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„Sport must be the heritage of all men and of all social classes “

Pierre de Coubertin

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Case study

From Static Repository to Digital Sport Product: Redesign of an Educational Sports Web Platform

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Abstract: This study examines the transformation of an educational sports web portal into a modern digital sport product, using the case of the sportman.sk platform. The background of the research is based on the increasing importance of digital sport products, which extend traditional sport and educational services through improved accessibility, interactivity, and information delivery. The purpose of the study is to analyze how redesign and technological integration can improve the functionality and value of an educational sport-related platform. The research is based on a qualitative case study approach focusing on the comparison between the original static version of the website and its redesigned form. The analysis concentrates on changes in structure, user experience, content organization, and the integration of artificial intelligence tools for knowledge presentation. The results show that the original platform functioned primarily as a static repository of documents with limited usability and navigation. The redesigned version introduced a structured interface, improved information architecture, expanded content sections, and AI-generated summaries of scientific articles, which enhanced accessibility and user orientation. The study concludes that applying digital sport product principles significantly improves the usability and communicative function of educational platforms, while also strengthening their role within sport management and academic environments.

Keywords: digital sport product, sport management, web portal redesign, user experience

1. INTRODUCTION

Sport products represent a specific category of products and services characterized primarily by their intangible and experiential nature. According to Čáslavová (2009), a sport product consists of tangible and intangible elements offered within the sport market to satisfy customer needs, while intangible services such as sport performance, entertainment, or education dominate within the sport industry. Similarly, Pitts and Stotlar (2013) define the sport product as a complex package of experiences in which intangible service components prevail over physical elements. Mullin et al. (2014) further describe sport products as combinations of attributes, benefits, and processes that consumers perceive as capable of satisfying their needs. Other authors emphasize the experiential and simultaneous nature of sport services. Parent and Chappelet (2017) characterize the sport product as a bundle of intangible experiences produced and consumed at the same time, while Shank and Lyberger (2022) define it as a combination of goods and services designed to provide value to spectators, participants, or sponsors. Karg et al. (2022) additionally note that sport services are unique because production and consumption occur simultaneously.

These perspectives indicate that sport products differ significantly from traditional industrial products. Their value is strongly connected to emotions, social interaction, and fan experience rather than physical ownership. At the same time, sport products are highly unpredictable and inconsistent because organizations cannot fully control the quality of the core product, such as the sporting outcome itself (Mullin et al., 2014). According to Pitts and Stotlar (2013), sport products consist of the core product, including athletes, competition, rules, and the sporting environment, and product extensions, such as ticketing, merchandising, catering, entertainment, and digital services. While the core product motivates attendance, supplementary services significantly influence customer satisfaction and long-term loyalty.

The specific nature of sport products is also reflected in their key characteristics. Mullin et al. (2014) identify perishability, simultaneity, intangibility, and subjectivity as defining features of sport services. Perishability means that sport services cannot be stored for future use, as unsold stadium seats or unused event capacity represent permanently lost revenue (Parent & Chappelet, 2017). Simultaneity refers to the fact that sport products are produced and consumed at the same moment, with spectators actively influencing the atmosphere and perceived quality of the event through their participation and interaction (Beech & Chadwick, 2013). Intangibility means that the primary value of sport lies in emotions, memories, and identity rather than physical ownership (Karg et al., 2022).

Subjectivity further complicates sport management because the quality of the experience is perceived differently by individual consumers depending on their expectations and emotional engagement (Parent & Smith-Swan, 2013).

The increasing integration of digital technologies has significantly transformed the understanding of sport products and services. Beech and Chadwick (2013) describe digital sport services as online value-added extensions of the core product that combine content distribution with social interaction and community creation. Karg et al. (2022) define digital sport products as technological ecosystems that transform traditional sport experiences into multi-channel and interactive services characterized by continuous accessibility, personalization, and real-time engagement. Similarly, Naraine et al. (2023) emphasize that digital sport products represent the strategic integration of technologies into the production, promotion, and consumption of sport.

In digital environments, sport organizations increasingly operate as continuous providers of content rather than temporary organizers of events. Digital technologies extend the duration of the sport experience through live streaming, social media interaction, online communities, and personalized content available before, during, and after events (Beech & Chadwick, 2013). According to Karg et al. (2022), successful digital sport products are built around accessibility, interactivity, and personalization. These technological features are closely connected to mobility, immediacy, and connectivity, which enable fans to access content in real time regardless of location while simultaneously interacting with other users (Hutchins & Rowe, 2012).

Modern sport organizations therefore increasingly rely on integrated digital platforms such as websites, mobile applications, and OTT (Over-The-Top) streaming services. These platforms serve not only as communication tools but also as strategic ecosystems connecting fans with the organization through ticketing, merchandising, live data, personalized services, and interactive experiences (Karg et al., 2022; Naraine et al., 2023). As a result, digital products have become an essential component of contemporary sport management and significantly influence fan engagement, value creation, and the overall commercial sustainability of sport organizations.

2. MATERIALS AND METHODS

The aim of the case study is to analyze changes in the management and development of a digital sport product, specifically a web portal sportman.sk, with a focus on its strategic role and user experience.

The research was conducted using a qualitative case study approach. A case study is an empirical research design that examines a specific phenomenon in detail within its real-life context (Švaříček et al., 2014). In this study, the selected case represents a particular example of changes implemented within a sport-related digital platform. The analysis focuses on the structure, functionality, content organization, and overall digital ecosystem of the web portal.

3. RESULTS

The research results present a case study focused on the redesign and transformation of the educational web portal sportman.sk into a modern digital sport product. The analysis concentrated on changes in the structure, functionality, and overall user experience of the platform, with particular emphasis on the integration of digital technologies and user-oriented content presentation.

The original version of the sportman.sk website functioned primarily as a static archive of educational materials, scientific articles, monographs, and teaching texts. Its structure reflected a traditional approach to online education, where users were expected to independently search, download, and study extensive PDF documents. From the perspective of digital product management, the portal operated mainly as a repository of files rather than an interactive digital environment. The platform contained limited visual hierarchy, minimal navigation support, and an outdated graphical interface that reduced usability and accessibility for users. Individual documents were displayed in simple text-based lists without advanced categorization, filtering, or visual segmentation. As a result, the platform lacked intuitive orientation and created barriers for efficient information retrieval.

The original design also did not reflect current expectations associated with digital sport services and modern educational platforms. The website represented a one-directional communication model focused almost exclusively on information storage. The absence of modern interface elements, dynamic content, and visual consistency negatively influenced the perceived professionalism and credibility of the platform. From the perspective of user experience, the portal lacked several characteristics

associated with contemporary digital products, including accessibility, interactivity, responsiveness, and personalization.

Based on this analysis, the redesign process aimed to transform sportman.sk into a more comprehensive and user-oriented digital educational platform. The main objective was to improve the external appearance, navigation structure, and content organization while simultaneously expanding the functionality of the platform. The development process emphasized simplicity, visual clarity, and intuitive usability to create a digital environment more suitable for students, researchers, and professionals operating within sport management and related disciplines.

One of the most significant changes involved the expansion of the platform content. Unlike the original version, which focused almost exclusively on archived documents, the redesigned portal integrates multiple types of digital content into one unified environment. The new version includes sections dedicated to current news, departmental activities, research outputs, educational projects, and scientific events. The platform therefore no longer functions solely as an archive but also as an active communication and presentation tool for the Department of Management Theories and its sport management activities.

Another important innovation concerns the visual and structural redesign of the interface. The new platform was designed with a significantly stronger emphasis on information architecture and user orientation. Instead of presenting content through long textual lists, the redesigned portal uses logically structured sections and visually separated content blocks. This approach improves readability and enables users to identify relevant information more efficiently. The navigation system was simplified to provide faster access to core sections such as "Our Activities," "News," and "Our Team." In addition, the section presenting the research team was redesigned to include descriptions of specialization areas and professional backgrounds of individual members, contributing to greater transparency and institutional presentation.

The redesigned platform also introduced improvements in the presentation of scientific outputs and educational materials. One of the key innovations was the implementation of article summaries and research overviews generated with the support of artificial intelligence tools. In the original version, users could only access complete scientific articles, which often required extensive reading and professional knowledge to fully understand. The new platform integrates concise summaries that present the core objective, methodology, findings, and conclusions of individual studies. This functionality significantly improves the accessibility of scientific information and allows users to quickly evaluate the relevance of a publication before accessing the full text.

