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DIGITAL STRATEGY IN A SPORT CLUB: A MODEL TO SUPPORT THE ANALYSIS

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ABSTRACT (ITALIANO)

Al giorno d'oggi, le tecnologie digitali hanno fortemente influenzato le routine quotidiane.

Anche nel contesto delle imprese, si assiste ad un processo di digitalizzazione che sfrutta le tecnologie per supportare le tradizionali attività, creare nuove offerte e nuovi canali di comunicazione.

Nel corso degli ultimi anni, infatti, si è verificata un'evoluzione del concetto di "Business Strategy", partendo da una considerazione di soli aspetti per costruire e mantenere il vantaggio competitivo di una compagnia, passando ad un'integrazione tra la strategia di business e quella originariamente dedicata alla funzione di Information Technology, per sfociare, infine, in un'unica "Digital Business Strategy", che considera come parte integrante le tecnologie, come mezzo con cui operare al fine di competere nel mercato.

Anche l'industria dello sport è stata affetta dall'innovazione digitale, a partire da come si vive lo sport, con il tifoso che può essere costantemente informato e interagire con la squadra preferita.

L'evoluzione del concetto di Club Sportivo, unito alle nuove possibilità offerte dall'innovazione digitale, han fatto sì che anche le società sportive abbiano iniziato a sviluppare delle Digital Strategy, avvicinandosi così alle imprese tradizionali.

Questa tesi si propone di andare ad investigare a fondo nel concetto di Digital Strategy, in particolare come questo si articoli nell'industria dello sport, assumendo il punto di vista di una società sportiva.

Con questo obiettivo, dopo un'accurata analisi della letteratura, è stato sviluppato un nuovo modello, lo Sport Club Digital Strategy Canvas, in grado di mappare le implementazioni tecnologiche attuate dalle società sportive, nei diversi ambiti di applicazione.

Al fine di verificare l'effettivo livello di digitalizzazione dei Club Sportivi italiani, sono stati realizzati dei casi studio, coinvolgendo direttamente manager di club che già hanno realizzato progetti digitali.

L'occasione, poi, ha permesso di applicare il modello sviluppato a casi pratici e reali, per poterne trarre considerazioni sulla robustezza, utilità e facilità di applicazione.

ABSTRACT (ENGLISH)

Nowadays, digital technologies have strongly influenced the daily routine.

Even in the business context, can be observed an enterprises digitalization process, which exploit technologies to support traditional activities, create new offers and new communication channels.

In the last years, indeed, an evolution of the concept of “Business Strategy” occurred, starting from the consideration of only aspects about creating and maintaining competitive advantage of the company, through an integration between business strategy and those one dedicated originally at the Information Technology function, to arrive, finally, at a unique “Digital Business Strategy”, which consider technologies as integral part, as the way through which operate and compete in the market.

Even the sport industry was affected by digital innovation, beginning from the way the sport is lived, with the fan which can be constantly informed and interact with his favourite team.

The evolution of Sport Club concept, in addition to new possibilities offered by digital innovation, has led to the development of Digital Strategies even the sport organizations, approaching even more the traditional enterprises.

This thesis proposal is to investigate in depth in the concept of Digital Strategy, in particular how it is articulated in the sport industry, assuming the point of view of sport clubs.

With this aim, after a careful literature analysis, it has been developed a new model, the Sport Club Digital Strategy Canvas, able to map the implementations of technologies in sport organizations, classified for application field.

With the goal to verify the actual level of digitalization of Italian Sport Clubs, have been created case studies, involving directly sport managers of clubs which have already realized digital projects.

The occasion, then, allowed to apply the developed model in practical and real cases, in order to derive considerations about its robustness, utility and easiness of application.

1. INTRODUCTION

The aim of this chapter, is to describe the context background, providing a definition of the key concept on which the thesis is built.

First, will be treated the notion of strategy, starting from the original formulation and its business application, following the evolution path that leads to the Digital Strategy definition, in nowadays conception.

Then, to frame the economic and social context, will be provided an overview of the Sport Industry, highlighting his relevance and growth in the last years.

1.1 What is the Digital Strategy?

1.1 1 The concept of strategy

The first formulation of the strategy concept was born in the military context, in particular as analysis of the art of war.

The term “strategy” comes from the Greek word “*stratēgia*” and means generalship, composed by “*stratòs*”, army, and “-ag”, to command. However, the very first definition does not derive from Greeks but from Sun Tzu, which around the 500 BC he wrote “The Art of War”, diffusely considered the first strategy essay.

In his work, Sun Tzu define strategy as following:

“Strategy is the great work of the organization. In situations of life or death, it is the Tao of survival or extinction. Its study cannot be neglected.”

The military consideration of the strategy is the space between policy and tactics, where policy is derived from a purpose or cause, strategy is the plan for deploying resources to establish an advantage, while tactics are the movements and actions to be adopted.

While the tactics deals are concerned with the maneuvers to win battles, strategy is concerned with winning the war.

This vision is then being adopted in business stressing in particular the concept of competitive advantage in order to win over competitors.

To be strategic, a decision must be characterized by four elements:

- Long term orientation;
- Large amount of resources usually involved;
- Pervasive and non-reversible effects on the organization;
- Requires top management involvement.

In the 1983 Ohmae defined business strategy as following:

"What business strategy is all about is, in a word, competitive advantage... The sole purpose of strategic planning is to enable a company to gain, as efficiently as possible, a sustainable edge over its competitors. Corporate and Business strategy thus imply an attempt to alter a company's strength relative to that of its competitors in the most efficient way." (Ken Ohmae, The Mind of the Strategist, 1983)

Henderson, instead, some year later (1989) defined strategy as "*a deliberate search for a plan of action that will develop a business's competitive advantage and compound it... The difference between you and your competitors are the basis for your advantage... The objective is to enlarge the scope of your advantage, which can only happen at someone else's expenses...*" (Bruce Henderson, The Origin of Strategy, 1989)

As a conclusion, a business strategy can be defined as an integrated, comprehensive and long-term plan that includes a consistent set of strategic decisions and is aimed at creating and sustaining competitive advantage in a business area, compared to competitors.

The mentioned competitive advantage is the positive difference in the organization performance, in comparison with the competitor's performance.

"When two or more firms compete within the same market, one firm possesses a competitive advantage over its rivals when it earns (or has the potential to earn) a persistently higher rate of profit." (Grant, Contemporary Strategy Analysis, 2010)

The source of this differential could be different in nature. It can arise from a better offer of the company, unique and higher valued from the customers point of view, which can be sold at a higher price; it can be achieved through a lower cost structure, allowing to price lower the competitors offer; it can be obtained with a combination of the previous two options.

The starting point of a strategy definition deals with the explanation of two basic concepts: the strategic intent and the industry foresight.

The strategic intent, or mission, is an ambitious view of the future that embeds a sense of direction in terms of broad objectives, a sense of discover, meaning the exploration of something new and a sense of fate, creating emotional involvement and passion in organization components.

The industry foresight, or vision, is the best hypothesis of the future in terms of needs, customers, technological trends. The vision definition usually requires creativity, imagination and the integration of different point of views.

Since an organizational structure is built on different levels, the same partition can be applied to strategy, with the result of the formulation of different level-strategies.

The company is initially subdivided in Strategic Business Units (SBUs), internal divisions which oversee specific business areas, that focus on specific products targeted to specific customers. A Strategic Business Unit can be considered as a micro-company that could be managed separately from the rest of the organization, it has its own competitors and it has distinct objectives. Frequently it has a manager responsible for its strategy and performances.

Within a Strategic Business Unit there are many functions, each one carrying out operational activities aimed at reach both the SBU and overall company objectives, related to the specific business.

The highest-level strategy is the corporate strategy, formulated to define the scope of the firm in terms of the industries and markets in which it is going to compete.

The SBU level deals with the business strategy, which is concerned with how the company competes within a particular industry or market.

More in depth, applied to single functions, the functional strategies are the elaboration and implementation of business strategies through individual functions.

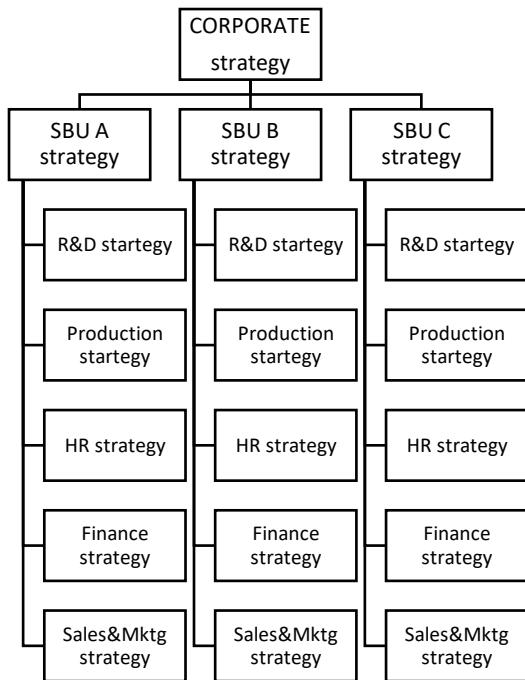


Figure 1: Level of strategy

1.1.2 Diffusion of Information Technologies and IT strategy

Since 1968, when the young engineer of Intel, Ted Hoff, found the way to include, in a tiny silicon piece, all the computer processes circuits, inventing the microprocessor, the evolution and diffusion of computer technologies exploded.

These innovations, and in particular the Internet, have completely transformed the business world. Nicholas Carr (2003) argued that

“Today, no one would dispute that information technology has become the backbone of commerce” and lately in the 2013 also Bharadwaj (et al.) agreed, providing a definition of digital technologies: *“technologies which are fundamentally reshaping traditional business strategy as modular, distributed, cross-functional, and global business processes that enable work to be carried out across boundaries of time, distance, and function”*.

In a more pragmatic definition (from *Osservatori Digital Innovation*, 2017), digital technologies can be viewed as a combination of information, computing capabilities (hardware and software), communication and connectivity, meaning protocols such as Internet and Mobile web.

The spread of the use of Information Technologies (IT) has pushed organization to create a new function dedicated.

Coherently with the previous fragmentation of the strategy, the IT function has its own IT strategy, that firstly was defined as a functional-level strategy aiming at the use of information technologies adopted by organizations as tools to boost productivity or lower operational costs.

Thus, in this notion, the IT strategy is “*a process of selecting which technologies you will invest in and where those investments would go*” (McDonald, 2015), a concept that is limited in the consideration of practical aspects, regardless the linkage with other objectives.

1.1.3 The conceptual evolution: integration between IT and business strategy

Investments in IT technologies were always seen with a sort of skepticism by managers, due to the difficulties in forecast real benefits and to the complexity of the problems of implementation projects.

The conceptual evolution brings managers to agreeing that, in order to more effectively exploit technologies in value creation, an alignment with the business strategy was required. As stated by Henderson and Venkatraman (1993) “*The broad strategic view was that IT strategy had to be aligned with the firm's business strategy*”.

They argued that one of the main causes for IT projects failure or inability to create value, is the lack of alignment between the business and IT strategy. In their view, strategy involves both the formulation phase, concerning decisions pertaining to competitive, product-market choices, and implementation phase, regarding choices that pertain the structure and capabilities of the firm systems.

