The Digital Transformation of Soccer Clubs and Their Business Models

Marco Balzano[1], Guido Bortoluzzi[2]

Summary: 1. Introduction – 2. Background – 3. Methodology – 4. Results: Digital transformation of business models in the soccer industry – 4.1 Talent scouting and talent management – 4.2 Tactics, training and performance management – 4.3 Key partnerships – 4.4 Revenue model – 4.5 Consumer relationship management – 5. Discussion – 5.1 Main implications – 5.2 Limitations and avenues for future research – 6. Conclusions – References.

Abstract

Digital technologies are having a significant impact on the soccer industry, influencing the business models of soccer clubs and industry dynamics. For example, artificial intelligence and big data analytics are being used to improve talent scouting and management, while the internet of things, robotics, and virtual simulation are supporting tactics, training, and performance management. Gamification and augmented reality are also shaping key partnerships, and e-commerce is boosting revenues. Smart arenas are enhancing the consumer experience. The fast diffusion of digital technologies has increased business model complexity and has put firms in the position to assess the value of each technology for integration into their business models. This study maps how digital technologies are transforming each business model building block in the soccer industry and proposes a number of research questions for future research to enhance the current academic debate on the digital transformation of the soccer industry, and on the sports industry in general.

Keywords: Business Models, Digital Transformation, Soccer Industry

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Marco Balzano, Guido Bortoluzzi
The Digital Transformation of Soccer Clubs and their Business Model
Impresa Progetto - Electronic Journal of Management, n. 1, 2023

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1. Introduction

The digital revolution, characterized by the widespread adoption and integration of digital technology in all aspects of life, has had a significant impact on the way businesses operate and innovate (Fitzgerald et al., 2014; Hanelt et al., 2021). In response to the disruption caused by technological advancements and changing market conditions, businesses are increasingly turning to business model innovation as a means of staying competitive. This includes the adoption of new technologies and the creation of adaptable business models that can leverage them (Hacklin et al., 2018). The influence of the digital revolution on business model innovation has been widely recognized by researchers and industry experts as a key practice for firms seeking to remain competitive in the face of ongoing technological change (Casadesus-Masanell & Zhu, 2013; Vial, 2019). Saebi et al. (2016) also note the disruptive nature of technological innovations on current market conditions, which can lead to the conversion of traditional business models into more innovative and adaptable ones. Amit and Zott's (2001) study on the value of e-commerce during the dot-com bubble has been particularly influential in this regard. More recently, digital transformation has made digital technologies a dominant source of innovation (Lanzolla et al., 2021; Vial, 2019), making it necessary for companies to consider their incorporation into business models in order to remain competitive (Hanelt et al., 2021).

Digital transformation is a major force that is disrupting various industries around the world (Hanelt et al., 2021). One industry that has been particularly impacted by digital transformation is the sports industry (Ströbel et al., 2021). Digital technologies have changed the way sports organizations operate and interact with their stakeholders and have also opened up new opportunities for revenue generation and audience engagement.

Indeed, the sports industry is undergoing significant digital transformation at all levels, from amateur to high-performance sports (Miah, 2017). This transformation is driven by the need to meet the expectations and demands of stakeholders in the digital age (Ströbel et al., 2021). For example, fans at a football match expect to be able to access real-time statistics and communicate with other fans through their smartphones while at the stadium. In response, stadium operators are implementing high-speed WiFi and creating their own stadium apps, which are often powered by cloud computing and analytics platforms, to provide these digital services (Horbel et al., 2021). Professional sports organizations also rely on a range of digital systems, including ticketing systems, athlete tracking infrastructure, e-commerce solutions, and employee databases, which are often integrated using application programming interface and data integration platforms. These digital systems allow for more efficient and effective operations, as well as enhanced experiences for stakeholders. In addition, the use of digital technologies has opened up new opportunities for sports organizations, such as the ability to reach a wider audience through online streaming and the potential for new revenue streams through data analytics and targeted advertising (Goebert & Greenhalgh, 2020).

Marco Balzano, Guido Bortoluzzi
The Digital Transformation of Soccer Clubs and their Business Model
Impresa Progetto - Electronic Journal of Management, n. 1, 2023

_____

However, the adoption of digital technologies also brings challenges, such as the need to constantly adapt and innovate in order to remain competitive, and the potential risks associated with data privacy and security (Vial, 2019).

Since the first soccer match was TV broadcasted at Highbury on 16 September 1937, soccer has gained an incredible degree of success globally, making it the most successfully broadcast sport in the world, Olympic games apart (Murray, 2015). However, in contrast with the introduction of new technologies in the past (such as e-commerce websites for selling merchandise, e-ticketing and TV streaming services), when the main impact was on how soccer was consumed, nowadays digital technologies are contributing to deeply change also how soccer is organised and managed by soccer teams. Such change is paradigmatic and will likely lead to a new, digitally enabled era that will reshape the entire industry, forcing firms to cope with increasingly high levels of competition. The soccer industry, despite the Covid-19 pandemic, continues to grow year after year. In 2020, the enterprise value of the 32 most prominent European soccer clubs jumped from 35.6 billion euros in the previous year to 39.7 billion euros, as reported by KPMG (2020), based on the Revenue Multiple approach estimation method. Soccer clubs are characterised by the double constraint of achieving sports performance while keeping their books in order (Di Minin et al., 2014).