Artificial intelligence tools were utilized to support the creation of these summaries through carefully designed prompts and structured text analysis. The AI-assisted approach enabled the extraction of the most important information from long academic texts while preserving the essential meaning and structure of the original content. As a result, users are no longer required to process extensive documents immediately, as the platform provides simplified entry points into scientific content. This contributes to faster orientation in research topics and improves the overall efficiency of information consumption.

The redesign also expanded the strategic role of the platform within the broader educational and sport management environment. The portal now functions not only as an educational archive but also as a presentation platform for research activities, scientific collaboration, and departmental identity. New sections dedicated to research projects, scientific publications, educational outputs, conferences, and academic journals strengthen the visibility of departmental activities and contribute to the professional image of the institution.

An additional component of the redesign process involved the development of a new visual identity, including a redesigned logo. The introduction of a unified visual style improved the consistency and recognizability of the platform while supporting the perception of professionalism and modernity. The redesign process therefore addressed not only technical functionality but also communication, presentation, and branding aspects of the digital product.

Overall, the transformation of sportman.sk demonstrates the shift from a static educational repository toward an integrated digital platform characterized by improved accessibility, enhanced user experience, AI-supported knowledge presentation, and stronger communication functions. The results illustrate how digital product principles can be applied within sport education and academic environments to improve interaction, information accessibility, and the overall value provided to users.

4. DISCUSSION

The transformation of sportman.sk from a static repository of educational materials into a more interactive and structured digital platform reflects the broader shift described by Beech and Chadwick (2013), who argue that digital sport services extend the value of the core product through online interaction, accessibility, and continuous communication. The redesigned platform no longer functions only as an archive of documents but as an active digital environment connecting educational content, research outputs, and institutional presentation.

The findings also support Karg et al. (2022) and Naraine et al. (2023), who describe digital sport products as ecosystems based on accessibility, interactivity, and personalization. The redesigned portal introduced clearer navigation, structured content blocks, and improved information architecture, which increased usability and user orientation. These results confirm that digital sport products require not only content availability but also intuitive organization and effective presentation, while visual structure and interface design significantly influence perceived quality and professionalism.

Another important finding concerns the role of digital technologies in improving knowledge accessibility. The implementation of AI-supported article summaries confirmed the growing importance of technological integration within digital sport environments. The results indicate that simplified and structured presentation of scientific outputs can improve user orientation and reduce barriers associated with extensive academic texts. This corresponds with theoretical assumptions emphasizing immediacy and connectivity as key characteristics of digital services (Hutchins & Rowe, 2012). The platform therefore reflects the transition from passive information storage toward more dynamic and user-oriented knowledge distribution.

The case study also confirmed the importance of supplementary digital services described by Pitts and Stotlar (2013). Although the core educational content remained central to the platform, the newly added extensions, including news sections, research presentations, and AI-generated overviews, significantly increased the overall value of the product. Similar to sport management environments, the quality of additional services strongly influenced the usability and attractiveness of the platform. In this context, the results support the argument that digital extensions often determine the overall user experience even when the core content itself remains unchanged.

At the same time, some theoretical aspects were only partially confirmed. The literature emphasizes strong interactivity and co-creation between organizations and users in digital sport ecosystems (Naraine et al., 2023). However, the redesigned platform primarily improved accessibility, navigation, and presentation rather than creating a fully interactive community-based environment. Features such as direct user participation, social interaction, or advanced personalization mechanisms were not fully implemented within the current stage of development. This suggests that while the platform successfully adopted several principles of digital product management, its transformation toward a fully participatory digital ecosystem remains incomplete.

The findings also highlight the growing strategic importance of digital identity within sport-related educational institutions. The introduction of a unified visual identity, modern interface design, and integrated communication sections strengthened the professional image of the platform and aligned with broader trends in digital sport management. The results therefore illustrate that digital products in sport and education increasingly fulfill not only informational functions but also branding, communication, and relationship-building roles.

Overall, the case study demonstrates that principles of digital product management can be successfully applied within educational and sport management environments. The redesign of sportman.sk confirmed the importance of accessibility, structured information architecture, technological integration, and user-oriented communication for improving the functionality and perceived value of digital sport products.

5. CONCLUSION

This article focused on the transformation of the educational portal sportman.sk into a modern digital sport product and examined how digital product management principles can be applied within sport education and academic environments. The study highlighted the increasing importance of digital technologies in the presentation, distribution, and management of sport-related educational content.

The results demonstrated that the redesign process significantly improved the structure, usability, accessibility, and overall professionalism of the platform. Key findings included the transition

from a static repository toward an integrated digital environment, the implementation of AI-supported research summaries, the improvement of navigation and information architecture, and the strengthening of communication and presentation functions. The study also confirmed that supplementary digital services and visual presentation play an important role in shaping user experience and perceived product value.

The article contributes to the existing literature by connecting theoretical concepts of digital sport products with a practical case study from the educational environment. It demonstrates that digital transformation in sport management is not limited to commercial organizations or professional sport clubs but is also relevant for academic and educational institutions operating within sport-related fields.

The study has several limitations. It is based on a single case study and focuses mainly on qualitative analysis of the redesign process without incorporating user feedback or quantitative evaluation. Therefore, the findings cannot be generalized to all digital sport platforms. Future research could focus on user experience assessment, usability testing, behavioural data analysis, and long-term evaluation of digital engagement. Further studies could also explore the role of personalization, interactive features, and artificial intelligence in the development of digital sport products.

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Case study

Contemporary Approaches to Sport Management Education: A Case Study of International Educational Programs

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Abstract: The increasing complexity of sport organizations has strengthened the importance of systematic managerial education and professional development. The aim of the article is to analyze selected international educational programs focused on the development of sport managers and to identify their main approaches, competencies, and educational methods. The research is based on a qualitative case study analysis of three educational ecosystems: UEFA Academy, FIFA Campus, and Barça Innovation Hub. The analysis focused on program structure, learning formats, competency development, and practical contribution to sport management practice. The findings indicate that contemporary sport management education increasingly combines blended learning, international cooperation, practical applicability, and digital competencies. The analyzed programs emphasize leadership, strategic thinking, communication, innovation, and organizational sustainability alongside traditional managerial knowledge. The results also show that educational systems in sport are evolving from traditional theoretical instruction toward more flexible, interdisciplinary, and technology-oriented approaches. Differences between the programs were identified primarily in their institutional focus, target groups, and emphasis on innovation or strategic management. The study concludes that modern educational programs represent an important tool for improving the professionalism, adaptability, and long-term competitiveness of sport organizations in dynamic sport environments.

Keywords: sport management education, managerial competencies, sport organizations, professional development

1. INTRODUCTION

The growing complexity of sport organizations increasingly emphasizes the importance of professional management and continuous managerial development. Sport organizations operate in dynamic environments influenced by commercialization, digital transformation, sustainability requirements, and increasing stakeholder expectations. As a result, the role of sport managers has expanded beyond traditional administrative functions and now requires a broad spectrum of managerial, interpersonal, strategic, and technological competencies. The effectiveness and competitiveness of sport organizations are therefore closely connected to the quality of management and the ability of managers to adapt to changing conditions.

Managerial work can be understood through interpersonal, informational, and decisional roles, which together form an integrated framework of managerial activities (Mintzberg, 1989). These roles are highly relevant within sport organizations due to the multidimensional character of sport management. Managers frequently represent organizations in communication with sponsors, media, supporters, sport federations, and public institutions. At the same time, they are responsible for motivating employees, athletes, and coaches while coordinating organizational activities and strategic objectives.

Informational roles are particularly important in contemporary sport environments characterized by rapid technological and organizational changes. Sport managers must continuously monitor developments related to sport legislation, digital communication, fan engagement, sponsorship opportunities, and market trends. Effective distribution of information within organizations is equally essential for coordination between administrative, marketing, and sport-performance departments. Managers also increasingly act as spokespersons responsible for communicating organizational strategies and managing public relations, especially during crisis situations.

Decisional roles further highlight the complexity of sport management. Managers are required to initiate innovation, allocate limited resources, solve organizational crises, and negotiate partnerships or sponsorship agreements. Within sport organizations, these responsibilities often involve balancing sporting objectives with economic sustainability and long-term organizational development. Modern

sport managers must therefore demonstrate flexibility and the ability to transition between multiple managerial roles depending on situational demands.

The successful performance of these roles depends on managerial competencies and skills. Managerial competencies are commonly divided into technical, human, and conceptual skills (Katz, 2009). Technical skills in sport management include knowledge of sport regulations, event organization, marketing, finance, facility management, and sport law. Human or interpersonal skills involve communication, motivation, emotional intelligence, conflict resolution, and teamwork. Due to the emotional and social nature of sport environments, these competencies are particularly significant. Research also emphasizes the growing importance of relational and collaborative competencies for sustainable leadership in sport organizations (Waśkiewicz, 2025).