The model they developed, based on the idea that the strategic alignment was not an event but a continuous process, was founded on two building blocks: the strategic fit between the business and the organization, and the functional integration. (*Henderson and Venkatraman, "Strategic alignment: Leveraging information technology for transforming organizations", 1993*).

1.1.4 The boundary between IT strategy and Digital strategy

The further innovation in digital technologies, has create new characteristics that makes digital a broader concept:

- Pervasive. Digital technologies are so pervasive that they create a different everyday experience, this truly enabling customer centricity in a company's strategy;
- Multi-purpose. Digital technologies can be employed in a plethora of alternative environments with a vast range of applications;
- Customer-centric. Digital technologies affect customers' touchpoints and journey to such an extent that they enable and call for a true customer centricity in a company's strategy;
- Value-relevant and transformational. Digital Technologies, if properly leverage, can have a transformational and innovative impact on value propositions.

Considering these digital's characteristics, boundaries become fuzzy and blurred between It strategy and Digital strategy concepts. Although often used as synonyms and overlapping terms, IT Strategy and Digital Strategy are growingly diverging in the meaning associated to them and the approach they evoke and advocate for.

Today it is easier for managers and strategists to grasp and be aware of the strategic implication of technologies at different levels. For this reason, the Digital strategy cannot be limited only at the IT function and considered as an IT strategy, but shall be formulated alongside business strategy, as it impacts many areas.

Analyzing how the Internet had reshaped the business world, in his article "*Strategy and the Internet*", Porter (2001) find out that Internet technologies provides new and better opportunities to gain competitive advantage, but this does not imply to engage in completely new approaches to business. In many cases, in fact, the Internet support and compliment rather than cannibalizes traditional activities already performed by companies.

Porter stated that to gain these advantages, however, companies need to avoid adopting generic packaged application but instead tailor the deployment of Internet technologies based on their strategies and objectives.

Concluding, he affirmed that: "strategies that integrate Internet and traditional competitive advantages and ways of competing should win in many industries" (*Porter, "Strategy and the Internet", 2001*)

Even McDonald specified in an article titled "*Digital Strategy Does Not Equal It Strategy*" (2012) the difference between the two. The reason of his statement is the way most IT strategies consider technology, in isolation. He justified the distinction with three main reasons:

1. The nature of digital technologies: they complement rather than compete with current systems and information, enabling greater leverage with less disruption;
2. A digital edge brings together digital and physical resources, resulting in business innovation rather than business disruption;
3. Successful digital strategies concentrate on specific business outcomes rather than implementing grand strategies.

The reality, today, shows that most of the user-interactive solutions are a merge of single technologies (cloud, near field communication, mobile, big data, etc.) with the aim to offer an experience that is more and more near to our natural behavior. This concept of multiple connections between people, places, information and things is the digital density phenomenon.

The matter is not only about digital substitution, meaning the automation and substitution of physical resources with digital one, but it is more a combination between the digital and physical world in new ways, to create value and revenues.

Recapping, McDonald idea of a digital edge is a performance edge, as it exploits a Digital Strategy merged with a Business Strategy to create competitive advantage

Further confirm of this interpretation if offered by Accenture Strategy (2015), which recognizes that business leaders are not certain to have the right digital strategy, and in the current world it is not anymore possible to consider technology as an adjunct to strategies and plans. Since the nowadays world is shaped by digital technologies, it is required a completely different approach to strategy development and execution, that incorporates technologies as an essential component.

“Finding the right competitive response is complex. Digital technologies change everything—from customer expectations to distribution channels and production methods.” (Accenture Strategy, “Being digital: Fast-forward to the right digital strategy”, 2015)

Because of these considerations, we should refer to Digital Business Strategy, meaning a Business Strategy which is inherently Digital in nature, aim and scope.

The importance of the IT consideration in the Business Strategy is stressed also by Mithas et al. (2013) as they consider technologies as essential to the framing of the overall Business Strategy.

According to Aron (2013), IT Strategy and Digital Strategy are different answers to different questions:

- IT Strategy is a technical answer to a business question: “how IT will help the business win?”. It assumes the business strategy is set, then considers how to use IT to make that

strategy successful. IT Strategy is usually conducted downstream of/ after business strategy.

- Digital Business Strategy is a business answer to a digital question: “How should our business evolve to survive and thrive in an increasingly digital world?” It is not a separate strategy, but instead a lens on business strategy. All aspects of the business strategy should be informed by digital considerations. Every business and public-sector agency needs both an IT Strategy and a Digital Business Strategy. They must be highly aligned with each other, but they are not the same thing.

(From “*The Difference Between IT Strategy and Digital Strategy*”, Gartner Blog, 2013)

1.1.5 Digital Business Strategy: definitions and essence

There are many definition of Digital Business Strategy, all highlighting different aspects.

Mithas et al. define Digital Business Strategy as more than IT strategy since it is the extent to which a firm engages in any category of IT activity to create value. (*Mithas et al., “How A Firm’s Competitive Environment and Digital Strategic Posture Influence Digital Business Strategy”, 2013*).

Woodard (et al.), being aware of the evolution from the traditional view of the alignment of IT and business strategy defines Digital Business Strategy as “*a pattern of deliberate competitive actions undertaken by a firm as it competes by offering digitally enabled products or services.*” (*Woodard et al., “Design Capital and Design Moves: The Logic of Digital Business Strategy” 2013*)

Bharadwaj (et al.), who defined digital technologies as previously mentioned, sustained in 2013 that was “*time to rethink the role of the IT strategy, to subordinate to the business strategy to a fusion into an overarching phenomenon we herein term digital business strategy.*” Thus, his definition is: “*Digital Business Strategy is an organizational strategy*

formulated and executed by leveraging digital resources to create differential value” (Bharadwaj et al., “Digital Business Strategy: Toward A Next Generation of Insights”, 2013).

In this definition should be highlighted the following aspects:

- Recognition of the pervasiveness of digital resources in all functional areas of the company, not only in the IT one;
- The view beyond systems and technologies, recognizing, instead, digital resources;
- The explicit link between Digital Business Strategy to the creation of differential value, not focusing on performance implications but aiming at competitive advantage and strategic differentiation.

The key characteristic is trans-functionality, meaning that the Digital Business Strategy transcends traditional functional areas and processes. Digital resources work as a connectivity tissue between all functional and process strategies.

They conclude with a statement that clearly identify their position: “*Digital Business Strategy should not be positioned below business strategy but treated as business strategy itself for the digital era*”. (Bharadwaj et al., “Digital Business Strategy: Toward A Next Generation of Insights”, 2013)

McDonald defines Digital Strategy analysing the two words.

“Digital is more than a set of technologies you buy, it is instead the abilities those technologies create. Digital is the application of information technology to raise human performance.

Digital becomes just another technology when digital investments do not call for changing what people do in ways that enhance their ability to achieve their goals”

Strategy, according to McDonald, has become too complex to define, but its essentials are unchanged. “*Strategy is setting a direction, sequencing resources and making commitments.*”

In this notion, direction defines the “why” in terms of ambition and excluding alternatives, sequence defines the “when” and “what first”, creating order, while resources and commitment refers to “what” and “who”.

The question that managers should ask themselves while formulating the Digital Business Strategy is: *"how can a business win using information and technology to raise human performance?"* (McDonald, 2015).

Considering the traditional strategic decisional process flow, we can visualize how the competencies related to what we defined IT strategy and what we mean now with Digital Business Strategy differ.

Digital Business Strategy oversees a new domain, starting from the definition of the goal of the business, until the more operational levels of the implementation and control.

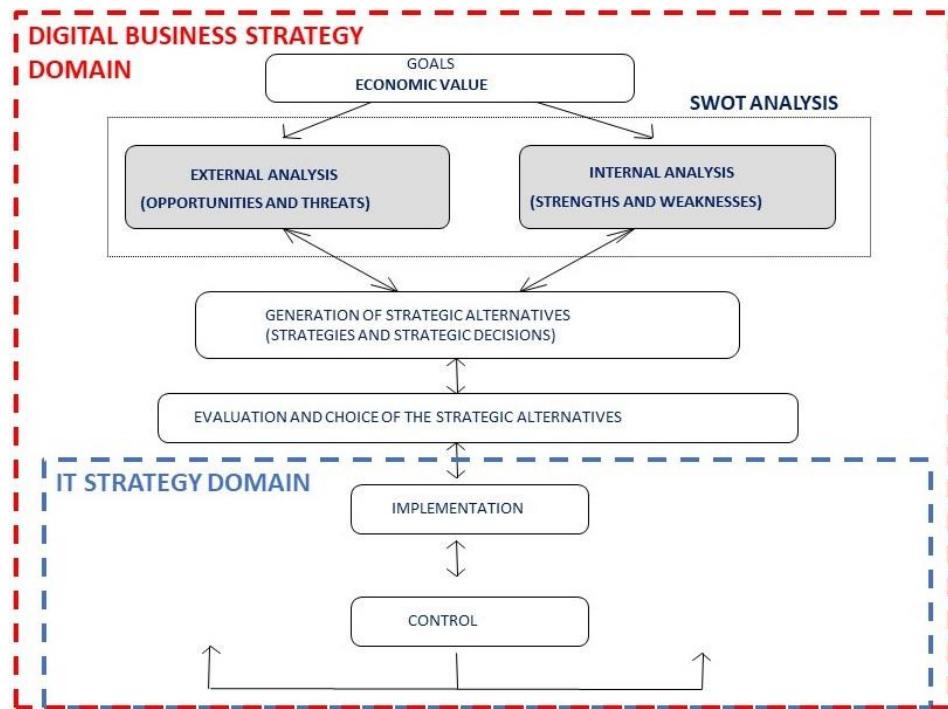


Figure 2: IT Strategy and Digital Business Strategy domain

To wrap up (from Ghezzi, 2016):

- A Digital Strategy is a revamping of the IT Strategy in a world with a new context, new tools, new management and consumer awareness and a greater digital density.
- Digital Business Strategy is what IT Strategy should have been if virtuously applied, but what it seldom delivered.
- Alignment is not enough: Business Strategy and Digital Strategy co-creation and co-formulation and digital strategic renewal around the idea of the original combination of digital assets and capabilities as the new sources of competitive advantage are and will be key for companies' innovation and transformation.

1.2 Industry overview

1.2.1 The context

What is sport?

Searching for the term “sport” in Collins Dictionary, the definition provided states: “*an individual or group activity pursued for exercise or pleasure, often involving the testing of physical capabilities and taking the form of a competitive game such as football, tennis, etc*”

Taking as source the Cambridge Dictionary, instead, we find what follow: “*a game, competition, or activity needing physical effort and skill that is played or done according to rules, for enjoyment and/or as a job; all types of physical activity that people do to keep healthy or for enjoyment*”.

The feeling associated by both definitions to this term is enjoyment, pleasure, that denote a positive meaning, reminding a sense of good, health and fun.

However, in the Cambridge explanation, there is an important consideration: sport can be a job. This specification, actually, opens an entire world, where the sport conception is broader and comprehends many correlated ambits.

The sports market comprises several sub-markets ranging from accommodation building and nutrition to tourism and multifunctional sportswear. Production of the wide range of specialised sports equipment is controlled by a large number of small manufacturers in the various EU countries. The larger companies and brand names cover part of this market, which is often regarded as “the sports market”, mainly due to the huge marketing budgets these parties invest in branding their name and image.