Traditionally, professional soccer has been a conservative industry from a technological point of view (Pifer et al., 2018). However, digital innovation is transforming each of the building blocks (i.e., main business model's subcomponents) that make up the business models of soccer clubs. Thus, soccer clubs are facing particularly significant changes as a result of the adoption of digital technologies. These technologies have the potential to fundamentally alter the way soccer clubs operate and interact with their stakeholders, including fans, sponsors, and players. However, despite the importance of this topic, there is a lack of research on how digital technologies are changing the business models of soccer clubs. While there have been studies on specific aspects of this issue, there is a need for a more comprehensive overview of how digital transformation is affecting the business models of soccer clubs.

To the best of our knowledge, there is currently a research gap in understanding the extent to which digital technologies are changing the business models of soccer clubs. This is an important issue for a variety of stakeholders within the soccer industry, including clubs, players, and fans, as well as policymakers and other industry experts.

To address this gap, here we pose the following research question:

RQ: How are digital technologies affecting the business models of soccer clubs?

Precisely, in this study we offer an overview of the main digital technologies adopted by soccer clubs to highlight how they are affecting the building blocks of soccer clubs' business models and the ensuing effects these elements have on strategies and organisational structures in the soccer industry.

Marco Balzano, Guido Bortoluzzi
The Digital Transformation of Soccer Clubs and their Business Model
Impresa Progetto - Electronic Journal of Management, n. 1, 2023

_____

Thus, this study contributes to the fast-growing literature on digital business model innovation by shedding new light and provide evidence on the digital elements that are changing the business model of soccer clubs and the dynamics of competition in the whole industry. Also, we believe this study could support the various stakeholders to make informed decisions about how to adapt to and leverage these changes in the digital age.

2. Background

The emergence of what has often been referred to as the 'digital era' has greatly expanded research on the impact of technologies on business model innovation (Hanelt et al., 2021). Technological innovations are disrupting current market conditions (Saebi et al., 2016), converting traditional business paradigms into smart ones, challenging industry-specific standards and generating a 'fundamentally different business model in an existing business' (Markides, 2006: 20). In an increasing number of sectors, business model innovation is a key prerequisite for firms to avoid competitive irrelevance (Hacklin et al., 2018). In any industry, business model innovation is an essential practice for firms.

Foss and Saebi (2017: 201) define business model innovation as 'designed, novel, nontrivial changes to the key elements of a firm's business model and/or the architecture linking these elements'. Thus, changes can occur at the level of a single 'building block' (Osterwalder & Pigneur, 2010, p. 16) of a business model or be related to the interplay among its various elements. Digitalisation has a deep impact on the process of firms' business model innovation (Vial, 2019), and the sport industry is no exception. By the term 'digitalisation', we refer to the use and combination of a set of complex technologies, including the Internet of Things (IoT), cloud platforms, Big Data and Analytics (BDA) and advanced simulation software systems, which have the potential to interact with each other, leading to strong transformations of organisational structures, business models, strategies, and disruptive effects on industry structures and competition (Porter & Heppelmann, 2014). In fact, the disruptive effects of digital technologies substantially influence the way firms organise their business, strategise and carry out their activities.

In this study, we focus on professional soccer teams and their management. The overall structure of the soccer industry, its stakeholders' network and its cultural impact on society have led this industry to have its own rules and dynamics with respect to other professional sports. Digital technologies affect soccer club management and the whole industry from a variety of viewpoints, involving all the main stakeholders (e.g. clubs, leagues, fans, sponsors and media channels).

The successful management of a soccer club requires to cope with several challenges. Managers of soccer clubs need to balance divergent strategic objectives in order to achieve both good sports and financial performances (Di Minin et al., 2014). On the one hand, teams must focus on sporting success in order to satisfy the expectations of their fans and maintain their competitive edge on the field. On the other hand, teams must also focus on financial performance in order to sustain their

Marco Balzano, Guido Bortoluzzi
The Digital Transformation of Soccer Clubs and their Business Model
Impresa Progetto - Electronic Journal of Management, n. 1, 2023

_____

operations and generate revenue for investment in players and infrastructure. This requires a delicate balance, as the pursuit of one objective may sometimes come at the expense of the other (Ehnold et al., 2020). For example, investing heavily in high-quality players may lead to short-term success on the field, but may also result in financial losses due to increased wages and transfer fees. Similarly, prioritizing financial performance may result in the sale of star players and cost-cutting measures that negatively impact sporting success.