Conceptual skills refer to the ability to understand organizations as interconnected systems and to think strategically. Sport managers must be capable of identifying trends, creating long-term visions, and integrating sporting, social, and economic objectives. Contemporary sport management additionally requires digital and innovation-oriented competencies related to the use of technologies for communication, marketing, analytics, and organizational processes. Alongside digitalization, sustainability competencies are becoming increasingly important, particularly in relation to ethical leadership, social responsibility, diversity management, and environmental awareness.

The transition toward sustainable sport management has transformed expectations regarding managerial profiles. Modern managers are expected to support organizational cultures focused on innovation, adaptability, ethical behaviour, and long-term development. Competencies connected to sustainable leadership include strategic thinking, stakeholder engagement, collaboration, social responsibility, and systems thinking (Ruwanika, 2024). In this context, managers are no longer perceived solely as administrators but also as facilitators of organizational learning and long-term development.

The growing complexity of managerial responsibilities has increased the importance of systematic education and professional development within sport organizations. Educational activities represent a strategic investment into human capital and significantly influence organizational performance, adaptability, and competitiveness. Education primarily focuses on acquiring knowledge and skills necessary for current job performance, whereas development is oriented toward future growth, career progression, and the expansion of managerial potential (Armstrong, 2006). Learning itself is understood as a continuous process through which individuals acquire competencies formally and informally through experience and interaction.

The process of managerial education should therefore be systematic and strategically planned. The literature commonly identifies four interconnected phases of systematic education: identification of educational needs, planning of educational activities, implementation of learning processes, and evaluation of results. Evaluation frameworks emphasize the importance of assessing participant reactions, learning outcomes, behavioural changes, and organizational effects (Kirkpatrick, 2026).

Within sport organizations, educational methods can generally be divided into workplace-based and off-the-job methods. Workplace-based methods include coaching, mentoring, job rotation, and project assignments, which allow managers to develop competencies directly within practical organizational settings. Off-the-job methods include lectures, seminars, workshops, case studies, outdoor learning, e-learning, and webinars. These methods provide opportunities for theoretical learning, reflection, and the development of analytical and strategic thinking.

Current approaches to managerial development emphasize the integration of formal education, experiential learning, digital technologies, and competency-based development. For sport organizations, systematic managerial education represents not only a tool for improving operational effectiveness but also an important mechanism supporting innovation, sustainability, and long-term organizational competitiveness.

2. MATERIALS AND METHODS

The aim of the case study is to compare different approaches to educational and managerial development programs in sport organizations, focusing on the process of manager education and competency development.

The research was conducted through a qualitative comparative analysis of case studies. A case study is an empirical research design that aims to examine and understand one or more cases in detail in their natural context (Švaříček et al., 2014).

3. RESULTS

The results of the case study analyze selected educational and development programs focused on the preparation of sport managers within international sport organizations and professional sport environments. The analysis concentrates on the structure of the educational process, applied learning methods, competency development, and the overall contribution of these programs to managerial practice in sport. The selected case studies illustrate different approaches to professional education, ranging from traditional management-oriented programs to innovation-driven and digitally focused educational models.

UEFA Academy – Certificate in Football Management (CFM)

The UEFA Certificate in Football Management represents one of the most recognized educational programs focused on managerial development within football organizations. The program was created as part of the broader UEFA Academy initiative, which aims to increase the professionalism and quality of football management across national associations, leagues, and clubs. The educational process is designed to provide participants with a comprehensive understanding of football governance, strategic management, finance, marketing, communication, and organizational operations (UefaAcademy, 2024).

The program is based on a blended learning model combining online education with in-person seminars. The educational structure includes interactive online modules focused on strategic management, operational management, human resources, finance, football marketing, and communication. The online component is complemented by face-to-face seminars organized directly at UEFA headquarters or within host football associations across Europe (UefaAcademy, 2026). This structure enables participants to combine professional responsibilities with continuous education while simultaneously supporting international collaboration and knowledge exchange between managers from different football environments.

An important aspect of the program is its academic and professional orientation. The cooperation with the University of Lausanne contributes to the credibility and quality of the educational process, while the international network of graduates strengthens long-term professional cooperation within football management. The program also emphasizes leadership development, strategic thinking, and the practical application of managerial knowledge in sport organizations. Its effectiveness is further reflected in external recognition and certification focused on organizational learning and managerial impact (EfmdGlobal, 2024a; EfmdGlobal, 2024b).

FIFA Campus – Diploma in Club Management

The FIFA Diploma in Club Management represents a specialized educational program designed primarily for football club executives, administrators, and former professional players transitioning into managerial positions. The program was established within the FIFA Campus educational platform as a response to the increasing demands placed on modern football club management and organizational sustainability (InsideFIFA, 2026).

Compared with broader management-oriented educational models, the FIFA program focuses more directly on strategic and operational management within football clubs. The educational process is organized through a hybrid structure that combines online learning with international in-person modules hosted in important football locations around the world (InsideFifa, 2024). The program is divided into thematic areas covering leadership, strategic planning, youth development, marketing, communication, stadium operations, governance, legal issues, and financial management.

A significant feature of the program is its strong practical orientation and international dimension. Participants gain access not only to theoretical knowledge but also to practical experiences shared by experts and senior managers from leading football organizations. The educational process therefore supports networking, international cooperation, and the exchange of best practices across different football environments. The program also contributes to the professionalization of football management by developing competencies related to strategic leadership, organizational sustainability, and modern club operations.

Barça Innovation Hub

Barça Innovation Hub represents a unique educational and innovation-oriented model created directly by FC Barcelona. Unlike traditional federation-based educational systems, the platform combines sport management, innovation, research, technology, and digital transformation into one integrated environment. The initiative was developed with the objective of transforming the club into a global center for sport innovation and knowledge sharing (BarkeleyHaas, 2021).

The educational activities within the platform are strongly connected to modern trends in digital sport management, technological innovation, and fan experience. One of the representative educational programs is the Executive Program in Strategic Sports Business Leadership, which focuses on strategic leadership, digital product management, innovation processes, and new approaches to sport business development (Barça Innovation Hub, 2026a; Barça Innovation Hub, 2026b). The educational format is primarily based on flexible online learning supported by optional in-person experiences organized in Barcelona.

Compared with more traditional management programs, Barça Innovation Hub places stronger emphasis on digital competencies, innovation management, and the integration of technology into sport organizations. Educational activities focus on areas such as digital products, fan engagement, data analytics, and new revenue-generation models in sport. The importance of this approach became particularly visible during the COVID-19 pandemic, when digital innovation enabled the organization to maintain communication with supporters and develop alternative commercial activities despite operational restrictions (Monteiro et al., 2022).

The platform therefore demonstrates how a sport organization can simultaneously function as an educational institution, innovation center, and commercial organization focused on knowledge-based development. The case study illustrates the growing importance of interdisciplinary and technology-oriented education within contemporary sport management environments.

Comparative analysis and evaluation of case studies

The comparative analysis demonstrates that the examined educational programs approach the development of sport managers from different institutional and strategic perspectives while responding to specific needs of their target groups. For clearer evaluation, five common indicators were selected: institutional background, target group, format and duration of education, thematic focus, and practical impact. The comparison of these indicators is presented in Table 1.

Table 1 Comparative analysis of case studies

Indicator	UEFA Academy	FIFA Campus	Barça Innovation Hub
Institutional background	Continental association in cooperation with universities	Global football association	Independent sport club and innovation center
Target group	Middle and senior management of football associations and clubs	Club executives and former professional players	Professionals focused on innovation and digital competencies
Format and duration	9 months, blended learning (online modules and in-person seminars)	15 months, hybrid format with international in-person modules	3–6 months, primarily online with optional stay in Barcelona
Key thematic areas	Strategic and operational management, finance, marketing, governance	Leadership, club management, academies, stadium operations, strategy	Digitalization, analytics, fan engagement, innovation
Practical impact / benefit	International certification and professional networking	Support for transition from player to managerial role	Development of digital and innovation-oriented skills

The comparison reveals that all analyzed programs rely on blended learning models combining online and in-person education. This reflects current trends in sport management, where fully face-to-face education is becoming less practical due to the operational demands placed on managers and administrators.

The UEFA Academy program represents a strong foundation for administrative and organizational education in football. Its structure focuses on strategic and operational management, finance, governance, and marketing, while simultaneously building an international professional network among participants. The FIFA Campus program is more oriented toward strategic leadership and the transition of former professional athletes into managerial positions. Its educational model emphasizes leadership, club operations, governance, and long-term strategic thinking within professional football organizations.

