

THE ROLE OF SPORT INNOVATION IN GLOBAL ECONOMICS -THE HUNGARIAN CASE

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This paper examines the critical relationship between sports innovation and global economics, focusing specifically on the Hungarian context. As the sports industry continues to emerge as one of the fastest-growing sectors worldwide, it not only serves as a source of entertainment but also plays a significant role in economic activity, job creation, and community development. The study highlights the strategies employed by Hungarian football clubs to enhance organizational performance through technological advancements, knowledge management, and sustainable practices. By conducting a systematic literature review and analyzing empirical data from in-person interviews with representatives from several Hungarian football clubs, this research elucidates how innovation can drive economic growth by attracting investments, enhancing productivity, and fostering vibrant communities. The literature review emphasizes the importance of managerial knowledge, organizational culture, and external collaborations in achieving innovation success. Furthermore, it underlines the potential of sports innovation as a catalyst for economic growth, particularly through increased sports consumption, infrastructural investments, and community engagement. Ultimately, the findings of this study aim to provide valuable insights for practitioners and policymakers in the sports sector, demonstrating that embracing innovation can enhance competitive advantage and contribute meaningfully to both local and global economic landscapes.

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1 Introduction

The sports industry is among the fastest-growing sectors worldwide, serving as a source of entertainment and a key driver of economic activity, job creation, and community development. This paper investigates the complex relationship between sports innovation and global economics, focusing on Hungary. Known for its rich sporting heritage, especially in football, Hungary offers a valuable case study examining how innovative practices can improve organizational performance and foster economic growth. By analysing the innovation strategies of several Hungarian football clubs, this research highlights the importance of technological advancements, knowledge management, and sustainable initiatives in shaping the future of sports organizations. The literature review covers various aspects of innovation—from organizational culture to external collaborations—that significantly influence performance outcomes. Additionally, the study emphasizes how sports innovation can stimulate economic development through increased investment, enhanced productivity, and stronger community engagement. Combining a systematic review of scholarly literature with empirical data from local clubs, this research aims to provide actionable insights for practitioners and policymakers. Ultimately, it demonstrates that embracing innovation enhances the competitive edge of sports organizations and contributes to broader economic progress within Hungary and beyond.

2 Theoretical Background / Literature review

2.1 Innovation and performance

Research indicates that the most successful welfare states in Europe, particularly those in the Nordic region, are the leading innovators, highlighting the critical interplay between social systems and innovation performance (Hajighasemi et al., 2022). Technological advancements have drastically reshaped the sports sector, driving the need for innovative approaches. Ratten (2020) posits that technology is a fundamental driver of the sports industry's global competitiveness, necessitating the development of comprehensive innovation management strategies. As Morrison (2023) further affirms, record-breaking performances in sports are increasingly reliant on continuous advancements in technology and biomedical innovations. The integration of key stakeholders including sports managers, coaches, and researchers

is essential for examining technological innovations within sports (Ringuet-Riot et al., 2014). Systematic reviews indicate that football adopts GPS technology more extensively than other team sports, showcasing the sector's potential for technological integration (Cummins et al., 2013). As the dynamics of sports innovation emerge, numerous tools and methods influence an organization's ability to sustain innovation performance. Factors such as strategic planning, management engagement, and knowledge sharing are crucial for fostering a culture of innovation (Hasgalla et al., 2018). Sustainability is becoming also a focal point in organizational innovation discourse. Studies by Inthavong et al. (2023) reveal that adopting green innovation practices not only improves environmental outcomes but also enhances overall organizational performance. The complexity of implementing effective innovation strategies, particularly within sports organizations, calls for further exploration of these interactions.

2.2 Relation between sport innovation and global economics

Innovation drives economic growth by enhancing productivity and enabling organizations to produce more with the same resources. The sports sector, a multi-billion-dollar industry, closely ties to economic principles, influencing key financial decisions like ticket pricing, player salaries, and sponsorships. Understanding these economic factors helps sports organizations optimize revenue and operational efficiency, essential for sustainability and growth. Innovation also plays a vital role in globalization, aided by technological advancements that lower trade barriers and foster international collaboration. This enhances the global competitiveness of the sports industry. Sports innovation focuses on developing processes and products that improve the sports experience, attracting customers, and increasing efficiency. Football significantly contributes to economic development through job creation, tourism, and local business growth by boosting ticket sales and broadcasting revenues. As a prominent sector, football drives economic and social growth through collaboration between sports investors and government entities. When effectively leveraged, sports can enhance tourism and foster community connections. Investment in infrastructure, supported by public-private partnerships, is crucial for sports initiatives and community resources. Sports organizations promote civic pride and community cohesion while creating job opportunities, from administrative roles to event staff. They often engage with local communities to provide education and training programs, further impacting local economies