In fact, a soccer club can differentiate itself from its competitors and gain a strategic advantage in the market in a variety of ways, depending on the quality of a team's players and coaching staff, the team's financial resources, the team's brand and reputation, and the team's ability to generate revenue from ticket sales, merchandise, and sponsorships. In addition, digital technologies are increasingly becoming a key factor in a team's competitive advantage, as they allow teams to better engage with their fans, generate new sources of revenue, and gather and analyze data to improve their performance on and off the field. Such a plurality of differentiation alternatives generate complexity in strategy making processes.

By understanding the ways in which digital technologies can be used to enhance sports and financial performance, soccer club managers can make more informed decisions about how to allocate resources and implement strategies.

3. Methodology

In this study, we collected information from a variety of sources in order to enhance the accuracy of the findings. By using multiple sources of data, we were able to cross-reference the information and verify its accuracy. This helped to strengthen the validity of the results and increase confidence in the findings. In addition, using multiple sources of data also helped us to mitigate the potential biases that may be present in any single source, further increasing the reliability of the results.

However, in order to maintain high standards of quality and clarity, we decided prioritise sources that are scholarly and academic in nature. This is because academic sources are typically subject to a more rigorous review process, which helps to ensure the accuracy and reliability of the information they contain. When multiple sources are available that converge on similar insights, we reported the academic sources as most representative ones, as they are more likely to provide a comprehensive and well-supported perspective. Then, we relied on well-established newspapers, such as the BBC and the New York Times, as these sources generally adhere to high journalistic standards and strive for accuracy and fairness in their reporting. Other sources were mostly used to triangulate the results.

In detail, to explore how digital technologies are transforming business models in the soccer industry, we conducted a data collection relying on a variety of secondary sources, including journal articles, industry magazines, newspaper articles, websites, and blogs. We carefully selected these sources to ensure that we had a broad and diverse range of information about the ways in which digital technologies are being adopted and used in the soccer industry. We also used a systematic process for

Marco Balzano, Guido Bortoluzzi
The Digital Transformation of Soccer Clubs and their Business Model
Impresa Progetto - Electronic Journal of Management, n. 1, 2023

_____

organizing and synthesizing this information, in order to identify patterns and trends in the data. When possible, we preferred most recent information to older one (most of the scrutinised sources refer to the 2013-2022 period).

Our aim was to get a comprehensive understanding of how digital technologies are shaping the business models of soccer clubs, and to identify any opportunities or challenges that they may present.

To identify relevant sources for our study, we first conducted multiple searches on the most popular search engines (i.e., Google, Bing, Yahoo) using relevant keywords related to our study. This allowed us to locate industry magazines, newspaper articles, websites, and blogs that were focused on the theme of digital technologies and their impact on the soccer industry. We also used additional search strategies, such as searching for specific authors or organizations that are known to be experts on the topic, to ensure that we were identifying a wide range of sources. After identifying a list of potential sources, we conducted a more thorough evaluation of each source to ensure that it was relevant and reliable. This included reviewing the publication date, the publisher or author, and the content of the source to ensure that the source was relevant for our research objective.

As it regards the journal articles, we searched in three major databases: Scopus, Web of Science, and Google Scholar. These databases are widely used in academic research and are known to have a comprehensive coverage of scholarly literature. We used a variety of search strategies to locate articles that were relevant to our research question, including using relevant keywords and filtering by publication date and English language. We also applied additional search strategies, such as searching for specific authors or journals that are known to be experts in the field, to ensure that we were identifying a wide range of articles. After identifying a list of potential articles, we conducted a thorough evaluation of each article to assess its fit with the nine relevance criteria outlined by Zhang et al. (2021).

These criteria included: topicality (the relevance of the article to our research question), availability (the availability of the full-text article), quality (the quality of the research methods and findings), completeness (the comprehensiveness of the coverage of the topic), authority (the credentials of the authors and the journal), currency (the timeliness of the publication date), convenience (the ease of access to the article), usability (the clarity and organization of the article), and standardization (the use of standardized methods and terminology).

We included only articles that met these criteria and that contributed to our understanding of the topic.

The main types of employed data sources and their description are reported in Table 1.

Marco Balzano, Guido Bortoluzzi
The Digital Transformation of Soccer Clubs and their Business Model
Impresa Progetto - Electronic Journal of Management, n. 1, 2023

_____

Table 1 - Data sources

Types of sources	Description	Examples
Academic contributions	Scientific articles specifically mentioning business model innovations happening in the business model of soccer clubs.	European Sport Management Quarterly; Sport Management Review; Communication & Sport
Newspaper articles	Articles related to technological innovations in the sport industry.	BBC; The Guardian; New York Times
Websites	Soccer clubs' websites, websites related to technologies' trends and innovation in the soccer industry.	Clubs' official website; Vendors of specialized wearable technologies
Blogs	Collection of articles related to the application of financial, social media and digital marketing tools on soccer clubs.	90 min; Yardbarker.com; Sporting News; Yahoo! Sports
Industry magazines and reports	Business magazines providing information on how digital innovation and wearable technologies are impacting society and the sport industry.	Football Marketing Magazine; fcbusiness

Source: our elaboration

To map how digital technologies are transforming the business models of soccer clubs, we extracted information about the ways in which these technologies are being used from the sources reported in Table 1. We grouped this information according to each building block of the business model, including the value proposition, target customer segments, channels, customer relationships, revenue streams, and cost structures.