In contrast, Barça Innovation Hub reflects a more innovation-driven and technology-oriented approach to sport management education. The program places stronger emphasis on digital

transformation, analytics, fan engagement, and modern business models in sport. Compared to the more traditional governance-oriented programs of UEFA and FIFA, the Barcelona model demonstrates a shift toward agile and innovation-focused managerial competencies required in the contemporary digital sport environment.

Overall, the findings indicate that modern sport management education increasingly combines flexibility, practical applicability, digitalization, and international cooperation. At the same time, the analyzed case studies show that successful educational ecosystems are no longer focused only on transferring theoretical knowledge, but also on developing strategic thinking, leadership skills, adaptability, and innovation capabilities. These findings may serve as an important inspiration for the creation of future educational programs within local and international sport organizations.

4. DISCUSSION

The findings of the case study confirm several theoretical assumptions related to managerial education and competency development in sport organizations. The analyzed educational programs reflect the growing complexity of sport management described in the theoretical framework, where managers are expected to combine strategic, interpersonal, technological, and organizational competencies within rapidly changing sport environments (Mintzberg, 1989; Katz, 2009).

The results strongly support the theoretical perspective that modern sport managers must perform multiple managerial roles simultaneously. The analyzed programs focused not only on operational and administrative management but also on leadership, communication, strategic planning, and stakeholder cooperation. This corresponds with the theoretical understanding of sport managers as professionals responsible for balancing sporting, organizational, economic, and social objectives. The findings therefore confirm that contemporary educational programs increasingly emphasize multidimensional managerial preparation rather than narrow administrative specialization.

The case studies also confirmed the importance of competency-based education models. The programs developed technical competencies related to finance, governance, marketing, and organizational management while simultaneously strengthening interpersonal and conceptual competencies such as leadership, strategic thinking, communication, and decision-making. These findings correspond with the competency framework proposed by Katz (2009) and with contemporary perspectives emphasizing collaborative and relational competencies within sustainable sport leadership (Waśkiewicz, 2025).

Another important finding concerns the growing significance of digital and innovation-oriented competencies in sport management education. The Barça Innovation Hub case study particularly confirmed theoretical assumptions related to digital transformation and the increasing role of technology in contemporary sport organizations. Educational activities focused on digital products, analytics, fan engagement, and innovation management reflected broader trends connected to digitalization and organizational adaptability. This supports theoretical perspectives emphasizing the importance of innovation, systems thinking, and technological competencies within sustainable sport management environments (Ruwanka, 2024).

The results further confirmed the relevance of blended and flexible educational models. All analyzed programs combined online learning with practical and interactive forms of education. This corresponds with theoretical approaches emphasizing the growing importance of experiential learning, e-learning, workshops, and practice-oriented development methods within managerial education. The findings suggest that flexibility and accessibility are becoming essential characteristics of effective educational systems in sport organizations due to the demanding and dynamic nature of managerial work.

At the same time, some theoretical assumptions were only partially confirmed. The theoretical framework emphasizes systematic and cyclical evaluation of educational effectiveness, including the assessment of behavioral and organizational impacts (Kirkpatrick, 2026). However, the analyzed case studies focused primarily on program structures, competencies, and educational formats, while less attention was devoted to long-term measurement of educational outcomes and organizational performance. Similarly, although sustainability and ethical leadership were identified in the theoretical section as important competencies, these themes were less visible within the practical orientation of some programs compared with leadership, strategy, and innovation.

The findings also indicate that contemporary sport management education increasingly extends beyond traditional classroom-based learning and functions as part of broader organizational ecosystems

involving networking, international cooperation, innovation, and knowledge sharing. Educational programs therefore fulfill not only developmental functions but also strategic, professionalization, and relationship-building roles within global sport environments.

Overall, the case study demonstrates that modern sport management education is evolving toward flexible, interdisciplinary, and competency-oriented systems that combine managerial theory, practical experience, digital technologies, and international collaboration. The analyzed programs confirm the growing importance of continuous professional development as a strategic component of organizational sustainability and competitiveness in contemporary sport management.

5. CONCLUSION

The article focused on the analysis of selected international educational programs designed for sport managers and examined their approaches to managerial development within contemporary sport organizations. The case studies demonstrated that modern sport management education increasingly integrates strategic leadership, digital competencies, innovation, and practical applicability into comprehensive educational ecosystems.

The findings highlighted the growing importance of blended learning models, international cooperation, networking, and competency-oriented education. The analyzed programs confirmed that successful managerial development in sport is no longer limited to traditional administrative knowledge but also requires leadership abilities, strategic thinking, adaptability, technological understanding, and communication competencies. The study also showed that digitalization and innovation are becoming essential components of educational processes within modern sport organizations.

At the same time, the research has several limitations. The study focused only on selected case studies from football-related environments and relied primarily on qualitative analysis of educational structures and program characteristics. The research did not include direct participant feedback, quantitative evaluation of learning outcomes, or long-term measurement of organizational impacts. Therefore, the findings cannot be generalized to all sport organizations or educational systems.

Future research could focus on evaluating the effectiveness of sport management education through participant satisfaction, competency assessment, behavioral changes, or organizational performance indicators. Additional studies could also examine the integration of sustainability-oriented competencies, artificial intelligence, digital learning technologies, and personalized educational approaches within sport management development programs.

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Article

Product Management and Product Lifecycle Thinking: Implications for Sport, Education and Cultural Sectors

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Abstract: This study explores the current state of product management and product lifecycle management (PLM) and their application across different sectors, including sport, education and culture. The purpose of the paper is to synthesize existing theoretical and empirical knowledge and examine how these concepts are evolving in response to digital transformation. The study is based on a qualitative analysis of secondary sources and a structured review of existing literature and market data. The results show that product management is increasingly shifting toward a strategic, data-driven, and interdisciplinary discipline that integrates business, technology, and user experience. Similarly, PLM is evolving from a technical system into a strategic framework supporting innovation, efficiency, and regulatory compliance across the entire product life cycle. The findings also highlight the growing importance of digital technologies such as artificial intelligence, cloud systems, and digital twins in both domains. In conclusion, product management and PLM represent key organizational capabilities that enhance value creation, decision-making, and competitiveness, while also offering transferable principles for non-commercial sectors such as sport and education.

Keywords: Product Management, Product Strategy, Product Lifecycle, Sports Product

1. INTRODUCTION

Product management and product strategy

Product management represents a multidisciplinary field that integrates product planning and product marketing, combining technical, business, and customer perspectives. While product planning focuses on defining functionality and user value, marketing communicates this value to the market (Steinhardt, 2017). From an organizational perspective, product management can be understood as a set of structures and activities responsible for the development, commercialization, and continuous improvement of products throughout their entire life cycle, from market introduction to post-launch support (Josey, 2020). At the same time, it is an essential component of a customer-centric approach, with specific roles varying depending on organizational culture and industry context (Kiesow, 2023).

Across the literature, product management is consistently defined through three core dimensions: life cycle orientation, cross-functional coordination, and the achievement of business objectives. Authors such as Niehaus et al. (2005) emphasize integration across development, production, and marketing, while others highlight its role in decision-making and customer value creation (Lichaw, 2016; Cagan, 2017; Abraham, 2018). Additionally, product management is often linked to software engineering processes, influencing requirements, design, implementation, and testing. This diversity of perspectives reflects differences between traditional product environments and digital or software-based contexts, where product teams operate in highly dynamic and iterative settings (Ebert, 2007; Springer & Miler, 2022; Nelson, 2024).

A key characteristic of product management is its lack of a universally defined scope. It exists at the intersection of multiple disciplines and therefore does not follow a single career path or standardized set of responsibilities (Anon & Gonzalez de Villaumbrosia, 2017). In practice, roles vary significantly depending on organizational size and maturity. In startups, product managers often combine multiple responsibilities, whereas in large organizations, roles tend to be highly specialized (Kiesow, 2023). Without a clear and shared understanding of product management processes, organizations risk inefficiencies such as misidentified customer needs, incorrect market segmentation, and poorly defined product offerings (Josey, 2020).

From a life cycle perspective, product management encompasses activities ranging from strategy development and planning to market launch and post-sale support. Product managers play a particularly critical role during the product launch phase, ensuring product-market fit, setting pricing strategies, and collecting customer feedback to refine the value proposition (Anderson et al., 2024). In addition, product management includes portfolio management, which involves balancing new,

existing, improved, and discontinued products. This portfolio approach is directly linked to resource allocation and long-term sustainability (Svecova & Veber, 2021). Organizations that implement formal product management processes tend to achieve higher returns on investment, more efficient resource utilization, and reduced risk of product failure (Steinhardt, 2017).

