et al. (2005) put it, 'sustainability explicitly refers to this equilibrium' (p. 5). From a systems perspective, Ben-Eli (2018) also reinforces sustainability as a relationship between an artifact and its environment, and define it as 'a dynamic equilibrium in the process of interaction between a population and the carrying capacity of the environment such as the population develops to express its full potential without producing irreversible adverse effects on the carrying capacity of the environment upon which it depends' (p. 1340).

The analysis of WA's and Paddle UK's sustainability strategies suggests that both organizations use the absolute (i.e. include sustainability in all aspects of events) and relative goal orientation of sustainability (i.e. to become the best). Equally, they want to sustain running and paddling, respectively, through the growth of participants, events, and resources. There is also a declared ambition for a dynamic interaction between these sports and their environment. For WA, it is about changing the lives of people and communities, whereas Paddle UK wants to have greater access to waterways to better protect them.

7. A Non-Dictatorial Sustainability

The third axiom suggests that no stakeholder can dictate what is to be sustained in sport organizations at all three levels. This brings to the fore the importance of governance as the fourth dimension of sustainability alongside the social, economic, and environmental ones. It also implies that stakeholders ought to agree on the limits of growth and specific sport targets. Achieving this agreement will require the absence of dictatorship on the part of any stakeholder, which will be challenging. For example, the IOC (2017b) Olympic Games Host City Contract (HCC) explicitly expects the host city, NOC and the OCOG to embrace sustainable development and to contribute to the UN's SDG and commits these parties to: 'define, implement and communicate a comprehensive and integrated sustainability

programme as well as a legacy programme compliant with the provisions of the HCC' (p.17). This is a contractual obligation that leaves virtually no room for interpretation and requires compliance. As demonstrated by Ross et al. (2019), the IOC has also been using not only coercive but also other mechanisms to govern Olympic environmental stakeholders. From 2026, the WA will also make non-negotiable the full compliance of all WA-licensed running events with the highest sustainable event management standards. Nationally, the UK's recent physical activity and sport policy makes it clear that the government will seek to make public funding for sport contingent on compliance with the strictest environmental requirements (DCMS, 2023), which directly impacts Paddle UK. Similarly, in France, public funding for sport organizations is contingent on meeting the Ministry of Sport's Charter of 15 eco-responsible commitments (Ministeres des Sport, WWF, 2017). At the individual level, notably, the most vocal environmental activists have been both high-profile athletes and the younger generation of athletes, which is indicative of a gulf between sport organizations' practices and stakeholders' concerns (Knowles et al., 2026; Orr, 2024). While driven by genuine concerns about sustainability, the above examples illustrate the challenges of avoiding dictatorship in determining the nature of sustainability and its solutions.

8. Alternative Sustainability Sport Visions

The final axiom, independence of alternatives, purports that adding irrelevant or rejected options of what needs to be sustained in sport should not affect the outcome of the consensus decision. It also implies that sports organizations and countries should have the opportunity to develop their sustainability strategies that may not comply with some formally agreed-upon goals and targets at national and international levels, as noted in the previous section. WA's and Paddle UK's strategies do not provide alternative visions of what to sustain in sport.

A powerful source of alternative views of sustainability is the prevailing sport management discourses, as promoted through research and teaching in the field. Hammerschmidt et al. (2024) review of the sport management field covering outputs from 49 countries identified four dominant thematic clusters, including management of sport organizations and events; team, fan, and the game; marketing and sponsorship; behavior and identification of the spectator, but extant research did not refer to sustainability management at all. The authors concluded that 'in general, commercial research areas continue to dominate the field' (p. 1201). Similarly, none of the 128 sport management papers reviewed by Stenling and Fahlén (2022) problematized sustainability as a concern for management. It follows that if we were to add any of the four clusters to the list of sustainability management options, this should not affect the outcome of the consensus achieved under axiom one.