This allowed us to get a clear understanding of how each digital technology was impacting each aspect of the business model, and to identify any patterns or trends in the data. We used a systematic process for organizing and synthesizing the information, and carefully reviewed each source to ensure that we were accurately representing the findings.

Business models can be represented as modular artifacts (Gärtner & Schön, 2016). The extant literature provides various descriptions of business models intended as a set of integrated building blocks (Chesbrough, 2007; Osterwalder & Pigneur, 2010). We adapted the business model configurations proposed by Chesbrough (2007) and Osterwalder et al. (2005) in the context of the characteristics of the soccer industry (Di Minin et al., 2014; McNamara et al., 2013; Waalkes, 2016) and its main stakeholders (García & Welford, 2015) to identify the five major building blocks of soccer clubs business models. We then looked at how such building blocks are being reshaped by digital technologies. Baden-Fuller and Haefliger (2013) identified an indissoluble link between business model innovation and technology.

Given the specificity of the soccer industry and the focus of our study on the impact of digital technologies on business models in this industry, we noticed that certain building blocks emerged as particularly relevant to our research. These building blocks included talent scouting and talent management, tactics, training, and performance management, key partnerships, revenue models, and consumer

Marco Balzano, Guido Bortoluzzi
The Digital Transformation of Soccer Clubs and their Business Model
Impresa Progetto - Electronic Journal of Management, n. 1, 2023

_____

relationship management. We identified these building blocks through a careful review of the literature and our analysis of the data collected from multiple sources.

Talent scouting and talent management relate to the ways in which digital technologies are being used to identify and develop talented players. Tactics, training, and performance management refer to the ways in which digital technologies are being used to support the tactical and training aspects of soccer clubs, as well as to monitor and improve player performance. Key partnerships pertain to how digital technologies are shaping relationships with key stakeholders, such as sponsors and partners. Revenue models refer to the use of digital technologies to create new revenue streams for soccer clubs. Consumer relationship management refers to the ways in which digital technologies are being used to manage relationships with fans and other consumers of soccer-related products and services. These building blocks were identified as being particularly relevant to our research due to the important role that they play in the business strategies of soccer clubs and the significant impact that digital technologies are having on these areas.

Consistently, we argue that digital technologies are substantially reconfiguring the following elements that compose soccer clubs: talent scouting and management (corresponding to resource management); training, tactics and performance management (corresponding to activity management); key partnerships; revenue model and consumer relationship management. We organised our findings around these five building blocks.

4. Results: Digital transformation of business model

The digital transformation of business models in the soccer industry refers to the ways in which digital technologies are impacting the way that soccer clubs operate and generate revenue. Digital technologies are changing the way that soccer clubs interact with their customers, partners, and other stakeholders, as well as the way that they create and deliver value to these groups.

From our analysis, some examples of how digital technologies are transforming business models in the soccer industry included the artificial intelligence and big data analytics to improve talent scouting and management activities; the using the internet of things, robotics, and virtual simulation to support tactics, training, and sport performance management; the use of gamification and augmented reality to shape key partnerships; the revenues increase via e-commerce mechanisms; the enhancement of consumer experience through the development of smart arenas.

It is important to note that the proposed list of digital technologies influencing each building block of business models in the soccer industry is not intended to be exhaustive. While we have identified a number of technologies that are having a significant impact on these building blocks, it is likely that there are many other technologies that are also playing a role. We recognize that the digital landscape is constantly evolving, and that new technologies and innovations are being developed all the time. Therefore, it is possible that our list may not capture all of the technologies that are currently being used or that will be used in the future.

Marco Balzano, Guido Bortoluzzi
The Digital Transformation of Soccer Clubs and their Business Model
Impresa Progetto - Electronic Journal of Management, n. 1, 2023

_____

Thus, our focus has been on mapping the main technologies that are affecting each building block of the business model. We believe that this approach is more practical and informative, as it allows us to identify the key drivers of change in the industry and the areas where digital technologies are having the greatest impact. By focusing on the main technologies that are shaping the business models of soccer clubs, we can gain a deeper understanding of how digital transformation is revolutionizing the industry and identify any key trends or patterns that may be emerging.

Overall, the digital transformation of business models in the soccer industry is complex and multifaceted, with many different technologies and strategies being employed by clubs to stay competitive in an increasingly digital landscape.

Below, we report the analysis of how digital technologies are shaping the business models of soccer clubs in several key areas. Specifically, we examine the ways in which these technologies are impacting talent scouting and talent management, tactics, training, and performance management, key partnerships, revenue models, and consumer relationship management. We also provide some iconic examples of how these technologies are being used in the soccer industry.