Product strategy defines the direction of product development, its positioning in the market, and the way it creates value for both customers and the organization. In essence, it answers the question of what the product aims to achieve and how this will be accomplished, providing a coherent framework for decision-making across product, business, and marketing domains (Baker & Hart, 1988). Some authors view product strategy as the core of overall corporate strategy, while others emphasize its role in digital environments, where competitive advantage is driven using digital resources and capabilities (Bharadwaj et al., 2013; Mithas et al., 2013).

Importantly, product strategy should not be confused with a list of tasks or operational plans. Rather, it serves as a decision-making framework that guides organizations toward initiatives that create real value. When strategy is reduced to timelines and outputs without evaluating impact, organizations may fall into the so-called “build trap,” delivering features without meaningful outcomes (Perri, 2018). Therefore, product strategy must be embedded within the broader product management system, aligned with organizational structures, processes, and roles to be effective.

Product Lifecycle Management

Every product or service passes through a series of stages known as the product life cycle. Understanding these stages allows organizations to identify the current position of a product and determine appropriate strategic actions. A product typically begins as an idea and progresses through multiple phases before reaching the customer, involving various organizational functions along the way (Lawley & Schure, 2017).

Managing the product life cycle provides several advantages. It supports clear and timely decision-making by ensuring that relevant information is available to decision-makers when needed. It also ensures consistency and completeness of information across stages, reducing uncertainty and facilitating smooth transitions between phases. Furthermore, a structured life cycle approach helps prevent critical errors that may arise from skipping important stages during product development.

Another important benefit is the support of continuous innovation. As products move through their life cycle, organizations are encouraged to collect feedback and adapt their offerings to changing customer needs (Kucuk, 2016). In addition, life cycle analysis enables better market assessment and competitive analysis by tracking sales trends and identifying potential opportunities or threats (Dibb & Simkin, 2007).

Mapping a product's trajectory on the market allows companies to design marketing strategies appropriate for each stage of the life cycle. However, it is important to recognize that the life cycle is influenced by various factors, including product characteristics, changes in the macroenvironment, shifts in consumer preferences, and competitive activities (Reynolds & Lancaster, 2005). At the same time, the concept should be applied with caution, as not all products follow a standard life cycle curve. Effective and creative management can often extend a product's lifespan and alter its trajectory in the market.

Product Lifecycle Management (PLM) is a process for managing the entire lifecycle of a product, from its initial concept through design and production to service and disposal. It integrates people, data, processes, and enterprise systems, providing a unified information framework for organizations and their broader business environment (Javvadi, 2011). In this sense, PLM represents a systematic approach to controlling and optimizing the product life cycle described above.

PLM extends the benefits of design automation beyond product development, contributing to higher organizational value by enabling cross-functional collaboration, standardizing processes, and improving control over product-related activities. It facilitates effective cooperation among stakeholders and enhances the use of innovation within organizations (Javvadi, 2011).

The implementation of PLM brings several key benefits. It reduces time-to-market by optimizing design processes and enabling the reuse of historical data. It improves product quality through integrated feedback loops connecting customer insights, product data, and regulatory requirements. Additionally, PLM lowers prototyping costs, shortens development cycles, and accelerates product deployment through digital workflows. Administrative efficiency is also improved, as PLM simplifies processes such as certification and auditing.

The return on investment in PLM is reflected in increased market share and profitability. By enabling faster delivery of innovative products and supporting informed decision-making across the entire product portfolio, PLM strengthens brand positioning and long-term competitiveness (Kale, 2016).

2. MATERIALS AND METHODS

The aim of this paper is to examine the current state of knowledge in product management and product lifecycle management, with a particular focus on their application across different sectors such as education, culture, and sport.

The study is based on a qualitative research approach, combining a review of academic literature with the analysis of secondary data sources. The methodology relies on a systematic examination of existing theoretical frameworks, concepts, and empirical findings related to product management and product lifecycle management. These sources are subsequently interpreted and synthesized to identify key principles, similarities, and differences in their application across selected sectors.

The research also employs a structured analytical approach, enabling the comparison of concepts and their contextual adaptation. This allows for a deeper understanding of how product-oriented thinking and lifecycle management can be transferred and applied beyond traditional business environments.

3. RESULTS

Recent developments in product management indicate a shift from a primarily coordination-oriented function toward a more comprehensive system of product governance that integrates strategic direction, value-based decision-making, and continuous adaptation to changing market conditions. The focus is no longer limited to delivering product features but increasingly centres on identifying relevant user needs, aligning them with business objectives, and translating them into sustainable product development. This evolution is supported by recent empirical findings, which identified as many as 139 tasks grouped into 16 role clusters within product management, highlighting both the complexity of the discipline and its growing integration across organizational functions. In digital environments, product management is increasingly positioned as an interdisciplinary field at the intersection of business, technology, and user experience (Grigoryan et al., 2025).

The complexity of product management further increases with organizational and product growth, as illustrated by the case study of Maestro. The findings suggest that traditional approaches to requirement management become insufficient as the number of customers, features, and interdependencies grows. Product management thus evolves from a relatively linear process into a dynamic system that must continuously respond to environmental changes, prioritize conflicting requirements, and coordinate decision-making across multiple stakeholders. This highlights the need for adaptability and flexible product governance in complex environments (Jantunen et al., 2013).

Another important finding is that not all products achieve long-term market success. According to recent data, only 40% of products remain on the market, while 21% fail to meet customer needs. This suggests that technical functionality alone is insufficient; success depends on whether the product addresses a relevant problem, targets the appropriate segment, and delivers value aligned with user expectations (Bos, 2025).

This shift toward complexity is closely linked to the rise of data-driven product management. As product environments become more complex, simple operational coordination is no longer sufficient. Instead, organizations must systematically map processes, assign relevant data to them, and identify key analytical use cases where data can support decision-making. An empirical study conducted in five industrial companies demonstrated this approach, where product management processes were divided into multiple tasks and phases, with associated input and output data. Based on this structure, several high-priority analytical use cases were identified, particularly in areas such as product configuration and service optimization. Notably, product configuration emerged as a critical area, focusing on reducing excessive product variants based on real market demand and historical sales data (Korherr et al., 2022).

The practical integration of product management with software development is further demonstrated by a case study from Planon, which highlights the functioning of product management in an agile environment. In this context, product management operates as a continuous process that translates strategic and business inputs into concrete development outputs. Market inputs, customer requirements, and internal feedback are progressively transformed into thematic areas, concepts, and

detailed requirements, which are then prioritized within a product backlog for SCRUM teams. Product management thus acts as a key intermediary between business and development, ensuring alignment between strategic objectives and market needs (Vlaanderen et al., 2009).

The current business environment is characterized by rapid technological change and increasing customer expectations, which significantly influence product management practices. There is a growing emphasis on digital tools, automation, and data processing to enhance product performance and respond to demands for quality, speed, and personalization (Fichtler et al., 2024). One of the most prominent trends is the integration of artificial intelligence, which is increasingly becoming a necessity rather than a competitive advantage. A significant proportion of product leaders expect rising investments in AI, both for internal automation (e.g., requirement generation and data analysis) and for enhancing customer value through personalized experiences and conversational interfaces (Stein et al., 2025).

In addition, product managers are increasingly held accountable for financial outcomes. Recent data indicate that a large majority of product leaders are directly responsible for revenue performance, requiring closer collaboration with sales and marketing functions. At the same time, the external environment is characterized by an overwhelming volume of customer feedback generated across multiple channels. The emerging trend is the large-scale automation of feedback processing, enabling real-time synthesis of user insights and more proactive, data-informed decision-making (Wren, 2026).

Finally, the Product-Led Growth (PLG) approach is becoming increasingly dominant. In this model, the product itself plays a central role in acquiring and retaining customers. Rather than serving merely as a solution, the product directly drives user engagement and purchasing decisions. This approach places higher demands on product teams to design intuitive, user-friendly solutions that allow customers to quickly perceive and realize value. In saturated markets, the strategic focus is shifting from rapid growth toward maximizing customer lifetime value. Product managers increasingly prioritize retention and continuous value delivery over simple user acquisition, emphasizing the importance of demonstrating product value as early as possible in the user journey (Berry, 2025).