Sporting goods, apparel, equipment, health and fitness spending, are only few of the components of this industry, a part of sporting events.

According to ATKearney research (2014), the overall sport market generates \$600 to \$700 billion, growing faster than the global GDP.

The consultancy company ATKearney, in article “Winning in the Business of Sport”, confirms that the sport industry is consistently growing.

Considering the market of sporting events only, in 2014 was worth 80 billion dollars, growing at a rate of 7% a year. The expected value from the 2017 and on is around the 90 billion dollars, as shown in the graph below.

The leading sport is football, with the highest growth, followed by US Sports, and Formula1.

The graph descripts the growth of the revenue in sport market, classified by sport.

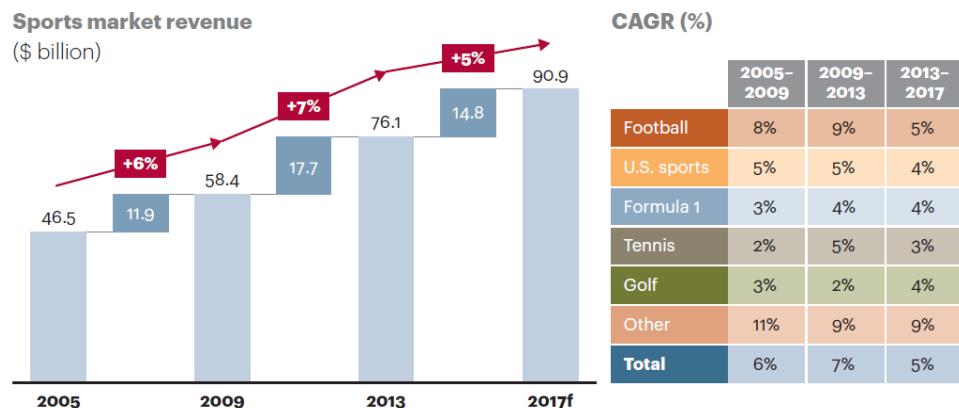


Figure 3: Revenue growth in the Sport Market (ATKearney analysis)

Easily understandable, with this revenue prospects, the complexity of this sector increased, with many participants willing to expand and get higher earnings.

The main actors, as shown in Figure 2, are media, leagues, brands, fans, clubs and, of course players and their agents. The interactions among them are represented in the following figures, which highlights the money flows.

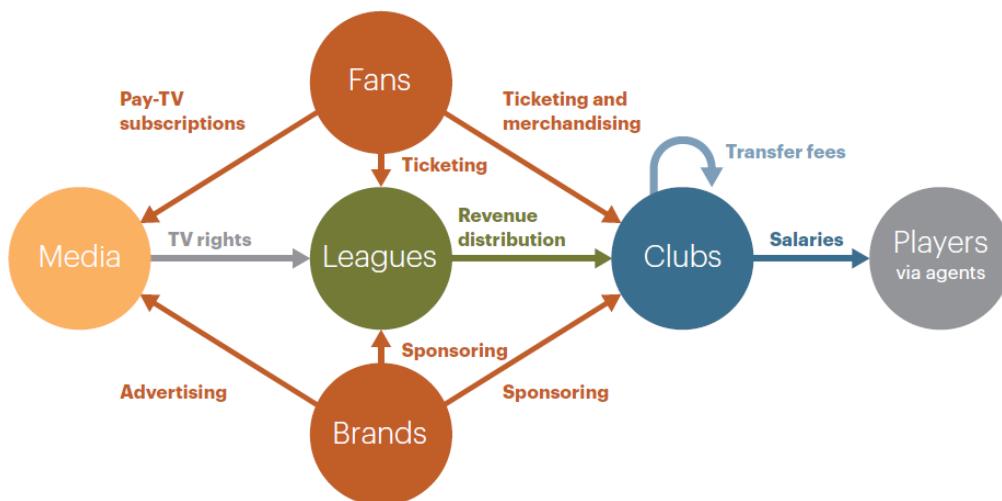


Figure 4: The Sport ecosystem: the monet flows

Of particular appeal for the purpose of this thesis, the perspective under which analyse this model should adopt as a central focus the Clubs.

Clubs play a central role in the sport ecosystem, as they represent the origin of the excitement for most fans and where the money ends up.

Establishing relationships with all the other components, the club management, thus, is not limited to sportive results and players exchanges, but the structure is becoming more articulated and heterogeneous.

For this reason, clubs are worth of a specific model (again by ATKearney), that splits the money flows at organization level, highlighting the elements that can influence them.

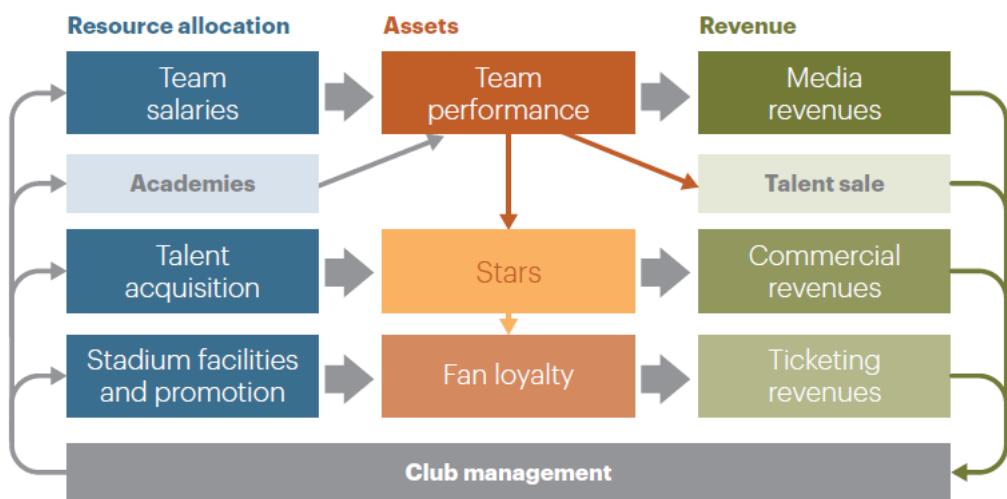


Figure 5: Virtuous cycle of Sport Clubs

Many studies have shown that winning performances are the best guarantee for protecting revenues. This justify the “Winning is a virtuous cycle”, with whom the model is described.

In general, the teams that perform well, are those who invest most in acquire best players, but this is not enough, as winning is a function of many factors, such as coaching, team chemistry, infrastructure and, of course, a bit of luck.

A strategy to increase revenue, related to the players, is those of investing in youth teams. In fact, training high-potential young players, not only could lead at having a home-grown top player, but, more usually, at many players sold or traded to other teams, generating income.

An important element, categorized under “assets”, is the fan loyalty, that can be leveraged for ticket and merchandising sales. To maintain the loyalty, investments should be also done in improving the fan experience, offering new inputs and opportunities, to engage people.

As it will be observed later, the main elements composing the club management will be covered in the framework about sport innovation developed by the Osservatorio of the Politecnico di Milano.

1.2.2 The Digital contamination

Digital is fundamentally changing every aspect of our lives, from the way we work to the way we play to the way we manage our finances and protect our health.

As for all the other sectors, even the sport industry has been engulfed in the digital innovation wave. A very simple example: almost 2.6 billion people are smartphone owners and, among them 2 billion are active social users through mobile. (Pew Research Center, 2015). People love sharing, with friends and followers, daily routines, posting thoughts, photos, what are they doing, where are they, with who... For this purpose, there are specialized and dedicated mobile application. What is one of the most downloaded? A mobile app that allows to share details about daily running session.

Enlarging the focus, it is easy to imagine how the technology diffusion in the everyday life will interfere even with the sport.

Figure 6 represents a PwC research, that highlight the increasing diffusion of smart devices in last years, providing a projection for the 2020. In the online devices category are included connected devices providing data, like sensors and similar.

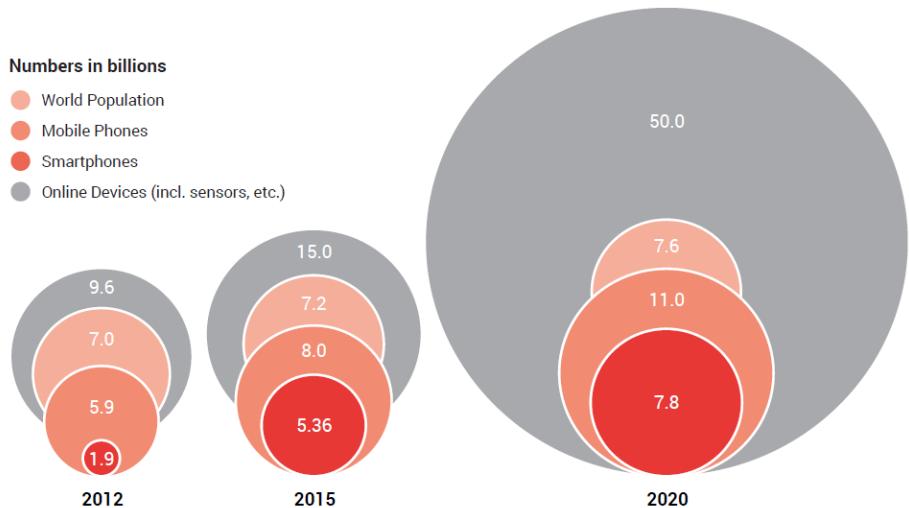


Figure 6: Growth of smart devices, PwC analysis

This huge phenomenon it must not be ignored.

Nowadays, if a fan wants to know how its favourite player performed in the last match, goes to the social network page of the team and check statistics, or even better, he opens directly

the team mobile app. Furthermore, connecting to the player social network profile, the fanatic fan can even stay updated on what the player is doing in his private life.

This is for understanding that also sport clubs should adapt at new people behaviours.

From a more organizational point of view, instead, technologies allow to benefit in different purposes, supporting and improving the operations.

In conclusion, even for sport organizations, it is worth to develop a personalized digital strategy, aimed at defining in detail how digital technologies will be integrated in current processes, or will lead to the creation of new areas and activities.

The theme of digital innovation in the sport industry will be widely discussed in chapter 2, with the illustration of the framework developed by Osservatori Digital Innovation of the Politecnico di Milano.

This thesis, is proposed to provide an instrument to support the analysis of how sport clubs are implementing digital strategies.

2. LITERATURE REVIEW

Unfortunately, due to the recent diffusion and interest increase in this theme, there are not present, in literature, many models about the sport management.

The aim of this chapter, thus, is to illustrate the models representing the fundamental references for the purpose of this thesis, laying the conceptual basis for better understanding the structure of the developed model.

First, will be introduced the 10 major trends in today sport, resulted from a Nielsen Sport research.

Then, to further explain the digital innovation impact on sport industry, will be presented a Framework developed by Osservatori Digital Innovation of the Politecnico di Milano.

This model constitutes the structure organization of the new tool.

Concluding, will be described the Business Model Canvas, a well-known and widely employed instrument for the analysis of the business models of different organizations.

2.1 New commercial trends in sport

The Nielsen Company, always active in the research in sport industry, has published its yearly-updated analysis on the sport industry at global level.

In this paragraph, will be illustrated the ten main commercial trends that are reshaping the Sport Market at world level.