9. Sustainability in Sport Management: A Systems Theory Perspective

The concept of sustainability management is not a new idea and has been explored by several commentators (Carley & Christie, 2000; Gladwin et al., 1995; Nawaz & Koç, 2018; Starik & Rands, 1995). One of the earliest known systematic works on

sustainable sport is that of Chernushenko (1994, 2002), but sport management scholars have been slow to engage with this debate, save for limited recent calls (McCullough & Bramley, 2025). Cunningham et al. (2015) Handbook of Theory in Sport Management covers 20 different theories and their application, but systems theory is not one of them. With a few noticeable exceptions, sport in the English language literature has rarely been interpreted from a systems theory perspective (Chelladurai, 2014). In contrast, in the Russian-speaking world, the systems thinking in sport has a long tradition (see Kuprianov & Novikova, 2017; Peredelskyi, 2017; Sikorskaya, 2017).

Earlier, Gladwin et al. (1995) posited that 'Transforming management theory and practice so that they positively contribute to sustainable development is, in our view, the greatest challenge facing the Academy of Management' (p. 900). Gladwin et al.'s call for a 'sustaincentric' paradigm of management advocates for a systems approach and holds even more urgency for sport today, but it faces two major challenges, including ontological and epistemological. The ontological challenge concerns the tendency for ever-greater formalization, record orientation, and bureaucratization of sport (Guttman, 1978) by turning it into a complex man-made system governed by laws independent of the laws that govern natural systems. The systems perspective recognizes the interconnections between business and society, both of which are nested in natural systems defined by biospheric limits.

Gladwin et al.'s (1995) well-justified critique of organizational science explains the epistemological challenge. The authors noted that organizational studies have evolved within a constricted or fractured epistemology, which embraces only a portion of reality: 'The organic, biotic, and intersubjective moral bases of organizational existence, we submit, have been neglected or repressed in the greater portion of modern management theory. This exclusion has resulted in theory which is at best limited and at worst pathological' (p. 898). More importantly, Gladwin et al. (1995) make explicit the role of management research for this state of affairs 'by disassociating human organization from the biosphere and the full human community, it is possible that our theories have tacitly encouraged organizations to behave in ways that ultimately destroy their natural and social life-support systems' (p. 898). Newman (2014) expressed similar concerns about sport management for tending to serve the interest of the market and becoming a 'corporate science': 'The problem is that we have failed to name our politics, to reveal our epistemological commitments, and in many cases to look beyond our taken-for-granted bases of our approach to knowledge' (p. 608).

Three other critical epistemological points concerning sport management deserve attention. First, as noted by two systematic reviews on sustainability management research (Pizzi et al., 2020; Williams et al., 2017), the field has been poorly theorized. Bōhringer and Jochem's (2007) survey of sustainability indices reinforces this point by concluding that those indices failed to meet fundamental scientific requirements and that 'politically desired sustainability indices are inherently inconsistent and therefore useless if not misleading with respect to concrete policy advice' (p. 2). Second, most of the sustainability interpretations of sport discussed above subscribe to the Brundtland's (WCED, 1987, p. 9) definition of sustainability as 'meeting the needs of the present without compromising the ability of future

generations to meet their own needs.' This definition is rooted in the ethics of universal anthropocentrism, which is problematic on conceptual and methodological grounds. As Rauschmayer and Lessmann (2013) note, the concept of needs is central to the definition, and as a psychological concept, it is mostly related to '*individual* life decisions, whereas sustainability and sustainable development are mostly understood as *societal* issues related to political decisions' (p. 96, emphasis in original).

A third issue with universal anthropocentrism concerns our limited ability to know the impact of specific lifestyles of the present generation on the capability of future generations. It also assumes that the current generation would be willing and capable of sacrificing their life choices in favor of future generations. Rauschmayer and Lessmann (2013) also elucidate that 'the impacts of individual decisions are mediated on a systemic level and only the aggregated impact of individual decisions counts for sustainable development' (p. 104). The relationship between individual and system levels is a critical one because focusing on individual benefits carries another important connotation associated with people's role as customers. However, as Sen (1999) sensitizes us, people also have a citizen identity associated with concern for others and with justice and fairness, which can only be ensured at the systems level. This is where management can play a critical role, which, from Sen's (1999) capability approach to sustainable development, is seen as a conversion factor, which helps transform individual resources and contexts into a set of functioning for individuals.

A systems approach to sustainability in sport management shares concern about development, which is both people-centered (i.e. aimed at improving human condition) and conservation-based (i.e. aimed at preserving the variety and integrity of nonhuman nature). Starik and Kanashiro (2013) define sustainability management as 'the formulation, implementation and evaluation of both environmental and socio sustainability-related decisions and actions…at the individual, organizational and societal levels' (p. 12). This definition makes explicit the interdependency between different levels of the system and their mutual embedding in the natural environment. Similarly, for Chernushenko (2002), the starting point of sustainable management is the establishment of an appropriate structure and processes, as the practice of sustainable sport management can only be sustained by a relevant institution.