The global market for product lifecycle management (PLM) software represents an important segment within the broader enterprise software industry, serving sectors such as manufacturing, automotive, aerospace, electronics, and consumer goods. In an increasingly dynamic technological environment, organizations face growing pressure to deliver innovative products faster while simultaneously reducing costs and ensuring regulatory compliance. PLM software serves as a strategic backbone for achieving these objectives by managing the complex interactions between idea generation, design, manufacturing, and after sales support. By centralizing data, standardizing processes, and enabling collaboration across multidisciplinary teams, PLM systems help organizations reduce time to market, mitigate risks, and sustain competitive advantage. The importance of such integrated systems continues to increase as companies use digital technologies to disrupt traditional product value chains and raise standards for quality, customization, and sustainability (marketreportsworld.com, 2026a; 360iresearch.com, 2026).

Within Europe, PLM has become a strategic digital framework that enables organizations to manage the entire lifecycle of a product from initial concept through design, manufacturing, service, and end of life disposal. These systems synchronize workflows across research and development, supply chains, compliance, and sustainability functions. According to available market reports, more than 78% of large manufacturing enterprises in the European Union had implemented some form of digital product data management system by 2023, indicating a structural shift toward data driven innovation. At the same time, growing environmental regulations require manufacturers to consider end of life product impacts already during the design phase, making PLM systems increasingly essential for regulatory compliance and sustainable operations. The European PLM market was valued at approximately USD 30.33 billion in 2025 and is projected to reach USD 66.42 billion by 2034, with an annual growth rate of 9.10%. This expansion is driven by EU regulatory harmonization, the introduction of digital product passports, and accelerated innovation cycles in automotive, aerospace, and technology industries. These findings confirm that PLM is no longer perceived as a purely technical solution but rather as a strategic business enabler supporting innovation, compliance, and operational performance (marketdataforecast.com, 2026b).

Despite its growing relevance, PLM implementation remains challenging, particularly for small and medium sized enterprises. High implementation costs, integration complexity, and compatibility issues with legacy ERP and CAD systems significantly limit adoption. According to market analyses, only a minority of European manufacturing SMEs have deployed enterprise level PLM solutions due

to the substantial investment required. This suggests that although PLM offers substantial strategic benefits, financial and technical barriers continue to slow adoption outside large multinational corporations (marketdataforecast.com, 2026a).

At the country level, Germany remains the leading European PLM market, accounting for approximately 24% of regional revenue. Its dominant position stems from the strength of its automotive, machinery, and chemical industries, where engineering precision and regulatory compliance are essential. The widespread implementation of enterprise PLM systems among major industrial firms in Germany highlights the importance of lifecycle management in maintaining industrial competitiveness and supporting sustainability objectives, particularly in relation to carbon tracking and circular product design (marketdataforecast.com, 2026b).

The competitive landscape of the PLM software market is dominated by major global providers such as Siemens AG, Dassault Systèmes SE, PTC Inc., Autodesk, IBM, Oracle, and SAP SE. These firms play a significant role in shaping the direction of PLM innovation by integrating emerging technologies into lifecycle management solutions and expanding the strategic capabilities of digital product platforms (marketdataforecast.com, 2026a).

Current PLM trends demonstrate that manufacturers increasingly use lifecycle management systems to improve product development efficiency, manage complex engineering requirements, and maintain high technical standards. Providers are integrating cloud platforms, artificial intelligence, machine learning, and the Internet of Things to improve predictive analytics, enhance collaboration, and increase operational efficiency. This transformation supports broader digitalization efforts and creates the foundation for more adaptive and data driven product ecosystems (coherentmarketinsights.com, 2026).

One of the most important trends is the integration of artificial intelligence into PLM systems. AI enables data-based decision making across all lifecycle phases, from product design and validation to production and post market analysis. It improves efficiency, reduces human error, supports compliance, and accelerates innovation through real time insights. This trend illustrates the movement of PLM from a passive information repository toward an intelligent decision support environment. Another significant trend is the growing adoption of Internet of Things technologies, which enable real time connectivity between digital systems and physical products. Through IoT integration, PLM systems can continuously collect operational data, monitor product performance, and support predictive maintenance. This connectivity expands the strategic value of lifecycle management by linking design, manufacturing, and operational feedback in one integrated framework (coherentmarketinsights.com, 2026).

Cloud based PLM solutions are also becoming increasingly important. They provide geographically distributed teams with real time access to product data, reduce infrastructure costs, and enable faster deployment compared to traditional on-premises solutions. These advantages make cloud PLM particularly attractive for organizations seeking scalable and flexible lifecycle management capabilities while minimizing IT resource requirements (psmarketresearch.com, 2026).

Finally, the emergence of digital twins represents one of the most transformative developments in PLM. A digital twin is a dynamic virtual model of a physical product that continuously updates based on sensor data, maintenance records, and operational feedback. This technology extends traditional lifecycle management by providing real time visibility into the operational state of the product and enabling continuous optimization. By feeding usage data back into development processes, digital twins create a closed loop system of innovation that strengthens both product performance and strategic decision making (n-ix.com, 2026).

4. DISCUSSION

The results confirm a significant shift in the understanding and practice of product management from a predominantly coordination-oriented function toward a comprehensive system of product governance. This shift is fully consistent with the theoretical foundations, which emphasize life cycle orientation, cross-functional integration, and value creation as core elements of product management (Steinhardt, 2017; Josey, 2020). The findings extend this perspective by demonstrating that product management is increasingly data-driven, strategically embedded, and closely linked to financial performance, which aligns with the growing emphasis on decision-making responsibility and revenue accountability (Wren, 2026). At the same time, the identified complexity of product roles and processes

supports the argument that product management lacks a universally defined scope and must adapt to organizational context (Anon & Gonzalez de Villaumbrosia, 2017; Kiesow, 2023).

The results also reinforce the importance of the product life cycle perspective. Theoretical assumptions about the need to manage products across all stages are reflected in practical approaches such as Product Lifecycle Management, which integrates data, processes, and stakeholders into a unified system (Javvadi, 2011). Empirical findings further demonstrate that PLM is no longer only an operational tool but a strategic enabler that supports innovation, reduces time-to-market, and improves competitiveness (Kale, 2016). The rapid growth of the PLM market and the integration of advanced technologies such as artificial intelligence, cloud computing, and digital twins confirm that lifecycle management is becoming a central component of digital transformation (marketdataforecast.com, 2026b; coherentmarketinsights.com, 2026). At the same time, barriers such as high implementation costs and technological complexity highlight a gap between theoretical potential and practical adoption, especially among smaller organizations (marketdataforecast.com, 2026a).

Another important implication is the increasing emphasis on customer value and product-market fit. The finding that a significant proportion of products fail despite technical functionality supports theoretical arguments that successful product management must be grounded in a deep understanding of user needs and continuous feedback integration (Lichaw, 2016; Anderson et al., 2024). This is further strengthened by the rise of Product-Led Growth approaches, where the product itself becomes the primary driver of acquisition and retention, shifting the focus from output delivery to value realization (Berry, 2025). Overall, the results suggest that modern product management operates as a dynamic, adaptive system that continuously balances strategic intent, user needs, and technological possibilities.

From an application perspective, these insights can be extended beyond traditional commercial sectors to areas such as education, culture, and sport. In education, product management principles can be applied to the design and continuous improvement of study programs and digital learning platforms, where lifecycle thinking helps institutions adapt to changing student needs and technological developments. In the cultural sector, lifecycle management can support the development and sustainability of cultural products and experiences, particularly in environments characterized by fluctuating demand and limited resources.

The most relevant application, however, can be observed in sport. Sports organizations increasingly operate in a complex ecosystem where products are not limited to physical goods but include services, experiences, events, and digital content. Applying product management principles allows these organizations to better understand fan needs, design value propositions, and manage offerings across their life cycle. For example, sports events or leagues can be viewed as products that evolve over time, requiring continuous innovation, marketing adaptation, and stakeholder coordination. Similarly, digital fan engagement platforms and media content follow lifecycle dynamics that must be actively managed to maintain relevance and competitiveness.

In this context, PLM concepts can be translated into the management of sports ecosystems, where data integration, stakeholder coordination, and feedback loops play a critical role. The increasing use of digital technologies, including data analytics and fan engagement tools, reflects trends observed in traditional industries, suggesting a convergence between sport and digital product management practices. At the same time, the specificity of sport, particularly its emotional and experiential nature, requires adapting these frameworks rather than applying them mechanically. Overall, the discussion indicates that product management and lifecycle thinking provide a valuable conceptual framework for understanding and improving management practices not only in business but also in sport, where they can support long-term sustainability, innovation, and value creation.