Politically, socially and technologically, the world is facing one of the most disruptive periods, that is impacting where investment in sports is coming from, how sports content is created and distributed, and is changing the dynamics of relationships between rights holders, sponsors and fans.

Among the rapid and consistent changes, the following ten points are considered to be the most important and impactful events.

1. The emergency of new sporting powers

The emerging markets, are increasingly interesting and investing with high level sport. A signal of this trend is the fact that the next three Olympic Games will be organized in Asia, with Russia and Qatar locations of the FIFA World Cups. The country leading this phenomenon is China, where the government aims to create sport industry worthy 813 billion dollars by 2025, investing in events, facilities, teams and leagues.

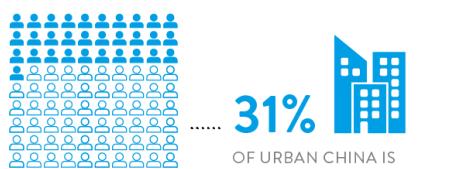


Figure 7: China Football interest, Nielsen Sport SDNA

2. Intellectual Property owners taking control of content and the conversation

With digital technologies, everyone could be a broadcaster. And content has never been as valuable and prized as nowadays. Right holders are looking to add value by developing their own content, often in partnerships with broadcasters and brands. Athletes too, are becoming their own media owners, engaging with fans directly and on their own terms.

3. Changing attention spans, prompting rights holders to rethink

To better suit the changing structure and behaviour of fans, right holders are trying to repack, relocate and reposition events. Nielson Sports' research shows that people are intensely interested in few things but generally interested in more ones. (Figure8)

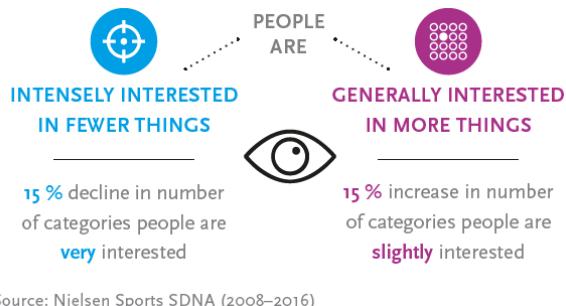


Figure 8: Audience attention, Nielsen Sport SDNA

4. The greater fusion of sport and entertainment

Increasing efforts, are being implied in enhancing the spectator experience, both for live and remote watchers, by adding entertainment elements such as concerts, fan zones and enabling more access to stars athletes. The main example of this concept is the Super Bowl, with its half-time show. Similarly, there are many other events built around a sport event. The figure below shows the integration between music concert and sport events.

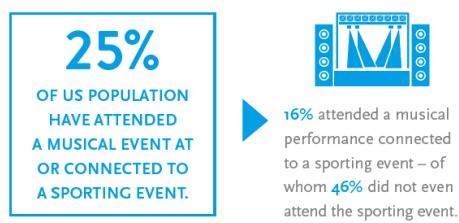


Figure 9: Integration of music and sport, Nielsen Sports SponsorLink US

5. Live sport gaining traction on OTT¹ and social media

Thanks to technology, fans expect to have content live streaming, on-demand and supportive live statistics, be available to them whenever and wherever. OTT live content

¹ Over-The-Top: companies that through internet deliver services, content and rich media.

are coming to sport with established broadcasters, new digital publishers, right holders, telecom firms, social media platforms and technology giants.

Rights holder-owned channels can also generate data, valuable for profiling consumers, and providing new revenue streams in addition to merchandise, tickets and contents.

6. New revenue streams emerging as fans get fully connected

Facebook, Twitter and Instagram live streaming, has given all stakeholders opportunities to deliver live sport or secondary content, directly to consumers, opening, in the meanwhile, new opportunities for user-generated fan content. Right holders, indeed, exploit technologies to connect with fans wherever they are, increasingly leveraging on mobile, which is the fan choice to consume and share content. The most sophisticated companies are already focused on monetization by these channels.

7. E-sports is emerging as more of a global force

eSport market is growing faster, proposing itself as a valid opportunity for established sports. Many sports, see eSport ad a way to engage young, much prized audience. The major stakeholders of eSport industry are game publishers, distributors, tournament organizers and teams, all facing commercial challenges similar to those faced by traditional sports.

8. Social responsibility becoming more prevalent and impactful

It is increasingly important for brands to be seen as positive societal messages vehicles, investing in advertisings on activism, inclusivity and diversity. Sponsors are building corporate social responsibility components into partnership. At same time, there is pressure from public and media, to raise standards in all aspects of sports, from major event bidding processes to the fights against doping and corruption.

This phenomenon, leads to a greater involvement even for local communities and institutions. As organizations donate to local non-profits organizations, there is a positive impact on the territory, and the majority of the events provide opportunities for local businesses. In figure 10, the numbers referred to the Super Bowl 50.



Figure 10: Super Bowl 50, San Francisco Bay opportunities for business

9. Increased investment in data and CRM²central to optimizing fan relationships

An investment in gathering data on fans cannot pay dividends only in terms of more redefined offer and tailored contents, it opens new potential monetization possibilities, via membership schemes, OTT broadcast subscriptions and retail. Most advanced right holders are already exploiting fan data to advise brand partners. The CRM is becoming essential in fan relationship optimization.



Figure 11: CRM purposes

10. More focus than ever on cracking the sponsorship ROI code

The need to justify sponsorship decisions is increasing for all the stakeholders. Data are driving decision-making in the most sophisticated sport organizations. Quantifiable tracking is essential to assess the relative performance of assets. During the pre-sale

² Customer Relationship Management

process, right holders are beginning to calculate the return on investment a brand can expect.

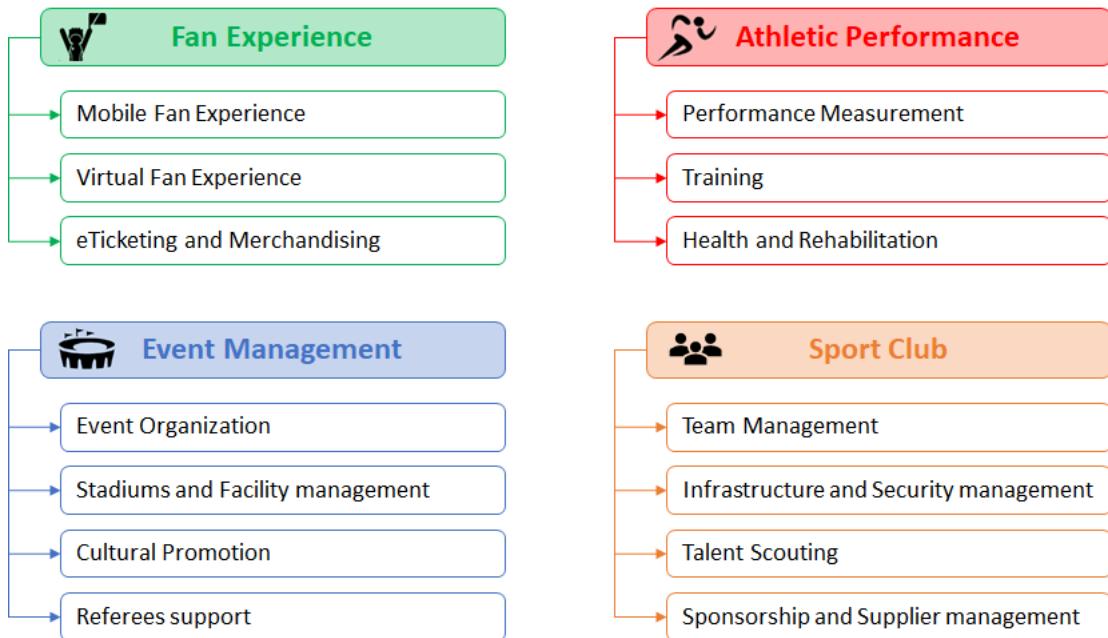
These factors, draw the picture in which modern sport clubs are operating.

These premises, led to presume that clubs are trying to reduce their dependence from the mere sportive results, structuring a series of areas around it, that allows to be safer from the economical perspective.

Especially bigger clubs, are trying to establish their name as a brand instead only as a sport organization, creating commercial opportunities to expand and increase fan awareness about their activities.

In the following paragraph, will be described the main area in which a sport club is supposed to work for this purpose.

2.2 Digital Innovation in Sport Industry: a framework



The model, developed by the Osservatorio Digital Sport, a section of the Osservatori Digital Innovation of the Politecnico di Milano, is an original model and it is composed by 4 macro areas, that, considered comprehensively, give a big picture of the application of digital technology in the sport industry.

The subdivision criterion is the target to which the technologies in the category are aimed to, and probably those that will actually use or benefit from their application.

The macro areas are:

- Athletic Performance
- Fan Experience
- Sport Club
- Event Management

Following, a brief description of each macro-area, with peculiarities and objectives.

2.2.1 Athletic Performance

This area is probably the most influenced by technology, since in this sector, the search of technologies that could help in the performance has been always carried out.

The main figures that are targeted in this category are of course the athletes but also their coaches, both the technical staff and the strength and conditioning staff. Furthermore, from the analysis of game and trainings performance other possible stakeholder could be the talent scouts, interested in finding new promises, or even Club managers, when they have to make decisions about players to sign with.

Nowadays more than before, players performances and injuries are strictly related with economic investments, that sometimes are very relevant, to the point of considering athletes as a real capital asset of sport clubs.

Today's not intrusive technologies, such as micro-processors or micro-sensors, have significantly facilitate the collection of different kind of data.

The use of accelerometers, gyroscopes, magnetometers, GPS, allow to get data that are very helpful to analyse performances, avoiding spending a lot of time analysing video as before was done.

But the most important characteristic is the practicality of the devices that contains the before mentioned components, given that they are of very small sizes and could be worn by athletes without minimal impediment in the classical activities and movements during the training sessions, sometimes it is enough to keep the device in a pocket.

There are three main application areas of technologies, mainly differentiated by the finality and the aim in the use of them.

- Performance measurement

The analyses can be done for a single player or at team level, and the output is very useful to competitive strategies in the matches, both analysing previous ones, to perform post-match analyses on consequences of strategies or possible corrective actions to adopt, and to prepare next opponents, understanding weaknesses and strength points to be ready to face them.

The main technologies for this scope are sensors, wearables, drones, cameras and smart processors. Of course, specific adaptations are made on specific sports in order to detect and analyse precise technical and athletic movements.

The people interested in these outputs are coaches, to have objective data about team conduct and view of players efficiency, and players themselves to get objective feedback on their performances.

- Training

The training of professional athletes follows daily and weekly specific plans, based on personalized information and situations. The aspects to work on are numerous and sometimes it is not easy to assign priorities and quantify the workout to avoid overloads.

The technology can be very powerful in analysing the quality of movements and consequently of the training, giving personalized feedback to prepare specific training plans, based on actual player physical conditions and with a perspective also of imminent future events.

Sometimes, instead, technology is useful to train related aspects of the performances, not easily trainable during the game. An example could be the peripheral vision in volleyball, an essential requisite at high level but very tricky to train during matches or workout sessions. With the use of technology, such as a touchscreen TV, specific exercises can be done.

An important aspect in this category is the consistently growth of the technology use at amateur level. Many people, not professional athletes but simply sport lover, uses smartphone, smartwatches, fitness tracker band to control their progresses and enjoy receiving feedback or challenge friends.