A systems perspective on sustainability in sport management entails applying either hard or soft systems approaches (Clayton & Radcliffe, 1996). The former provides solutions to structured (and quantifiable) problems, whereas the latter deals with unstructured (where agreement on the nature of the problem needs to be established first) problems. The authors also note that in social systems, such factors as roles, norms, values, concepts, and power are critical and should be tackled directly through participatory techniques. Clayton and Radcliffe (1996) further explicate that the achievement of sustainability follows two stages, including 'the identification of policy options that will lead toward greater sustainability and the development of appropriate mechanisms, strategies and techniques for implementing such policy options' (p. 189).

Gladwin et al. (1995) view of sustainable development as 'a process of achieving human development… in an inclusive, connected, equitable, prudent, and secure manner' (p. 878) identifies both the key properties and the focus of management.

Each of the five properties of sustainable development carries important implications for management. Management of inclusiveness focuses on human development over time and space. Connectivity in management implies a political recognition of ecological, social, and economic interdependence. Equitable management entails achieving intergenerational, intragenerational, and interspecies fairness. The prudence in management stands for defining and implementing duties of care and prevention in the technological, scientific, and political domains. Finally, security management demands safety from chronic threats and protection from harmful disruption.

10. An Outline of the Conceptual Domain of Sustainable Sport Management

The integration of the different strands of systems perspective allows for aligning the staged process of sustainability with its goal orientation, material embodiment, and organizational dynamics with the core functions of management (Table 1). Systems theory, thus, provides valuable pointers for outlining the conceptual domain and the key assumptions of sustainability management. Faber et al.'s (2005) framework of sustainability helps define the goal orientation, the artifacts to be sustained, and the dynamics of change subject to sustainability sport management (i.e. the first stage of achieving sustainability). Gladwin et al. (1995) 'sustaincentrism', and Starik and Kanashiro (2013) theory of sustainability management concern the second stage of achieving sustainability. The former suggests the key management functions, and the latter emphasizes the need to account for the interdependency between different levels of the sport system and their mutual embedding in the natural environment. What unites these interpretations of sustainability management is their explicit concern with a systems and holistic approach to management, which is both human-centered and conservation-based. The human-nature integration view of management has been observed in the context of sustainability management tools for SMEs, where 'What started out at the beginning with a strong environmental management perspective (e.g., studies concentrating on the implementation of an EMS), has evolved into a more integrative management perspective' (Johnson & Schaltegger, 2016, p. 495).

The conceptual domain of sustainability sport management is premised on five assumptions. The first assumption of sustainability management is that sustainability is a *composite problem*, which is characterized by the interdependence of function,

Table 1. Integration of sustainability sport management key assumptions, theoretical elements, and corresponding core management functions.

Key assumptions (Clayton & Radcliffe, 1996)	Element of theory (Starik & Kanashiro, 2013)	Management function (Gladwin et al., (1995)
Composite problem	Unity of natural and socioeconomic environments	Connectivity Management
Open systems	Transformational perspective	Security management
Complexity of sport organizations	Management function planning, implementation, and evaluation	Prudent management
Levels of sustainability	Levels of sustainability: individual, organizational, societal	Equitable management
Purpose of sustainability in sport management	Quality of life Sustainability solutions	Inclusivity management

positive and negative feedback, maladaptation, monetary and non-monetary dimensions, conflicts between interest and ideology, special and temporal ramifications, and involves risk and uncertainty (Clayton & Radcliffe, 1996). Thus, when sports organizations embrace the principles of sustainability, they implicitly undertake to manage complexity. This entails applying control mechanisms that can match the variety of environmental information. Developing those organizational mechanisms come with a major challenge, which is captured by Ashby's (1963) law of requisite variety. It suggests that when the variety of the environment exceeds the capacity of a system (natural or artificial), the environment will dominate and ultimately destroy that system. Thus, sustainability management needs to have the capacity to produce a repertoire of responses equal to or greater than the problems imposed on sport organizations by the sustainability imperative.