5. CONCLUSION

This article highlighted the increasing importance of product management and product lifecycle management as interconnected frameworks that support strategic decision-making, innovation, and value creation across the entire product life cycle. The results show a clear evolution of product management from a coordination function to a complex, interdisciplinary system closely linked with data, technology, and organizational strategy. At the same time, PLM has been shown to function not only as an operational tool, but as a strategic infrastructure enabling efficiency, collaboration, and long-term competitiveness.

The key findings of the study indicate that both product management and PLM are becoming more data-driven, more integrated across organizational functions, and more dependent on digital

technologies such as artificial intelligence, cloud computing, and digital twins. Another important finding is that success in product development is increasingly determined not by technical functionality alone, but by the ability to deliver relevant customer value and ensure product–market fit throughout the life cycle.

The study has several limitations. It is based exclusively on secondary sources, which limits the ability to validate findings through primary empirical data. In addition, the analysis is largely conceptual and does not include sector-specific quantitative comparisons, particularly in the context of sport, education, and culture. The rapidly evolving nature of digital technologies also means that some findings may quickly become outdated.

Future research should focus on empirical validation of product management and PLM applications in non-traditional sectors, especially sport and education. Comparative studies between industries could provide deeper insight into how lifecycle-based thinking is adapted in different contexts. Further research could also explore the practical implementation of data-driven and AI-supported product management in real organizational settings, particularly in sport organizations and public institutions.

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Case study

Strategic and Analytical Approaches in Sports Management: A Comparative Case Study

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Abstract: The role of sports managers has evolved significantly, requiring strategic planning, leadership, and data-informed decision-making in increasingly complex sporting environments. The purpose of this study is to compare different approaches to sports management through selected case studies, focusing on contrasting leadership models in professional sport organizations. The research uses a qualitative case study approach, analyzing secondary sources and documented managerial strategies of two sports executives operating in football and baseball. The analysis focuses on strategic decisions, organizational structures, talent identification, and resource management. The findings show that both managers achieved organizational improvement through distinct but effective approaches. One approach was characterized by global expansion, brand development, and network-based club management, while the other relied on analytical decision-making, efficiency optimization, and data-driven talent selection. Despite differing contexts and resources, both strategies led to improved organizational performance and competitive advantage. The study concludes that there is no single optimal model of sports management, but multiple effective approaches depending on environmental conditions and available resources. Successful sports leadership requires adaptability, strategic thinking, and integration of traditional managerial principles with modern analytical tools.

Keywords: Sports Manager, Leadership Strategies, Data-Drive Decision Making, Professional Sport

1. INTRODUCTION

The process of a sports manager includes planning, organizing, communication, and leading people beyond the sporting performance itself. The position of a first-team manager in semi-professional or professional football clubs can be considered a leadership role. In the process of sports management, it involves team management, coordination of people, and decision-making, which are the basic functions of management (Molan et al., 2016).

Athlete management is increasingly a key element of professional sport and is usually provided by external management agencies that oversee the career and development of players (Hoye et al., 2022). Unlike a sports agent, a sports manager does not focus on negotiating contracts for clients. Instead, they ensure that clients receive proper training, nutrition, and personal attention that enables them to perform at their best. The specific duties of a sports manager vary significantly depending on the needs of their clientele (Uppal, 2023).

According to Uppal (2023), a sports manager focuses more on the business side of sport and recreation, including facility management, promotion and marketing, and event management. These managers may help run an entire team or organization, but their main role is to manage the business aspects of sport so that athletes and coaches can focus on competition. Sports managers therefore play a key role in the management and success of sports organizations, teams, and athletes. Their responsibilities include a wide range of tasks related to planning, organizing, and overseeing various aspects of sports operations, which vary depending on the type of organization or team.

Managers leading sports organizations must be able to influence others to follow their vision, empower individuals within the team, and create a sense of belonging toward shared goals. They must also cooperate effectively with representatives of other sports organizations, build strategic partnerships, resolve conflicts, and coordinate joint projects at national and international levels. The sports industry is highly interconnected, requiring cooperation in league management, communication with governing bodies, and coordination with governmental and international institutions in organizing major sporting events (Hoye et al., 2022).

Within sports management, Čáslavová (1996) distinguishes between basic and specific managerial activities. Specific activities include sponsorship, sports advertising, transfers of players and coaches, knowledge of international sports regulations, ensuring legal requirements in contracts, issues of health protection, insurance and social security, as well as cooperation with interest groups and

professional organizations. Successful execution of these tasks depends on continuous application of analytical, decision-making, and implementation functions of management, including effective communication. The Australian Sports Commission (2013) further identifies key managerial activities in voluntary organizations, including strategic planning, development of policies and procedures, management of external relationships, financial and legal administration, stakeholder consultation, communication with members, staff evaluation, and ensuring administrative continuity.

An important competency of sports managers is the ability to manage a diverse workforce with different personal, cultural, and social characteristics, which reflects the need to work in heterogeneous teams and use their potential effectively (Bill, 2009). In today's globalized sports environment, intercultural competence is also essential. Hanvey (1982) identified key areas influencing international understanding, including perspective awareness, global awareness, intercultural awareness, systemic awareness, and participation opportunities. These competencies are necessary for effective performance in international sports business environments (Macintosh et al., 2019).

In addition to organizational management, athlete management also plays an important role, including contract negotiations, marketing, public relations, charity involvement, financial planning, media communication, and athlete development (Hoye et al., 2022). The role of a sports manager varies depending on the context, but its essence lies in applying general management functions within the specific conditions of sport. Effective managers must know when and how to apply these functions while adapting standard business principles to the specifics of the sports environment (Watt, 2003).

Sports management therefore involves the management of workplaces, people, daily operations, facilities, activities, development processes, and partnerships (Watt, 2003). Although sports managers use similar managerial tools to those in other industries, sport has several unique characteristics, including strong emotional involvement of fans, subjective performance evaluation, interdependence between organizations, anti-competitive behavior, variable product quality, high brand loyalty, mediated fan identification, high optimism, cautious adoption of innovation, and often limited supply of sports products (Hoye et al., 2022).

2. MATERIALS AND METHODS

The aim of the case study is to compare different approaches to managing a sports club, focusing on improving its financial performance and strategic development.

The research was conducted through a qualitative comparative analysis of case studies. A case study is an empirical research design that aims to examine and understand one or more cases in detail in their natural context (Švaříček et al., 2014).

3. RESULTS

The case studies highlight different approaches to managing a sports club. Both sports managers were tasked with improving the financial performance of the club, while Soriano later at Manchester City was given the opportunity to elevate the club to a global level. The studies aim to demonstrate multiple possible leadership styles.

Ferran Soriano (FC Barcelona, Manchester City)

Ferran Soriano has managed two major clubs in the football industry. He first served as Vice President for Finance at FC Barcelona between 2003 and 2008 and later became Chief Executive Officer of City Football Group in 2012. Managing two of the world's biggest clubs, Barcelona and Manchester City FC, provided him with an exceptional level of experience. In 2003, as financial vice president, he contributed to the development of a strategy aimed at returning the club to the elite of world football while also attracting global media and fan attention. A revolutionary strategic option was chosen, combining cost reduction, debt restructuring, investment in improving the sporting product, and international branding to increase media exposure and prestige. This resulted in increased revenues from sponsorship, broadcasting rights, and merchandising, creating a so-called positive cycle. The brand positioning was based on attractive football and social commitment. The management model was characterized by accelerated implementation of changes and strict project management, particularly during the first season when Soriano also acted as general manager. As a result, the club became the fastest-growing football club in the world between 2003 and 2008, with turnover increasing from 123 to 309 million euros, and the UNICEF logo appearing on the shirts (City Football Group, 2026).

After returning to football in 2012 and joining Manchester City, Soriano entered an industry that had made significant progress but also faced new managerial challenges. In 2015, the club launched innovative internationalization initiatives, including the establishment of New York City FC in MLS as a joint venture with the New York Yankees, as well as the development of a broader network of clubs within CFG aimed at building the City brand globally and exploiting business opportunities and synergies. As CEO, Soriano leads a group that recently included seven clubs across five continents, including Melbourne City FC, Yokohama F. Marinos, Club Atlético Torque, Girona FC, and Sichuan Jiuniu FC, operating in twelve countries. This represents a new organizational model that enables partners such as Nissan or SAP to combine global and local presence through centralized commercial and sporting services (Planellas, 2020).