- Health and rehabilitation

At professional level, an injury has important consequences on different plans: physical, because in the player is not physically ready to compete his performance will be under his standard, psychological, because if the player doesn't feel well he will underperform, economical, because compete is the work of professional athletes and

they are paid for that. For these reasons, injuries have not only physical and performance consequences, but this will affect team results and club economic interests.

Technology can help medical and athletic staff to prevent important injuries, monitoring quality of training and sometimes the alimentation and life style of players, to analyse them and give advices to chances to apply in order to take better care of the body.

Among the technologies applied in this field, wireless sensors and supportive infrastructures provide opportunities for real time monitoring health care and fitness, in a manner that not interferes with activities of the user.

Application examples

In volleyball, the number and the intensity of jumps can determine the performance of the athletes. However, at the same time, the jump action is one of the most critical and dangerous for the body health, due to the impact with the ground which goes to solicit knees and back musculature. For this reason, in the training session, both in normal health condition but even more importantly in post-injury recovery period, the number and quality of jump has to be monitored.

A well diffused technology for this proposition is Vert, in particular with the product G-Vert, a very small wearable device which monitors the jumps in number and height.

The company is partner with USA Volleyball since 2014, in particular with the women's team, where is currently used to track trainings. In USA is pretty diffused also at college level and university level.

Among the users, there are also some basketball teams such as Miami Heat at the professional level, and such as Auburn University Tigers at school level.

Another wearable sensor technology is Beast, a fitness tracker able to provide real-time advices based on predefined objectives. Using Beast Technologies during trainings, especially in fitness sessions, it is possible to analyse performances and adapt exercises on the based on the daily body shape.

Users of Beast are heterogeneous, from single fitness-addicted people to personal trainers to sport clubs. Among the last class, even in Italy, in men's volleyball top level SuperLega (A1) some teams use this application: currently Sir Safety Conad Perugia, Calzedonia Verona, Diatec Trentino, Wixo LPR Piacenza, Azimut Modena Volley and Gi Group Monza, while previously also Revivre Milano. At international level, again in volleyball sector other users are Jastrzębski Węgiel, a Polish team and the DVV, the Dutch volleyball federation. On the women's side there are Saugella Team Monza, Unet E-Work Busto Arsizio and Igor Volley Novara at Italian level.

In other sports are to be mentioned the Italian Basketball federation (FIP), RedBull gym Santa Monica in California, Italian American football federation FIDAF, American football team of Red Skins, Parma FC as Italian soccer team, Seamen Milano as American football team, the British athletic federation British Athletics, the Italian tennis federation FIT and the Italian sailing federation FIV.

2.2.2 Fan Experience

Digital technologies are dramatically changing the concept of fan experience. The traditional meaning of “fan experience” was about people enjoying watching matches at the stadium or at least on TV, organizing meetings with friends at game time to all together shouting for wins or defeats and talk about that match at bars reading daily newspapers.

Nowadays the situation has changed. Of course, the fundamental event is the weekly match, but fans’ experience doesn’t end with the end of the game. They love to be hyper informed about daily news, to be always in touch with the favourite team, to listen impressions and interviews of athletes and coaches before and after the match, to see how players are performing.

For this reason, they access consistently the club website, they follow clubs’ social media pages, they do not miss a sport news on TV, they look for statistics of the match and, above all, they really love to exchange opinions about everything happen on fan pages, players’ personal pages or simply on their Facebook profile, to interact with other fans.

The most evolved clubs, are trying to transform also the in-match experience, adopting technological solutions that enrich the fan engagement.

The main initiatives in this context can be categorized in:

- Mobile Fan experience

For sure, the essential channel that brings fans as closest as possible to the team are social media. Their value for fan interaction is incredibly high, as nowadays, with the internet connection available almost everywhere, fans need to be always up to date about what is happening in and around the team. For these reasons, the sharing of media content, highlights, interviews, possibilities to interact with players, access to match statistics and others, has become a common practice.

To further enhance this phenomenon, some sport organizations have developed their own mobile application, on which they publish unreleased contents, numbers, live scores and news concerning their activities.

But the club or organizations social pages are not the only ones visited by fans, most of the time they love to follow directly their favourite players on their personal profiles,

interacting with them not only about what concerns about sport but also in their private life.

- Virtual Fan experience

New innovative technologies offer the possibility to enrich both the in-arena experience and the one of those that are not physically at the stadium.

Often second-screens or stadium applications are used to show scores, salient highlights or advertisings but they are visible only from people at the arena.

With the help of some wearables, such as Google Glass or micro cameras, it is also possible to offer to home-located fans new viewing experiences, giving the possibility, for example, to follow the match or the action from the point of view of a player.

The ideal objective should be to offer fans a completely personalized experience, since as a PWC analysis has found in the 2016, hyper-targeting allows to extend the fan experience to high levels. However, to reach this point, it is necessary a high level of digitalization, creating the so called “digital ecosystem”.

The following picture show how PWC related the fan experience with the digitalization level.

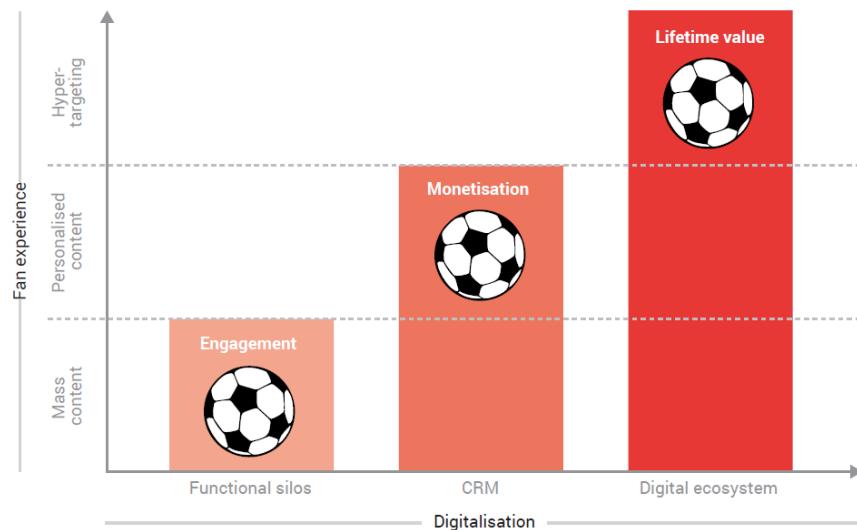


Figure 12: Fan Experience relationship with digitalization

(Source: “Football’s Digital Transformation. Growth opportunities for football clubs in the digital age”, PWC, 2016)

Considering how the clubs are behaving when interacting with followers on websites or mobile apps, customers profiling will become a standard.

- eTicketing and merchandising

The e-commerce, nowadays, is a fundamental sales channel event for sport clubs.

In the ticket selling, especially, it avoids long queues at the ticket office of the stadium, allowing fans to save a lot of time.

Another reason for fan to buy ticket online is the possibility to choose the seat. In fact, many websites offer the possibility to select the specific seat on the arena map, or better, some advanced mobile app allow to check how the view is from the place, giving information also on what services are around, meaning restrooms, kiosks, info point etc.

In some cases, it is applied the dynamic price, aimed at maximizing the profit and offering the fans special offers, bundles or single ticket prices based on the demand level.

For important clubs, that have fan base that consist both in local and not local people, the e-commerce gives the possibility to reach all of them in the offering of the merchandising, breaking down the distance barriers that may limit the sales in this category.

Furthermore, if there are in place sponsorship with established sportswear brands, it is also possible to offer the club products even on the brand's online and offline market, enhancing the visibility of the products.

Application examples

The mobile application is becoming a key asset for clubs, in order to keep in touch fans and offer new content and services to them.

The Dallas Mavericks, an NBA club, partners with Tixsee, a company specialized in mobile solutions, which realized the new version of the Mavericks mobile application.

A relevant feature is the new process of mobile ticketing: fans have the possibility to have a 360° view of the selected seat, considering the quality of the game view, the nearness to restrooms or merchandise points. The app also includes other features for a visually rich

experience with animated live statistics, play by play details, team social feeds, news, box scores, players statistics, 360° videos, navigation and directions with predictive travel times based on real-time traffic and mobile tickets.

For a complete experience, the application include integration with third parties as FOX Sports GO for live streaming, Uber rides, VR player for 360° videos, Twitter, Facebook, Instagram, Google Maps and Experience App College Pass.

As a result, the launch of this new app increased both new single-game ticket revenue, user lifetime value and mobile ticket adoption.

Another case of partnership, still in NBA, is Sacramento Kings with Built.io. the technological company created a model for a new digital fan experience platform. This platform leverage on the diffusion of connected fans, to create personalized content based on previous customer-data. The app covers the whole experience, form the entrance in the arena, to the related activities, until the end.

In the case of Sacramento Kings, it is possible to have real-time information about parking, arena lines, player statistics, menu items and further functionalities such as mobile food ordering and payment. Moreover, to satisfy fans' curiosity, it is possible to submit specific questions to Kings Artificial Intelligence (KIA) and the team's Facebook Messenger bot.

To include a gaming element, fans can place wagers with others in the arena and at the end of the game the winner will get game experiences and prizes. Some months later, in the 2017, even Miami Heat decided to boost their fans experience, relying on a digital accelerator, BeyondCurious, in partnership with the previous mentioned Built.io.

The interesting aspects related to this initiative, is the choice of Miami Heat to completely remove printed ticket, adopting as only option the mobile ticketing, enabled by the new app. More specifically, tickets are available or via the app or by Ticketmaster and get access to the arena just logging in within the app.

A potential worry for fans is that of not having a physical souvenir, but this aspect is mitigated by the availability of other gadgets offered to fans.

An advantage, instead, is the security aspect, more precisely referring to the risk of theft or ticket duplication, and fans do not have to worry about forgetting the ticket at home. To gift a ticket, or to transfer it to a friend are only necessary the name and the e-mail address.

Since the 1990, the All England Club of tennis is partner with IBM to improve technology in this sport. Some interesting initiative in the fan experience context started in the 2012, when for the year edition of Wimbledon were introduced new features. The IBM SlamTracker used predictive analysis technologies to allow fans to acquire interesting information about the match. The functionality “Keys to the Match” analyses historical data and real-time data to establish the firsts three actions that a payer should do to improve the performance. The functionality “Momentum” tracks a map of the match visualizing crucial moments and causes of actions.

IBM SecondSight for the first time was used to track real time players and find out how they change performances in specific set and matches, collecting new data that are useful for the same players and coaches to improve trainings and for fans and reporters for better knowing the tennis.

In 2016, the AELTC fixed an objective: maintaining Wimbledon reputation as the best tennis tournament in the world. For this aim, cognitive and cloud technologies of IBM helped to deliver a new digital and social experience.

While in previous years the Social Command Center developed was useful to the editorial team to collect all the social media mentions of the tournament, from this year, thanks to IBM Watson technologies, was built a Cognitive Social Command Center to reveal previously hidden insights. In particular, IBM Watson Natural Language Classifier read all the tweets and other social media posts and identify if they are relevant or not to Wimbledon or tennis. To enrich the insight founded, IBM Watson AlchemyLanguage pick up data from the relevant social posts to identify which match or player is been mentioned and the relative positive or negative sentiment. All this information has been displayed real time on the dashboard of the Cognitive Social Command Center to give high quality insights and inspirations.