4.1 Talent scouting and talent management

The extant sport management literature highlights the crucial role of talent scouting activities in the success of sports clubs. Indeed, having an efficient recruitment apparatus gives a soccer club the possibility of overcoming the so-called 'war for talent' (Michaels et al., 2001) by providing access to the most promising footballers before their market value rises dramatically (Brady et al., 2008).

Scouting activities in general have been drastically reconfigured with the advent of the digital era. Machine learning, data mining (and, more generally, artificial intelligence (AI) algorithms) and BDA techniques allow soccer clubs to simplify, and in part to substitute, the activity carried out by scouts.

Today, an increasing number of soccer clubs are adopting computer-aided scouting solutions through AI and BDA (e.g., algorithms to process video- and GPS-based location data, Davenport, 2014). For example, through data mining techniques, soccer clubs have the possibility of developing predictive models to outline the potential of many different promising footballers at the same time (Vilela et al., 2018). Digital and multimedia platforms are accelerating information-sharing processes. By using such platforms, soccer clubs can significantly reduce their investment in talent selection (Radicchi & Mozzachiodi, 2016). New ways of doing business are thus emerging in the industry. In the case of online platforms (frequently launched by innovative start-ups), software solutions help soccer firms optimise selection processes in terms of both time expenditure and resource consumption by using digital technologies to identify talented players all over the world (e.g., Wyscout, Wallabies, and Scisports).

4.2 Tactics, training and performance management

Marco Balzano, Guido Bortoluzzi
The Digital Transformation of Soccer Clubs and their Business Model
Impresa Progetto - Electronic Journal of Management, n. 1, 2023

_____

Another focal aspect of soccer clubs' business models is the way in which they monitor athletes' training and performance and the structure of coaching and team preparation for matchdays. In this context, soccer clubs are beginning to introduce digital technologies to support team preparation. Digital technologies offer soccer clubs valuable solutions to perform notational and time-motion analyses and to offer game reports and individual performance information. More and more, coaches now are supported by robotics, virtual simulation and IoT in building team tactics. For example, drone technologies provide team coaches with additional viewpoints on the pitch, giving them the opportunity to more conveniently study the movements and positions of players during the training session (Zhu et al., 2017).

Machine learning techniques enable soccer clubs to collect player-tracking data and deepen their investigations into a variety of tactical aspects (Bastida-Castillo et al., 2019). BDA algorithms provide insights into match analyses (Rein & Memmert, 2016). With respect to training and performance management, advanced monitoring systems and the installation of wearable digital devices embedded with sensors enable coaches to evaluate the condition of their team's footballers and furnish insights into optimal training-break cycles (Walker et al., 2016).

Combining BDA with sensors, wearable technologies are designed to provide footballers with accurate and real-time data. Such devices provide team coaches with metrics about their teams' health conditions (e.g., monitoring the pulse, steps, calories burned, and distance travelled by each footballer) and reducing the risk of injuries. Furthermore, wearable technologies, such as smart clothing, can be integrated with mobile applications to track physical condition, facilitate personal training and diet plans, and measure body parameters such as posture and muscle strains through the use of specific sensors and devices.

4.3 Key partnerships

Our third building block concerns the key partnerships of soccer clubs. Partnerships and more generally strategic alliances enhance opportunities for generating value over time, expanding the customer base and introducing innovative projects. In the modern age, a network of partners is a mainstay of business models (Osterwalder & Pigneur, 2010).

Due to the diffusion of esports (Lefebvre, 2020), several soccer clubs now have their own esports teams. An example is Manchester United, which is currently actively competing in the eFootball.Pro League. Today, sporting businesses often resort to gamification and simulation to capture the new generations' attention (Varley, 2018). In the soccer industry, different types of gamification offerings are available through online platforms. In particular, soccer clubs frequently implement ad hoc pages inside their official websites and create ad hoc mobile applications to propose specific services and offer the public the opportunity to enjoy extra content about their favourite teams.

Sponsorships have always represented a core element for the survival of sports firms and associations. This is also true in the soccer industry (Unlucan, 2015),

Marco Balzano, Guido Bortoluzzi
The Digital Transformation of Soccer Clubs and their Business Model
Impresa Progetto - Electronic Journal of Management, n. 1, 2023

_____

especially before the advent of TV platforms (which increased top level organisations' revenues) and for nonprofessional teams (Freitas et al., 2013). However, in recent years the 'show' of soccer has changed deeply, and soccer organisations are looking for new ways to valorise relationships with their sponsors (Gerke & Wäsche, 2019). An interesting emerging trend among soccer firms is extending the scope of strategic partnerships to digital platforms, professional streamers, gamers and social influencers. For example, it is worth mentioning the agreement between the club Manchester City and the content platform Amazon Prime Video (Stone, 2017) and the agreement between the club Atlético Boca Juniors and the content platform Netflix (Holmes, 2017). These strategic choices give the parties the opportunity to leverage brand visibility through digital technologies, thereby increasing bargaining power with respect to key strategic partners. Sports gamification and storytelling techniques can be effectively applied in a multitude of ways: from amateur athletes to sports fans (e.g., augmented reality to virtually visiting stadiums, or esport) (Funk et al., 2018). With these kinds of experiences, supporters become highly stimulated by interactive gamification (multiplayer online battle arena games), while marketers reap the benefits of reaching a wider spectrum of potential consumers. In other words, soccer clubs deal with professional figures to enhance their brand value and reputation.