In October 2015, Chinese President Xi Jinping visited the Etihad Stadium, and two months later Chinese investors acquired a 13 percent stake in CFG for 400 million dollars, valuing the group at 3 billion dollars. Soriano also follows the development of Chinese football, characterized by rapid growth but also instability. Xi Jinping plans to establish 50,000 football schools and 140,000 pitches within ten years, which Soriano sees as an opportunity to teach millions of children football and potentially create a project larger than Manchester City itself. CFG has already invested 16 million dollars in a joint venture focused on urban football pitches in the United States, indicating an interest in developing the broader football ecosystem, not only individual clubs.

In the Premier League, restrictions on reserve teams mean that clubs use loan spells to develop young players, with Manchester City having around 20 players out on loan. However, this approach reduces control over player development. CFG therefore creates a system in which players move between clubs within the group, for example from Torque to New York, then to Girona, and finally to Manchester City. Although players are formally owned by individual clubs and transfers occur under market conditions, the group maintains internal information and ensures playing style compatibility, while transfer revenues return to a shared corporate fund (Tremlett, 2017). Alongside clubs such as Chelsea FC, Manchester City is contributing to the transformation of academies into systems that produce both sporting talent and economic assets. This approach generates significant revenues, enables the discovery of players such as Phil Foden, and restricts competitors' access to top young talent. The most significant competitive advantage, however, is the multi-club model, which represents a global franchise system increasingly being imitated by other elite clubs seeking to strengthen their position in international football (Cunningham, 2023).

Billy Bean (Oakland Athletics)

The role of a general manager in a professional sports team is demanding. It is the manager who assembles the team with the aim of advancing as far as possible in the playoffs and competing for a championship, while facing minimal job security. Despite this, the position is considered one of the most challenging and exciting in sport. In this context, the story of Billy Beane, general manager of the Oakland Athletics, is remarkable, as he fundamentally changed the way professional sports organizations approach talent identification, recruitment, and team building in a relatively short period of time. Beane also represents individuals who failed as professional athletes but possessed the knowledge, skills, and courage to succeed in sports management. After an unremarkable playing career in various baseball clubs, he became a scout and promoted an approach that rejected traditional methods, subjective evaluation, and instead used data to identify undervalued players, focusing on finding value where others did not see it.

One of the main criticisms of the Moneyball concept, both as a theory and in practice, is that it is not a true innovation. Focusing on overlooked statistics is not a substitute for skill but rather a specific form of it that has existed across industries for a long time. Almost every field of human activity has its less visible but critical resources that determine success or failure (Brodowicz, 2024). Through the lens of John Kotter's eight-step model of change management, Beane's methodology can be interpreted as an example of effective organizational transformation.

First, he created a sense of urgency, as the Oakland Athletics faced a significant competitive disadvantage and were losing key players to financially stronger teams such as the New York Yankees. With one of the lowest payrolls in Major League Baseball, it was clear that continuing with a traditional approach would lead to failure, so the situation was defined as existential, creating pressure for radical change. He then formed a guiding coalition by partnering with analyst Paul DePodesta, with their collaboration based on data and analytical rigor, despite initial scepticism. The vision of change involved challenging traditional scouting through sabermetrics and identifying undervalued players who could

contribute to efficient winning. The goal was not only to compete but to redefine how player value is perceived in the market.

Communicating this vision was difficult, as Beane faced resistance from coaches, scouts, and the media, who viewed his approach as overly academic. Nevertheless, he implemented it through concrete decisions, organizational changes, and consistent execution. He removed barriers by replacing players who did not fit the model and supporting those who did, while empowering the analytical team to make data-driven decisions. A key milestone was generating short-term wins, particularly the 20-game winning streak in 2002, which confirmed the effectiveness of the approach. Data-selected players such as Scott Hatteberg exceeded expectations and demonstrated the system's functionality.

Beane then consolidated gains and continued refining the model, resisting offers from wealthier clubs. Over time, the transformation became embedded in organizational culture and influenced decision-making processes. The adoption of sabermetrics became standard practice in Major League Baseball and affected other sports as well. Beane's case shows that long-term success requires not only vision but also systematic change management, empowerment of capabilities, and strong organizational culture building. Even in traditional industries, data combined with strong leadership can fundamentally change operational rules and create competitive advantage (Raza, 2025).

Comparison of the solutions of sports managers

Both sports managers aimed to elevate their clubs but operated under very different conditions. Beane had to deal with a limited budget and build a competitive team within financial constraints, whereas Soriano began at FC Barcelona, where he contributed to the modernization of club management. Later, after returning to football, he joined Manchester City, where he implemented his vision of global expansion through the creation of the City Football Group brand. Table 1 highlights not only the common features of sports management but also the ability to address different managerial challenges.

Table 2 Comparison of the solutions of sports managers

Aspect	Ferran Soriano	Billy Beane
Strategic vision	Problem: need for long-term global growth	Problem: low team competitiveness
	Solution: building an international network of clubs	Solution: redefining strategy through analytics
Decision-making	Problem: approaches to talent development	Problem: limited financial resources
	Solution: long-term strategic planning through the CFG model	Solution: data-driven decision-making and identification of undervalued players
Innovation	Problem: need for growth in a highly competitive global environment	Problem: inefficient traditional scouting
	Solution: creation of a multi-club model	Solution: implementation of Moneyball and sabermetrics
Resource management	Problem: efficient use of large-scale resources	Problem: lack of funds for high-quality players
	Solution: investment in brand, infrastructure, and global network	Solution: budget optimization and value-based player selection

As can be seen in the table, each solution requires a different leadership style. The chosen managerial approach mainly depends on the specific conditions of the sports club. The ability to adapt management style to the situation represents a key competence of a sports manager.

4. DISCUSSION

The results of the case studies confirm several theoretical foundations, particularly the emphasis on planning, organizing, leadership, and decision-making beyond the sporting performance itself, as

stated by Molan et al. (2016). In both analyzed managers' cases, it was shown that their activities extended beyond the sporting domain and were strongly focused on the strategic and organizational management of the club. This finding also supports the theory of Watt (2003), according to which a sports manager must combine managerial skills with an understanding of the specificities of the sports environment.

In the case of Ferran Soriano, the theoretical dimension of sports organization management focused on long-term planning, brand building, and external relationship management was confirmed. His approach at FC Barcelona and later at City Football Group corresponds to the concept of a sports manager as a leader of the business and strategic side of the organization, enabling sports professionals to focus on performance, as stated by Uppal (2023). At the same time, the theory of Hoyer et al. (2022) regarding the need for inter-organizational cooperation was confirmed, as the multi-club model and international partnerships demonstrate a high level of interconnectedness and coordination within the sports industry.

Conversely, the case of Billy Beane strongly confirms the importance of data-driven decision-making and systematic change management. His approach supports the idea that modern sports management can rely on analytical tools instead of traditional subjective evaluation. This also confirms Brodowicz (2024), who argues that working with overlooked data represents a specific form of skill that can significantly influence an organization's competitive advantage.

The importance of change management according to John Kotter's model was also confirmed, as Beane systematically progressed from creating urgency to anchoring new approaches in the organizational culture. This outcome corresponds with the theory that successful change in sport requires not only vision but also consistent implementation and reinforcement of new processes.

On the other hand, the assumption that a sports manager is primarily focused only on team performance was partially not confirmed. Both cases show that the key focus lies in the business, strategic, and organizational dimension of management, which is consistent with Uppal (2023), but in practice extends even further beyond the sporting aspect itself.

A key finding is that successful sports management is not tied to a single universal model. Soriano represents a systemic and globally oriented management approach based on expansion and club networking, while Beane represents an analytical and optimization-based approach grounded in data and efficiency. However, both approaches lead to the same goal, which is increasing the competitiveness of the organization.

5. CONCLUSION

The aim of the research was to analyze and compare different approaches of sports managers to the management of sports organizations based on theoretical frameworks and case studies. The results showed that sports management is a complex discipline that combines strategic planning, people management, economic decision-making, and the ability to adapt to the specific conditions of the sports environment.

A key finding is that the success of sports organizations can be achieved through different pathways. The case of Ferran Soriano demonstrates the importance of global expansion, brand building, and systemic multi-club management, while the case of Billy Beane highlights the effectiveness of data-driven decision-making and resource optimization. Both strategies confirm that a modern sports manager must be able to work with strategy, data, and people simultaneously.

The significance of the article lies in linking sports management theory with real-life practice, illustrating that theoretical management models can be applied in various ways depending on context and available resources.

The main limitations include the fact that the analysis is based on selected case studies that may not fully represent all forms of sports management. Another limitation is the absence of quantitative comparison of the effectiveness of individual approaches.

For future research, it is recommended to expand the analysis to other sports sectors and managerial models, as well as to combine qualitative and quantitative methods in order to better understand the impact of different approaches on the performance of sports organizations.

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