“The cognitive approach reveals what people say, think and feel about The Championships, helping us make quicker, more informed decisions.” (Alexandra Willis, Head of Communications, Content and Digital, AELTC)

For delivery these services and improving previous (such as SlamTracker or website and mobile app), the powering technology is the hybrid cloud of IBM.

IBM Bluemix provides a cloud platform that is useful to create and connect different channels with cognitive services and real-time data. With IBM SoftLayer also traditional web services can exploit these new ways of experience.

“Cognitive and cloud technologies go together like strawberries and cream,” says Sam Seddon, IBM Client Executive for Wimbledon and RFU - Sports Marketing and Innovation. “We can easily combine IBM Watson services with real-time data feeds and spin up new applications quickly without worrying about the infrastructure, helping us innovate faster than ever before. Every year at Wimbledon is a challenge to deliver new capabilities based on leading-edge technologies, which have often never been tested before on such a large scale or in such a high-profile, high-stakes environment. Cloud services like Bluemix empower us to experiment and build prototypes quickly—but also to seamlessly scale up the best ideas into full deployment quickly as the tournament approaches.”

Certainly, an important aspect emerging by leveraging on these technology is the security: to protect the system by attacks are used IBM Security Network Intrusion Prevention System and IBM Security SiteProtector System, integrating all the alert into IBM Security QRadar SIEM to manage all the issues in one place.

As a result of this proactive social media strategy, the AELTC was able to maintain the high level of users of the previous year tournament, despite the numerous events of other sports in the meanwhile (such as the soccer European Championship, or Formula One Grand Prix).

Results in numbers:

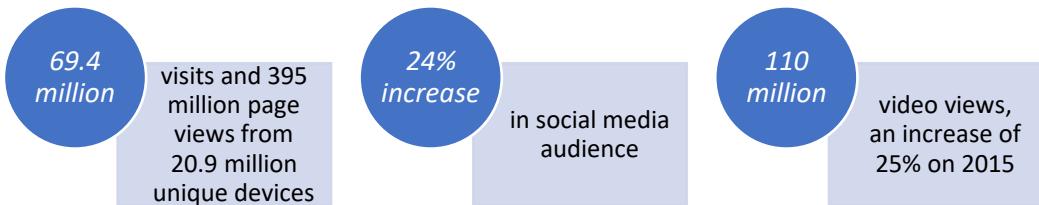


Figure 13: IBM Case Study: Wimbledon 2016, from IBM

IBM

products and services have also been used at Australian Open 2017, improving some features of existing solutions and adding some other useful characteristics and functionalities.

From the point of view of fan engagement, IBM combined all the historical data of the tournament with predictive and cognitive analytics to provide fan relevant knowledge about the game.

From this year, the SlamTracker is also available through the official Australian Open mobile app, making available on the phone amounts of information about players stars, performances, specific matches actions or even compare performances with historical ones.

The news is from the players and coaches' perspective: within few minutes after the game they can access to personal performance data, including highlights and game statistics. IBM Watson is also able to analyse performances in relation to the player's career and elaborate customized training programs.

For the media reporters, IBM's Australian Open TV makes available through touchscreen tablets all the information (historical, live video, interviews...) needed to elaborate and create news and TV services.

IBM Analytics solutions improve their support collecting and analysing real time data from the courts, statisticians and radars, providing information to scoreboards on courts and around the grounds, to the official website ausopen.com, to Australian Open official app, SlamTracker, TV broadcasts and journalists in the media center.

Even in this event, the reduced need in the time of these services, makes the cloud solution the better in order to scale up when needed. Another major tennis event, US Open 2017, had support from IBM for designing and developing the event digital platform with the already mentioned technologies: SlamTracker, IBM Cloud, Watson.

A new technology exploited is Cognitive Highlights, an IBM Watson enabled solution that can identify the match relevant and most exciting moments for auto-creating highlights. This solution faster and simplify the video content creation, for the four cases: daily highlight on the Facebook page, fans that favourites players can receive a real-time push notification to see the video, on the player page will be available video highlight of his matches and onsite in the player's lounge and in the fan-facing IBM Watson Experience.

2.2.3 Sport Club

In this area, the sport club is considered from the perspective of a common firm, for this reason has been coined the term “sport firm”.

It is easy to understand that, with technologies able to collect many data and of various type, the decision making within the club has many more information to considerate.

This leads also to a possible change in the way the activities are carried out, in particular, the operations that are mainly sustained from this point of view are:

- Team management

The composition of the team, especially in evolved and high-level clubs, include numerous people covering different roles.

Among the players, which number varies according to the sport, there is the technical staff, composed usually by a head coach, a vice-coach and an assistant coach, which are responsible of the technical-tactical aspect. A figure becoming always more important is the athletic staff, composed by one or more strength and conditioning coaches, which deals with the physical preparation of the players, which work in collaboration with the medical staff. This last one is usually composed by one responsible doctor and many specialists such as physiotherapist, osteopaths, masseurs etc.

To coordinate all this people there are the managerial figures, such as the team manager, the sportive director and many executives.

The management of all this people could be very complex and technology, for example with the use of web platforms, smartphones, mobile applications and similar, can importantly sustain procedures and create new ways for the scope.

A practical example is TeamSnap, a platform accessible both by desktop and mobile app that simplify the team management: it includes the possibility to communicate with team members, to share schedules and notify changes, keeping all the members updated about news and club situations. For the more technical proposal it is possible to share statistics and contents.

However, especially in Italy, the more used application for the staff-players communications is the instant messaging platform WhatsApp.

- Infrastructure and security management

During the events, security staff should be ready for whatever happens, from the small brawl to big issues such as fire.

To guarantee the safety, all the areas of the arena should be real-time monitored.

Smart stadiums are equipped with numerous cameras and sensors to continuously check the crowd. A complex network of software, hardware and wi-fi connectivity should be implemented to allow the communication between operators, to make decisions based on data gathered.

Of course, the basic step for becoming a smart arena is to know exactly how many people there are, where they are and, in an advanced situation of targeting, who they are.

- Talent scouting

Talent scouting can be considered a strategic operation in club processes. It consists in monitoring minor competitions in order to detect new talents to engage and train, to become a player, and consequently, an asset of the club.

This process is important for sport firms, as allow to “acquire” players with small amount of money, investing on them with trainings, but later obtain advantages and economic benefit from the trade of those players.

Talent scout task is that of observing thousands of young athletes, for sure a time expensive activity, that can be strongly supported and facilitated by technology.

In fact, there are platforms on which are available every kind of information and statistics about players, that speed up the information gathering phase of talent scouts and allow them to make decisions that are more data driven.

- Sponsorship and supplier management

This category deals with relationship within the sport supply chain, precisely between sport club and sponsors, and sport club and suppliers.

As for the other industries, information technology has changed the communication channels between parties, offering new channels and new systems to share data.

In sport, sponsorships are a crucial part of economic resources supply.

As reported in the income statement of the season 2014/2015 of the Italian football federation FIGC, published in collaboration with Deloitte, revenues from sponsorship contracts account (comprehensively for all the categories) for the 26,9%, aggregated with other commercial activities.

If we consider the professional league, the sponsorship and commercial activities accounts for the 16% of the revenues and the leading income comes from the media and broadcasting rights, that represent the 43% of total revenue.

As a confirm that nowadays the matches are only a small piece of fan experience, it is calculated that the incidence of ticket sales is only 10% of the total (8% in the aggregated results).

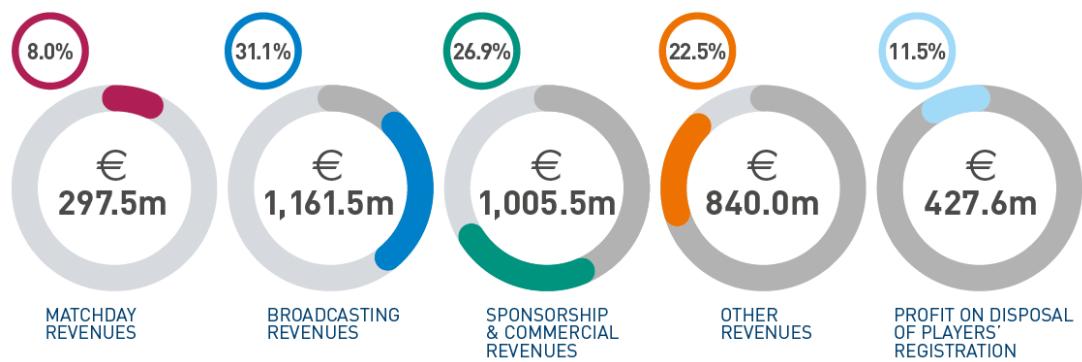


Figure 14: Aggregated revenue for the whole Italian football

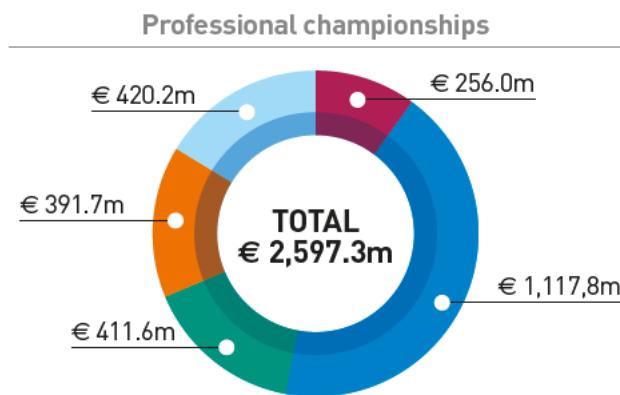


Figure 15: Income incidences for professional championships

(Source: "The income statement of Italian football", FIGC and Deloitte, 2016)

Application examples

Organizations are trying to adopt some managerial solutions in order to easily and efficiently control their activities.

The global leader in sports and entertainment business management solutions is KORE Software. It consists in a modular solution, composed by four main constructs: ticketing and fan engagement, sponsorship and partner engagement, suites and premium, data warehouse and analytics.

Ticket and fan engagement module helps in the ticket sales management, gives the opportunity to gain meaningful insights for how to engage and delight fans. The 360-degree view of audience helps in decision making and in spotting opportunities, in addition to more effective and targeted campaign definition. From the organization perspective, an important characteristic of this solution is the global view of the sales pipeline, allowing to have a complete revenue picture.

Among the teams who already adopted this solution there are Los Angeles Football Club, Oklahoma City Thunder(NBA), Charlotte Hornets (NBA) and Los Angeles Rams (NFL), Orlando Magic (NBA).

Sponsorship and partner engagement software helps in manage contracts and inventories, tracking execution from a single interface. It helps in transparency and accuracy in collaborations, maximizing it and improving communications. To this proposal the dedicated tool is KORE KONNECT, to sync real time content and deliverables with partners.

Some current clients are Golden State Warriors (NBA), LA Football Club an OKC Thunder (NBA), Orlando Magic (NBA).

Suites and Premium manage the sales pipeline, manage real time inventory through a seats map visualization and help in managing relationships with high-end clients. An example of client is the Orlando Magic team (NBA)

Data warehouse and analytics makes data available at fingertips collecting all the data in one site in order to have a complete overview. This allow to gain more powerful insight to engage fans and sponsors, acting predictively and surprising them. Of course, various analytical tools are available for multi perspective considerations.