4.4 Revenue model

In business, the revenue model represents the way a firm generates money from each of its consumer segments (Osterwalder & Pigneur, 2010). Nowadays, the three major revenue sources of top professional soccer clubs are earnings related to broadcasting, commercial and matchday revenues (Dima, 2015). Regarding broadcasting-linked activities, live-streaming platforms (such as the iFollow streaming services for English Football League fans) represent an appealing opportunity to reach new consumer segments and improve top-line results (BBC, 2017; Tripp et al., 2022). While in the past football lovers were limited to following local teams and physically attending matches in stadiums, digital technologies dramatically enlarged the different ways of following a variety of football matches and teams (Horbel et al., 2021). Concerning the second revenue source, the extant literature identifies a strong relationship between the popularity of soccer clubs and their capacity to generate commercial revenue (Wulf et al., 2015). Emerging social and e-commerce platforms play a crucial role in the success of soccer clubs (Wilson, 2017).

Accordingly, digital technologies are enabling the way soccer clubs can improve their commercial revenues by increasing the number of potential consumers reached and enhancing the visibility of their brand, consequently increasing the number of products sold (e.g., t-shirts and gadgets) and contractual power with key sponsors. Most football clubs are present on social networks and platforms. A structured firm function focused on data analytics inside the organisation can study future directions of the industry and the online fans' attitudes and behaviours, offering the opportunity to efficiently convert these into revenue streams (Goebert & Greenhalgh, 2020). With

Marco Balzano, Guido Bortoluzzi
The Digital Transformation of Soccer Clubs and their Business Model
Impresa Progetto - Electronic Journal of Management, n. 1, 2023

_____

respect to revenues coming from efficient matchday management, the diffusion of integrated electronic and mobile ticketing systems enables soccer clubs to offer alternatives to traditional physical ticketing services (Funk et al., 2018).

4.5 Consumer relationship management

Garcìa and Welford (2015) argue that the extent to which supporters engage with soccer clubs is changing; digital technologies are significantly broadening the spectrum of soccer. The relationship between soccer clubs and their supporters is one of the most prominent factors explaining the worldwide success of this industry.

As predicted by Pine and Gilmore (1998), to increase consumer loyalty, firms must engage customers by offering unique experiences rather than mere products or services. A fan's experience is not only about the football match; soccer clubs wish to create lifetime relationships with their supporters (Fillis & Mackay, 2014). Additionally, social media continuously connect supporters with soccer teams, proposing matches, clubs' communications, news, insights and extra content. Through BDA, soccer clubs can segment and target fans to improve conversion rates.

Strategically, soccer firms that adopt advanced digital technologies improve their consumer relationship management tools by using software to learn more about how each fan interacts with the club daily.

Digital transformation is also reshaping the concept of the stadium. Indeed, the concept of a stadium shifts from a physical object to a smart arena (Panchanathan et al., 2019). These are multifunctional structures (laboratories of innovation, according to Yang & Cole, 2022) that allow visitors to enjoy a wide range of services and live memorable experiences.

The heart of this new approach is based on the idea that a sports facility is no longer just a place where you can only attend a sports event, but where you can benefit from a range of services: restaurants, shops and entertainment, such as museums or themed villages, which contribute to the improvement of the quality of the live experience of the fan.

Before visiting a smart arena, a person can join digital membership programs and benefit from exclusive services, such as fast-track dedicated and electronic access keys (eAccess). With the ambition to create a digital ecosystem that will be able to provide visitors with advanced assistance to improve the leisure experience, smart arenas use IoT digital technologies to enrich the consumer's journey (Panchanathan et al., 2019).

Soccer clubs are adopting smart algorithms to drive more customised online experiences based on marketing tactics, making it possible for soccer firms to reduce the relational distance from their supporters. Furthermore, e-commerce also improves customers' ticketing experience while simultaneously increasing safety and security. When spectators buy e-tickets, they benefit from having the ability to make purchases within the stadium directly from their mobile devices, find their seats through interactive maps, order food directly from their seats and locate the nearest toilets and emergency exits.