(Deloitte, 2024). Football is a significant economic driver that fosters financial growth and job creation worldwide. Major tournaments like the FIFA World Cup and UEFA European Championship greatly impact host cities by attracting tourists and stimulating local businesses. The infrastructure developments tied to these events create construction jobs and improve transportation and community facilities after the tournaments end. At the club level, football clubs are central to the industry, utilizing various strategies to generate revenue. Professional leagues and international cups secure lucrative television deals, enhancing clubs' financial stability. Match-day revenues from ticket sales, concessions, and merchandise also contribute substantially to the local economy. Additionally, careers in football, such as players, coaches, or managers, are financially rewarding, reflecting the sport's strength and popularity. According to Aygün et al. (2023), note a reciprocal relationship between economic growth and the sports industry, with increased sports consumption contributing to economic expansion. Football clubs are crucial in this dynamic, generating significant revenue from ticket sales, sponsorships, and broadcasting rights, while also supporting urban development and attracting investments. Sports events drive economic development and sustainability, as a thriving economy positively affects the sports sector. This interplay has led countries to focus on football as a key investment for enhancing domestic markets and international connections. Significant events like the FIFA World Cup and Olympic Games require substantial financial commitments for infrastructure, while smaller events often rely on national support. Investments in sports infrastructure are essential for urban development and addressing underdevelopment in sports. Professional football clubs aim for excellence in both business performance and on-field success, making economic growth a vital consideration.

3 **Methods**

This paper utilizes a three-step methodology to explore the relationship between sports innovation and economic growth. First, it reviews tools and methods influencing the innovation performance of sports organizations. Second, it analyses the correlation between sports innovation and economic growth based on the literature review. Lastly, it investigates the innovative efforts and economic contributions of four Hungarian football clubs, supported by in-person interviews with their representatives conducted in 2024.

3.1 Hungarian football clubs: innovation performance

The research focused on four Hungarian football clubs: ETO FC Győr, Gyirmót FC, Mosonmagyaróvári TE, and Üstökös FC, analysing their approaches to green innovation and sustainable performance. ETO FC Győr, established in 1904, is one of Hungary's most successful clubs, with a strong history in the top tier until 2015. After facing bankruptcy, it was rescued in 2015 and aimed to return to the first division. Following a runner-up finish in 2024, it will compete in the first division for the 2024/2025 season. Gyirmót FC Győr, also located in Győr, is the second most successful club in the area and plays in the second division. Üstökös FC focuses on developing young talent, providing training for athletes aged 5 to 19, while its partner, Bácsa FC SE, offers adult championships. Credobus Mosonmagyaróvári TE, founded in 1904, will start the 2024/2025 season in the third division after finishing last in the previous season.

Table 1: Main characteristics of the Football Clubs: Innovation and performance

Innovation	Performance
Sustainable development strategy	<ul style="list-style-type: none"> None of the Football clubs has its own sustainable development strategy. However, both cities Győr and Mosonmagyaróvár, have their sustainable urban Development Strategy, which includes sustainable development objectives and measures in the fields of green innovation, digitalization, a resilient and competitive economy, energy efficiency in buildings and mobility, and the use of renewable energy sources.
Management innovation and knowledge management	<ul style="list-style-type: none"> The Hungarian Football Association offers continuous training and education for management and employees, focusing on grassroots football across various forms, including children's, adults', veterans', futsal, disabled, and women's games. It provides club development training to maintain the quality of Talent Centres and District Centres and offers sports, health, and science courses. The Sports Health and Sports Science training emphasizes athlete health preservation and development. Additionally, the Coaching Training Institute provides education for football trainers, goalkeeper trainers, futsal trainers, and fitness coaches. The association also offers adult training to prepare participants as professionals who align with its values and can effectively contribute to domestic clubs.
Sport innovation	<ul style="list-style-type: none"> In recent years, there has been a significant change in the training planning of athletes. A range of software and sports tools support both the trainers and the athletes. All the examined clubs use "Talent X" software. The software

Innovation	Performance
	<p>helps organize the data on the players and monitor their performance and the team's performance. Professional work can be tracked, and valuable statistics can be prepared in just a few steps.</p> <ul style="list-style-type: none"> – Another popular but pretty expensive tool is the “CATAPULT” system, used only by the most prominent clubs such as ETO FC. CATAPULT GPS (outdoor) and CATAPULT LPS (indoor) professional movement tracking systems developed to analyse sports movements enable accurate evaluation of training or performance during matches and extensive analysis, comparison, and data organization. tool is the. – There are other but still less known but very innovative tools such as the “Nimbolo” which was developed and firstly used by the Ústökös FC. This tool targets and develops several critical skills in players, helping them to perform well and effectively on the pitch. NIMBOLO is a pioneering training tool designed to develop team sports players. The device has various features that allow players to develop various skills, such as communication and tactics, reaction speed and agility, creativity and game intelligence. – The legal changes of 2011 - which were also accepted by the European Union -they allowed profitable companies and enterprises to support spectacle team sports, such as football, with their corporate tax. This system provides benefits to sports associations and supporting companies at the same time.
Stakeholders engagement	<ul style="list-style-type: none"> – For parents and supporters, the associations organize various community-shaping events every six months, such as a joint football game and a New Year's Eve celebration with various programs, commemorations, and awards. – Most of the clubs' income comes from the support of the corporate taxes of companies with the contribution of the Hungarian Football Association. Infrastructure development is mainly implemented from these two sources. In some cases, the municipality also supports the sports clubs, but this support depends on various things and changes year by year. The rest of the income comes from membership fees and is spent on operations. It was also found that most of the club's green innovation is covered by infrastructure development. Significant attention is paid to using renewable energy for lighting, heating, or cooling during the development of buildings or sports fields.
R & D Expenditures	