To facilitate this process, pre-built schemas and integration processes are available for a better data source management. (Main storage providers are available for integration)

A cohesive CRM and Data Warehousing ecosystem is being adopted for instance by OKC Thunder and by Atlanta Braves (Baseball).

In the sport industry, not all the organizations have the structure and/ or the capitals for buy managerial software. To help even this kind of organizations, KORE has developed the Planning and Insights service, which provide best-of-bread data and analytics consultation in the form of advisory subscription, which can be used for a variety of business purposes.

The first team to take advantage of this consulting division is San Jose Sharks (Ice Hockey).

As a confirmation of the usefulness of KORE products and services, in the 2017 KORE software wins the award as “Best technology for commercial returns”.

2.2.4 Event management

The central point in sport, are the events. The weekly domestic championship game, the continental championship game, the domestic cup game, the tournaments... matches remain the input cause of fans.

The sport club, has to manage a finite number of games, optimizing the value it can create for fans and maximizing the returns they can get from them.

The operations in which this area is subdivided are:

- Events organization

Technology can help in facilitating the activities required to organize an event with many people occurring.

For example, some project management tools can support the activities tracking what have been already done and what remains to do.

- Stadiums and facility management

The arena of the future is equipped with every technology possible: this justify the term “Smart Arena”. Technologies allow to enhance the level of fan experience and fan engagement but also provide additional tools for training.

The main problem at the base is the property of the arena. In fact, many clubs are not the owner of the stadium they play in and this represent the bigger issue that brakes managers to invest in in-arena technologies.

The ones owners of the stadium, instead, can exploit new tools for simplify and efficient the processes.

The operations that could be mainly supported are ticket sales, monitoring real time availability, and providing information also for security, fan engagement, with new content to offer, such as replays, real time statistics, interaction points.

Even the maintenance of the stadium can be simplified: an example in football is represented by Wesii, which consist in drones having particular sensors to detect conditions of the playground such as humidity or biomass, parameters not easily verifiable by humans.

- Cultural promotion

Sport is a very powerful vehicle to share important cultural values such as sense of aggregation, participation and discipline.

Creating a community is made simple nowadays by social media, and with content sharing, articles, initiatives and engagement, it is possible to have a positive impact on the society.

- Referees support

The sport category target of major criticism is for sure the one of referees.

Sports are evolving and, in particular those in which the sequence of actions is becoming faster, referees are exposed to an increased failure rate.

In many sports, technology is used to support some critical decisions, that may have important consequences, sportive but later even economical, allowing referees to make more informed calls.

An example is the “VideoCheck” in volley, a technology developed by DataProject, that use numerous high definition cameras, placed on the lines and at net level, able to real time analyse every action of the match detecting faults. It is available both for coaches not agreed with the referees call and for referees that are not sure of what they have seen at human-eye.

This technology, developed in Italy and now exported at world level, has changed the destiny of many important matches, such as the Olympic semi-final between Italy and USA, when the American team was leading and very near to the win, but the Video Check used in the very last actions of the fourth set, allows the Italian team to win the set and later the match, facilitating calls that otherwise, without the technological help, would have been impossible to make right.

Application examples

The German football major league club Sportgemeinschaft 1899 Hoffenheim (more simply known as TSG Hoffenheim) adopts many software tools by SAP, for different managerial purposes.

For the ticket sales, they use SAP Event Ticketing, a web-based management solution which incorporate all ticket sales information from the different channels such as web shop, booking office, secondary marketing or directly the stadium. With SAP Event Ticketing is possible at any time in real time to check the current level of capacity.

For tracking the complementary sales, such as merchandising or kiosks, the solution is SAP Customer Checkout that collect data and can perform basic analysis on purchases, profiling customers.

Leveraging on the online commerce, SAP Hybris Commerce helps in increasing significantly sales on this channel.

All the data collected by the different module software, are stored on the SAP ERP database, that allows to draft reports, to have information on individual business procedures.

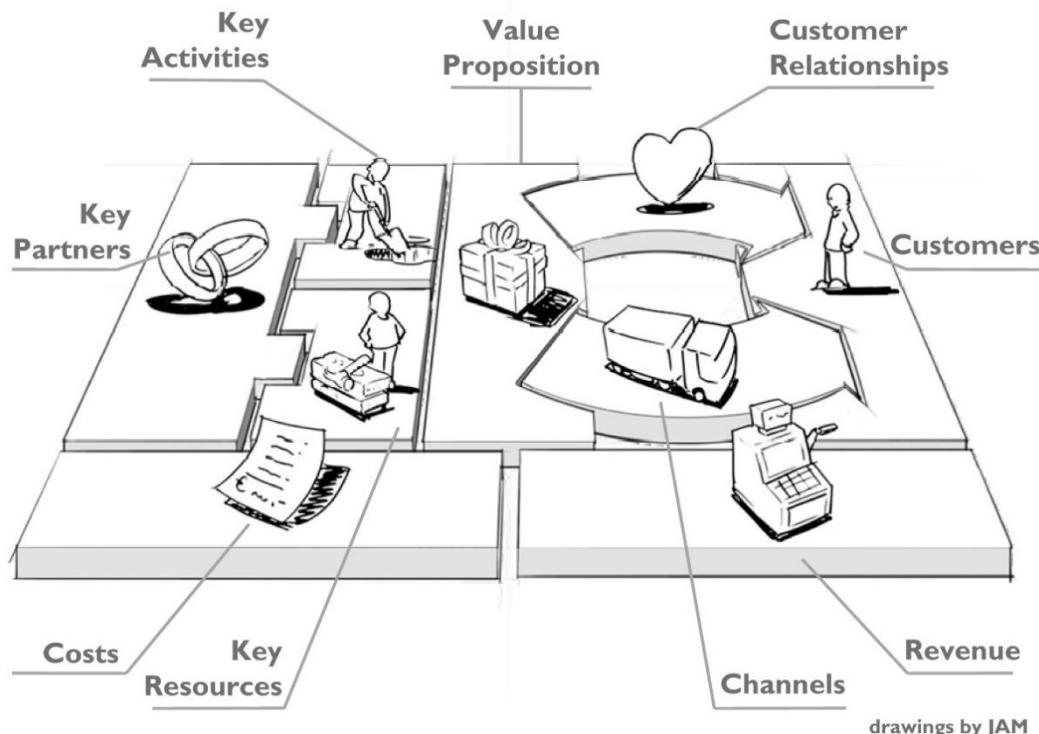
2.3 Business Model Canvas

The Business Model Canvas is a tool developed by Osterwalder and Pigneur in 2010, that is aimed to representing strategic decisions made by companies.

As stated by Osterwalder in his handbook “*the starting point for any good discussion, meeting, or workshop on business model innovation should be a shared understanding of what a business model actually is*”, therefore before introducing the model will be provided a brief definition of business model.

“A Business Model describes the rationale of how an organization creates, delivers and captures value”, representing the comprehensive set of strategic decisions made for that purpose.

In literature, there are many configurations of the business model, but the most diffused configuration is the one provided by Osterwalder and Pigneur, named Business Model Canvas.



drawings by JAM

Figure 16: The Business Model Canvas, original book illustration

This model is composed by nine building blocks:

1. Customer Segments: An organization serves one or several Customer Segments.

2. Value Proposition: It seeks to solve customer problems and satisfy customer needs with value propositions.
3. Channels: Value propositions are delivered to customers through communication, distribution, and sales Channels.
4. Customer Relationships: Customer relationships are established and maintained with each Customer Segment.
5. Revenue Streams: Revenue streams result from value propositions successfully offered to customers.
6. Key Resources: Key resources are the assets required to offer and deliver the previously described elements...
7. Key Activities: ...by performing a number of Key Activities.
8. Key Partnerships: Some activities are outsourced, and some resources are acquired outside the enterprise.
9. Cost Structure: The business model elements result in the cost structure.

For each one of the pillars follow a dedicated paragraph.



2.3.1 Customer Segment

The Customer Segment building block include all the group of customers that the enterprise aims to reach and serve.

Every business model has to clearly descript company's customers as the objective is to turn them from satisfied customers in revenue streams.

The process of Customer Segmentation creates cluster of people with similar characteristics and needs, allowing the company to better target them based on what they want.

The key question to ask for define Customer Segments is: "For who are we creating value?".

Customer groups represent different segments if their needs justify a different offer, if they should be reached with different distribution channels, if they require different relationship ways, if they have a consistently different profitability and if they have different willingness to pay for the offer.

There are different typologies of Customer Segments, and consequently, different coverage strategies that the organization can implement:

- Mass market: the business models don't distinguish between Customer Segments, the value proposition, distribution and relationships are all based on a large group of customers, sharing broadly similar needs. An example could be the consumer electronics.
- Niche market: the focus is on specific and specialized Customer Segments; all the operations are tailored for the specific requirements and needs of those customers. This kind of business model could be found in supplier-customer agreements, such as car part manufacturers that collaborate and depends from major automobile manufacturers.
- Segmented: this strategy focuses on customers having slightly different needs and problems. As example could be considered the micromechanical design and manufacturing: the three Customer Segments are the watch industry, the medical industry and the industrial automation sector, and they offer each slightly different value proposition.

- Diversified: the organization serves two unrelated Customer Segments, characterized by very different needs and problems. Amazon could be taken as example, since from the 2006 decided to sell also cloud computing services, targeting completely different customers. The choice is justified from the powerful IT infrastructure of Amazon, that can be shared by retail sales and cloud computing service unit.
- Multi-sided markets: when the company serves two or more interdependent Customer Segments. The clearest example are the credit card companies, which both need a huge base of credit card holders and a large base of merchants who accept those credit card. The services offered are different, but they are strongly interdependent.



Figure 17: Customer Segment building block

Key Questions

- *For whom are we creating value?*
- *Who are our most important customers?*



2.3.2 Value Proposition

The Value Proposition building block describes the bundle of products and services that create value for a specific Customer Segment.

In other words, it is the reason why people turn to one company over another, it solves a customer problem or satisfy a customer need.

Some Value Propositions may be innovative and represent a new or disruptive offer. Others may be similar to existing market offers, but with added features or attributes.

Values may be quantitative, such as price or speed of service, or qualitative, such as design or customer experience, and the customer will choose the company that offer the mix of elements that better fit to his needs.

Among the numerous possible elements that characterize the choice of a Value Proposition there are the following:

- Newness: when Value Proposition satisfy a new set of needs that customers previously ignored due to a lack of offer.
- Performance: traditionally, improving product or service performance create value for consumers.
- Customization: in some cases, customers prefer solutions that they can adapt and model in a way that better answer to their needs. Nowadays, this element has extremely importance.
- “Getting the job done”: sometimes value consists simply in helping customer doing something.
- Design: it is a difficult element to measure, but at same time could let a product stand out for its particular and distinctive one.
- Brand/ Status: customers may find value simply in using and displaying products produced or commercialized by a specific brand. Often, it is connected a psychological motivation connected to the personal status.
- Price: especially for price-sensitive Customer Segments, the price is a crucial element in the choice. The price level is often associated by customers at the quality level, creating some implications in the product placement.

- Cost reduction: creating value may mean also helping customers to reduce the costs.
- Risk reduction: when purchasing products or services, customers incur in risks. If the value created is satisfactory, the risk is perceived lower.
- Accessibility: making products available to customers that before lacked access is another way to create value. In fact, not only is important the value creation but even the value delivery.
- Convenience/ Usability: the practicality can be important for some Customer Segments and making the things easy to use creates value for them.