Marco Balzano, Guido Bortoluzzi
The Digital Transformation of Soccer Clubs and their Business Model
Impresa Progetto - Electronic Journal of Management, n. 1, 2023

_____

5. Discussion

Throughout the soccer industry, digital technologies are changing business models and processes. The impact of digitalisation on the soccer industry is evident and brings several benefits to soccer clubs and many industry stakeholders (Paluch et al., 2019). In light of such business model transformations, digital strategies are fundamental to gaining access to such benefits. Therefore, to maintain their competitive position, soccer clubs have to change their traditional business paradigm to accommodate emerging technological improvements in the sector (Li, 2020). Business models, like cooking recipes, are composed of a variety of ingredients (Baden-Fuller & Morgan, 2010).

Finding the appropriate balance among ingredients and understanding the kind of interactions they can generate over time could give soccer clubs the possibility to expand into new markets, reach a wider number of spectators, increase their conversion rate and diversify their business. In Figure 1, we present a summarising map of how digital technologies shape our five identified building blocks.

Figure 1 - Main relationships between building blocks and digital technologies in the soccer industry
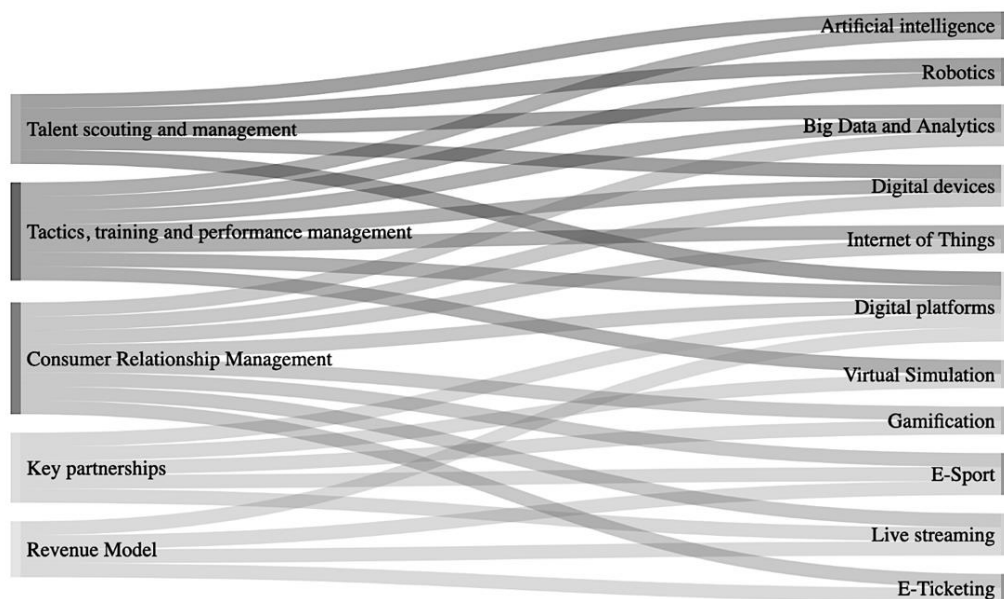
Source: our elaboration

In Figure 1 we mapped the emerged intertwines between digital technologies and the building blocks of the soccer clubs' business models. A brief description of main emerged linkages is reported below.

Marco Balzano, Guido Bortoluzzi
The Digital Transformation of Soccer Clubs and their Business Model
Impresa Progetto - Electronic Journal of Management, n. 1, 2023
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Soccer clubs are using digital technologies to improve their talent scouting processes. These technologies allow for the identification of promising players through predictive modelling, and offer a more efficient alternative to traditional methods (Davenport, 2014; Vilela et al., 2018). The implementation of digital platforms has also facilitated the sharing of information, resulting in a reduction in the resources required for talent selection (Radicchi & Mozzachiodi, 2016). Start-ups have further contributed to the optimisation of player selection through the creation of online platforms that use digital technologies to identify talented players on a global scale.

Digital technologies are also supporting team preparation and training, including robotics, virtual simulation, and IoT (Zhu et al., 2017). These technologies allow coaches to study player movements and positions, collect player tracking data, and provide insights into match analyses and tactical aspects. Wearable digital devices embedded with sensors are also being used to evaluate the condition of players and provide real-time data on their health, including pulse, steps, calories burned, and distance traveled (Walker et al., 2016).

Soccer clubs are also partnering with professional figures (e.g., digital platforms, professional streamers, gamers, social influencers, sponsors) to enhance their brand value and reputation (Gerke & Wäsche, 2019; Holmes, 2017; Stone, 2017). Also, soccer clubs recur to digital technologies such as gamification, simulation, and online platforms to engage and attract new fans, especially younger generations (Funk et al., 2018; Goebert & Greenhalgh, 2020). These technologies allow clubs to offer extra content, such as ad hoc pages on their websites and mobile apps. Sports gamification and storytelling techniques, including augmented reality and esports, can also be used to stimulate and interact with fans, and to reach a wider audience for marketers (Lefebvre, 2020; Varley, 2018).