The second assumption sees *sport organizations as open systems*, which belong to the class of human activity systems (i.e. man-made political structures). Open systems exist for a primary purpose typically associated with carrying out a particular function, which in our case is to develop sport. Open systems actively interact with their environment and, to sustain their existence, they exchange flows by consuming energy and by producing goods and services. While sport organizations consume both natural (i.e. land, water, and air) and artificial (i.e. facilities and equipment) capital, they produce only artificial capital (i.e. tangible and intangible goods and services). If, when tackling the composite problem of sustainability, sport organizations cannot secure constant input of resources in the form of information, people, and materials, this will inevitably lead to the increase of organizational disorder (i.e. entropy) and eventually to the demise of the organization. Furthermore, the artificial capital used and produced by sport depreciates over time and needs to be replaced. Thus, when sport organizations grow their sport, they implicitly assume that there are no real limits to the expansion of artificial capital, and when this capital is exhausted, a technological solution will overcome the scarcity (e.g. Kellison & McCulough, 2020). Management needs to deal with this challenge to sustain the existence of sports organizations.

The third assumption suggests that the *size and complexity of sport* organizations mean that at any time there could be several potential development paths, some of which would be sustainable for organizational members, while others may not. Thus, as the size and complexity of sport organizations increase, it would be possible for management to focus on sustaining organizations' key priorities as opposed to delivering on all four dimensions of sustainability. As demonstrated, both WA and Paddle UK have prioritized the environmental dimension of sustainability while largely sidelining the social and institutional dimensions.

The fourth assumption concerns the *levels of sustainability* to be achieved. Management can pursue sustainability at individual, organizational, and social (i.e. national or international sport system) levels. There are several measures individual sport participants, athletes, officials, and organizations can take to ensure the sustainability of sport practices (Hugaerts & Könecke, 2026; Kellison & McCulough, 2020; Orr, 2024). However, systems theory posits that societal effects are always systemic and manifest themselves at this level. This poses difficulties to management in terms of establishing probability and causality between individual and organizational behavior and the effects on the environment or other aspects of sustainability.

This knowledge is necessary to determine the causes of the problem so management can propose solutions.

Finally, the *ultimate purpose* of sustainability in sport management is to understand and shape the interactions between complex adaptive natural systems and sport organizations as soft socio-economic entities. Sustainability, in the case of sport organizations, tends to follow the soft approach to developing an understanding of the patterns of interactions between the organizational context and the surrounding systems, as in the case of the UEFA 2024 football tournament communication strategy (Arrigo & Vogler, 2026). Thus, the focus of management becomes more analytical, and toward handling change and resistance.

In summary, sustainability in sport management is concerned with a composite problem posed by the tensions between the unfettered growth of sport and the need for its sustainability. The goal of management is to understand and shape the interactions between complex adaptive natural systems and sport organizations as soft socio-economic entities at individual, organizational, and societal levels. Ultimately, the role of management is to ensure the dynamic equilibrium between sport and the carrying capacity of its environment in a way that does not cause irreversible detrimental effects to either party. A key feature that distinguishes sustainability sport management from its current mainstream understanding and practices as a business ought to be its explicit prioritization of all types of sport participants as citizens (including ecocitizens, Mallen & Chard, 2011; McCullough, 2023) by enabling them to realize their full potential as opposed to treating them as consumers. This is because, ultimately, sustainability is achieved at the aggregate, systems level where citizens' concerns for equality and fairness come into being. Therefore, sport management becomes a political task undertaken by collective entities, as echoed by (Zeigler 2007), who argued that sport management must show social concern.

11. Conclusion

In the context of the current model of sport driven by the ideology of growth, sustainability in sport management remains an impossibility. This is because it cannot satisfy a range of contradictory but otherwise reasonable conditions. Nonetheless, sport management research and practices could greatly facilitate the process of change toward a sustainable model of sport. This process will likely unfold at an uneven pace and needs to combine consensus at the international and national levels of sport management. Given the duality of sport, established above, it ought to be possible to develop a sustainable sport. For this to happen, we need to change our views of what sport in 'the age of sustainability' should look like, to acknowledge that sport management has been part of the sustainability problem, and to take corrective actions. Sport management can make a significant contribution to challenging the current growth orthodoxy and to leading the way to sustainable sport development.

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Notes on Contributor

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