3.2 Hungarian football clubs: Contribution to the local economy

Local football clubs play a multifaceted role in bolstering the local economy through job creation, infrastructure investments, increased consumer spending, and community engagement, ultimately fostering a vibrant local economy.

Table 2: Main characteristics of the Football Clubs: Contribution to the local economy

Observation	Policy documents
Job creation	<ul style="list-style-type: none"> All football clubs create direct employment opportunities for various roles, including coaching staff, administrative personnel, groundskeeping, security, and matchday operations. Additionally, they provide indirect jobs in sectors like hospitality, retail, and transportation. Furthermore Üstökös FC Győr offers their talents not only football career, but other job opportunities related to football inside and outside the organisation, through supporting their coach education and referee education.
Economic activity from matchdays	<ul style="list-style-type: none"> Home games attract fans who spend money on tickets, food, beverages, and merchandise. This influx of visitors benefits local businesses, such as restaurants, bars, and shops, particularly on matchdays. The investigated clubs do not yet have a merchandising activity, but Üstökös FC Győr offers Üstökös-branded clothing for athletes and fans through its contracted sports manufacturing partner.
Infrastructure development	<ul style="list-style-type: none"> Investment in sports facilities results in infrastructure improvements, such as better transportation networks, parking facilities, and additional public services. These enhancements can benefit the entire community, not just football fans.
Sponsorship and investment	<ul style="list-style-type: none"> Local clubs often engage with businesses through sponsorship deals, which can inject capital into the local economy. These sponsorships may provide businesses with visibility while generating additional revenue for the clubs.
Community Engagement and Development	<ul style="list-style-type: none"> Many football clubs engage in community outreach programs, promoting health, education, and social cohesion. These initiatives contribute to the social fabric of the area, enhancing community well-being and engagement. Gyirmót FC Győr offers its facilities for public use free of charge through various charitable activities, including family days and municipal and entrepreneurial programs.
Sports Tourism	<ul style="list-style-type: none"> Clubs with rich histories and traditions can attract sports tourists who are interested in experiencing matches or stadium tours, further stimulating local economic activity. Gyirmót FC Győr offers training camps for domestic and international clubs by its own built sports hotel.

Observation	Policy documents
Youth Development Programs	<ul style="list-style-type: none"> – Local clubs often run youth academies that invest in young talent, providing training and development opportunities. This contributes not only to personal development for the youth but can also lead to the emergence of future talent for local teams or even professional leagues. Mosonmagyaróvári TE and Gyirmót FC Győr have a Talent Centre role in the region. Üstökös FC Győr is in the District Centre position.
Local Identity and Pride	<ul style="list-style-type: none"> – The presence of a local football club can foster community identity and pride, encouraging residents to support local initiatives and contribute to the economy through various activities and spending.

4 Conclusions

This study underscores the vital link between sports innovation and economic growth in Hungarian football. Innovation provides a competitive edge essential for the sustainable development of sports organizations and their communities. By examining strategies used by Hungarian clubs, the research shows how technological progress, knowledge management, and sustainable practices enhance performance and stimulate economic activity. The findings indicate that football clubs create jobs, boost local businesses through matchday revenues, and promote community engagement via outreach programs. Case studies of ETO FC Győr, Gyirmót FC Győr, Mosonmagyaróvári TE, and Üstökös FC illustrate their roles in fostering community pride and local identity. As Hungary advances within the global sports landscape, policymakers and sports managers should prioritize innovation and sustainability.

Embracing the synergy between sports innovation and economic development benefits the sports sector and promotes the prosperity of wider communities.

Additionally, the study highlights how innovations—from digital tools to green infrastructure—align with ESG frameworks by promoting environmental sustainability, social inclusion, and good governance. The transformative potential of digital initiatives like data analytics and GPS tracking further advances performance and sustainability.

Overall, strategic innovation emerges as a crucial driver for long-term growth, inspiring policies integrating sustainability, digital transformation, and responsible governance in Hungary's sports industry.

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