As it regards the revenue model, digital technologies, such as live-streaming platforms and social and e-commerce platforms, are increasing the popularity and commercial success of soccer clubs by expanding the audience and visibility of their brand, and by enabling the use of integrated electronic and mobile ticketing systems (Tripp et al., 2022; Wilson, 2017). Data analytics are also adopted to analyse industry trends and fans' attitudes and behaviors, and to increase revenue streams (Funk et al., 2018; Goebert & Greenhalgh, 2020).

Finally, also consumer relationship management is changing due to the rise of digital technologies. Soccer clubs are using social media and business data analytics to connect with and segment their fans, and are adopting digital transformation to create smart arenas that offer a range of services and memorable experiences (Yang & Cole, 2022). Smart algorithms and e-commerce are being used to improve the ticketing experience and increase safety and security, and internet of things technologies are being used to enrich the consumer's journey and provide advanced assistance (Panchanathan et al., 2019).

Marco Balzano, Guido Bortoluzzi
The Digital Transformation of Soccer Clubs and their Business Model
Impresa Progetto - Electronic Journal of Management, n. 1, 2023

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5.1 Main implications

The present study has both theoretical and practical implications.

At a theoretical level, this study examined how the concept of business model decline in a contextual environment when digital transformation spread into an industry.

In this perspective, the examination of business model building blocks is crucial for a comprehensive understanding of how business models transform in response to an ecosystem force (Volberda et al., 2021). In general, business models can be intended as a set of integrated building blocks (Chesbrough, 2007; Osterwalder & Pigneur, 2010) including the value proposition, target customer, distribution channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structure, provide insight into the structure and foundation of a business model (Chesbrough, 2007; Osterwalder et al., 2005). In the soccer industry we declined this general approach into industry-specific building blocks reflecting the main areas of changes in the business models of soccer clubs in response to digital transformation.

From a practical level, managers should keep in mind the plurality of objectifies that characterise soccer clubs. The implementation of digital technologies in the business model of soccer clubs can be gradual and costly (Vial, 2019). Thus, we hope the present study could help managers to assess the value of each digital technology and how digital technologies in general can shape the business model of soccer clubs.

Digital technologies can be used in a number of ways to enhance sports and financial performance for soccer clubs and of sports club in general (Di Minin et al., 2014).

One way that digital technologies can be used to enhance sports performance is through the use of analytics and data management tools. These tools can help managers track player performance, analyze game film, and identify trends and patterns that can be used to improve team strategy. By analyzing this data, managers can make more informed decisions about player selection, training, and tactics, which can help the team perform better on the field. Another way that digital technologies can be used to enhance financial performance is with online ticket sales and marketing platforms. These platforms can help clubs reach a wider audience and sell more tickets, which can increase revenue. In addition, clubs can use social media and other digital marketing channels to promote their brand and engage with fans, which can also help to increase revenue.

By understanding how digital technologies can be used to enhance sports and financial performance, soccer club managers can make more informed decisions about how to allocate resources and implement strategies that will help the club succeed.

Additionally, this study could support policymakers and other industry experts to be more aware of the various ways in which soccer clubs can use digital technologies and develop more effective policies and initiatives that support the sustainable development of the soccer.

Marco Balzano, Guido Bortoluzzi
The Digital Transformation of Soccer Clubs and their Business Model
Impresa Progetto - Electronic Journal of Management, n. 1, 2023

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5.2 Limitations and avenues for future research

The present study is not free of limitations. One limitation of this study is that it relies on secondary sources of data rather than collecting primary data through original research. This may weaken the validity of the results and make them less generalizable, as secondary sources may not provide the level of detail or accuracy that is necessary to fully understand the phenomenon being studied. Also, it is necessary to acknowledge that this study might be limited in terms of its scope, as it only focuses on the main digital technologies and mainly regarding European and South American top soccer clubs. This could limit the generalizability of the findings. Additionally, the study is limited by the timeframe over which it was conducted. Given the velocity at which digital technologies are evolving and diffusing in the industry, it may be difficult to determine the long-term impact of digital technologies on the soccer industry, and how new technologies will impact the industry in the future.

Despite the presence of such limitations, we believe this study could constitutes a step forward in enhancing the academic debate on the soccer industry. Departing from the above-mentioned limitations, future research could explore a number of research avenues. For example, future research could examine the mechanisms that soccer clubs adopt and the dynamic capabilities they develop to create, deliver, and capture value through the refinement of their business models, as well as the preconditions that trigger the digital transformation of soccer clubs. Additionally, future research could explore how the proposed building blocks of business models interact over time, and when soccer clubs leverage on digital technologies shared across multiple building blocks.

6. Conclusions

The 'new renaissance' of the soccer industry is reshaping the business models of soccer clubs. This transformation has several implications for sports and society. In this study, we presented an overview of soccer business model building blocks and how they are being impacted by emerging digital technologies.

The emergence of digital technologies in the soccer industry poses several challenges. In this study, we offered an overview of how digital transformation impacts the business models of soccer clubs and proposed some research questions that we hope could support future studies on the digital transformation of business models in the soccer industry.

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Marco Balzano, Guido Bortoluzzi
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