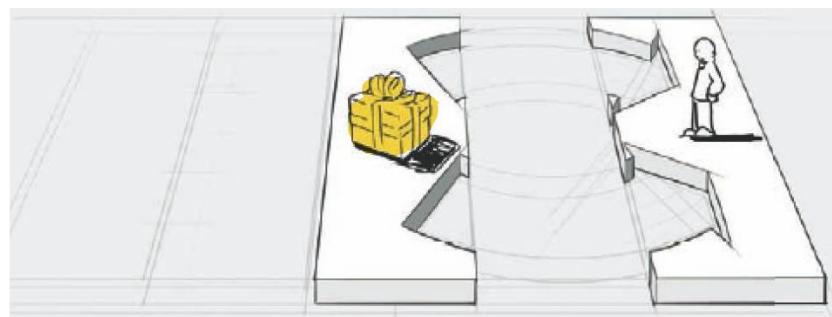


Figure 18: Value Proposition building block

Key Questions

- *What value do we deliver to the customer?*
- *Which one of our customer's problems are we helping to solve?*
- *Which customer needs are we satisfying?*
- *What bundles of products and services are we offering to each Customer Segment?*



2.3.3 Channels

The channel section describes how a company interrelates with Customer Segments to deliver its Value Proposition.

The company interface with customers is composed by communication, distribution and sales channels, which represent touch points that play relevant roles in customer experience.

Channels cover many functions such as raising customer awareness both on the product and the company, differentiate value proposition, delivering the value proposition and providing post-purchase support.

The choice of channels should be made on the basis of customers characteristics, understanding their preferences and trying to integrate them between themselves and in the customer routine.

The five distinctive phases of channels are:

- 1- Awareness
- 2- Evaluation
- 3- Purchase
- 4- Delivery
- 5- After sales

A single channel can go through one or more of them.

There is a distinction between owned channels and partner channels.

Owned channels can be direct, such as in-house sales force or proper website, or they can be indirect, going through retail stores owned or operated by the organization.

Partner channels are indirect and offers different options such as the wholesale distribution, retail or partner-owned website.

The objective of partner channels is to reach and benefit from partners strengths, although accepting lower margins.

Owned direct channels has higher margins but they have management costs to be considered.

the objective is to find the right mix to satisfy customers and offer them the best possible experience, maximizing the revenues.

Channel Types		Channel Phases				
		Sales force				
Own	Direct	Web sales	1. Awareness How do we raise awareness about our company's products and services?	2. Evaluation How do we help customers evaluate our organization's Value Proposition?	3. Purchase How do we allow customers to purchase specific products and services?	4. Delivery How do we deliver a Value Proposition to customers?
Partner	Indirect	Own stores Partner stores Wholesaler				5. After sales How do we provide post-purchase customer support?

Table 1: Channel types and phases

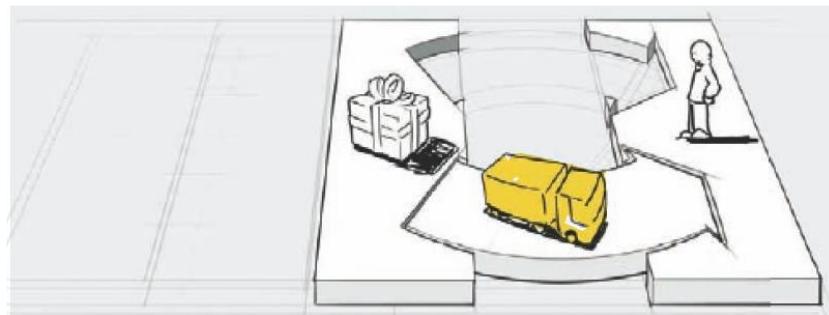


Figure 19: Channels building block

Key Questions

- Through which Channels do our Customer Segments want to be reached?
- How are we reaching them now?
- How are our Channels integrated?
- Which ones work best?
- Which ones are most cost-efficient?
- How are we integrating them with customer routines?



2.3.4 Customer Relationships

In this section are described the types of relationships the company establishes with the different Customer Segments.

Generally, there are three main motivation classes that characterize the relation:

- To acquire customers, following different acquisition strategies. For example, mobile network operators adopt the strategy of involving free mobile phones if you sign a new contract with them.
- To retain customers, and this happens when the market is quite saturated, with the company aiming at increasing the revenues per customer.
- To boost sales, for example with upselling strategies.

The Customer Relationship is a key element in the customer experience and can influence it importantly.

Customer Relationships are categorized depending on the way they occur: they range from personal relationship to automated.

- Dedicated personal assistance: to an individual customer is dedicated a specific customer representative. Represent the most intimate communication way and usually are the result of long term duration.
- Personal assistance: relationship based on human interaction. Can occur on site in a store, through call centers, by e-mail, chat or other means.
- Self-service: there is not a direct relationship between the company and the customers, but it provides them all the necessary tools to let help themselves
- Automated services: it is a mix between high level self-service and automated processes. Automated services can recognize individual customers and their characteristics and offer information related to specific situations.

Nowadays, there is a diffusion of “chat bot” that can simulate a real personal relationship.

Increasingly, companies leverage on user communities, allowing users to exchange knowledge and solutions for common problems. They are also used to collect more information about customers, useful for product-services updates or better targeted initiative.

Another phenomenon, that is reshaping the traditional customer-vendor relationship, is the co-creation, which means that customers collaborate in the value creation. Some companies, for example, engage customers to provide advices on product design of innovative items or others solicit people to create their own content for public consumption. The main case of this category is YouTube.

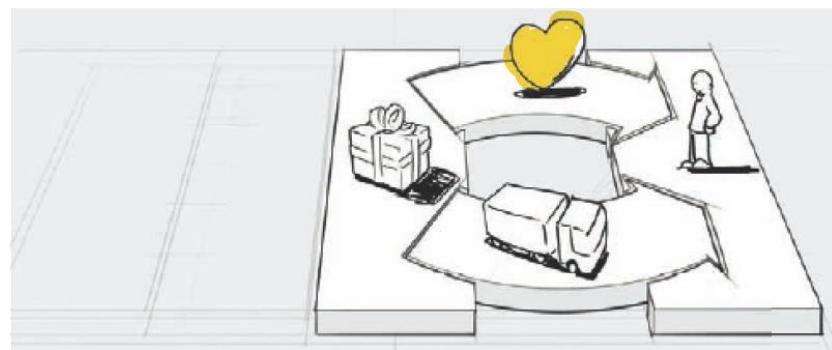


Figure 20: Customer Relationship building block

Key Questions

- *What type of relationship does each of our Customer Segments expect us to establish and maintain with them?*
- *Which ones have we established?*
- *How costly are they?*
- *How are they integrated with the rest of our business model?*



2.3.5 Revenue Streams

In the Revenue Streams building block, are expressed all the cash inflow of the company.

"If customers comprise the heart of a business model, Revenue Streams are the arteries."
(Osterwalder and Pigneur)

The key question the company should ask is: for what value the Customer Segments are truly willing to pay? From this answer will be identified the Revenue Streams generated by each Customer Segment.

Each Revenue Stream may have his own pricing mechanism, such as fixed prices, bargaining, auctioning, market dependent, volume dependent or yield management.

Fixed Menu Pricing		Dynamic Pricing	
Predefined prices are based on static variables		Prices change based on market conditions	
<i>List price</i>	Fixed prices for individual products, services, or other Value Propositions	<i>Negotiation (bargaining)</i>	Price negotiated between two or more partners depending on negotiation power and/or negotiation skills
<i>Product feature dependent</i>	Price depends on the number or quality of Value Proposition features	<i>Yield management</i>	Price depends on inventory and time of purchase (normally used for perishable resources such as hotel rooms or airline seats)
<i>Customer segment dependent</i>	Price depends on the type and characteristic of a Customer Segment	<i>Real-time-market</i>	Price is established dynamically based on supply and demand
<i>Volume dependent</i>	Price as a function of the quantity purchased	<i>Auctions</i>	Price determined by outcome of competitive bidding

Table 2: Fixed and dynamic pricing mechanisms

The two main type of revenue stream are:

1. Transaction revenues: resulting from one-time customer payments.
2. Recurring revenues: resulting from ongoing payments to either deliver a Value Proposition to customers or provide post-purchase customer support.

The ways Revenues Streams are generated are:

- Asset sale: revenues derive from selling products.
- Usage fee: streams generated by usage fees of service offered. Usually they are proportional to volume used.

- Subscription fees: revenues generated from sales of continuous access to services, such as fees including more than one use of the service.
- Lending/ Renting/ Leasing: these revenues are generated by selling temporarily exclusive right to use assets.
- Licensing: revenues deriving from giving customers the rights to use protected intellectual properties in exchange for fees. This is a common stream in media industry, where content owners retain copyrights while selling usage licenses to third parties. Another application field is technology industry, with patentholders selling the right to use patents.
- Brokerage fees: these revenues derive from the intermediation services.
- Advertising: Revenues Streams resulting from fees for advertising a particular product, service or brand.

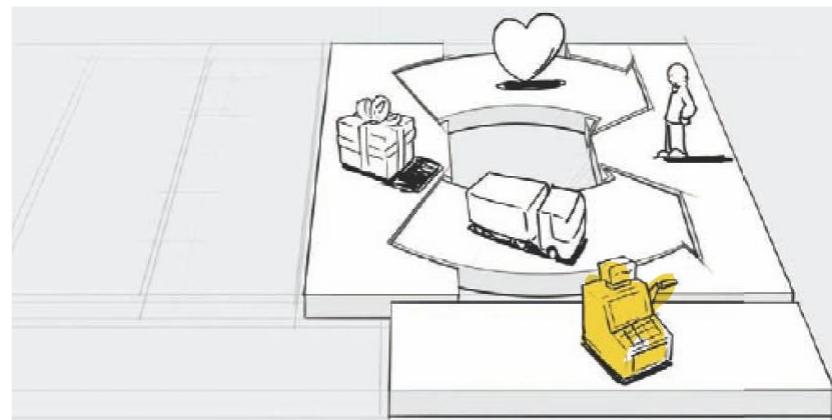


Figure 21: Revenue Streams building block

Key Questions

- *For what value are our customers really willing to pay?*
- *For what do they currently pay?*
- *How are they currently paying?*
- *How would they prefer to pay?*
- *How much does each Revenue Stream contribute to overall revenues?*



2.3.6 Key Resources

Key Resources are represented by most important assets the company needs to make the business model work. Key Resources allows enterprises to create and offer the Value Proposition, reach and maintain relationships with Customer Segments and create revenues.

The key question, to find what fundamental resources are, is “What Key Resources do our Value Proposition require?”.

Depending on the company, the industry and the business model configuration, different types of resources are needed.:

- Physical: all the physical assets are included, such as manufacturing facilities, buildings, vehicles, machine systems, point of sale systems and distribution networks. They are usually capital intensive.
- Intellectual: brands, proprietary knowledge, patents and copyrights, partnerships and customer databases are increasingly important components of the business model. Generally, these are the resources most difficult to develop, but later could grant a sustainable advantage.
- Human: every enterprise requires human resources, which can have different roles and importance depending on the context.
- Financial: financial resources and financial guarantees are fundamental to acquire and retain other resources.

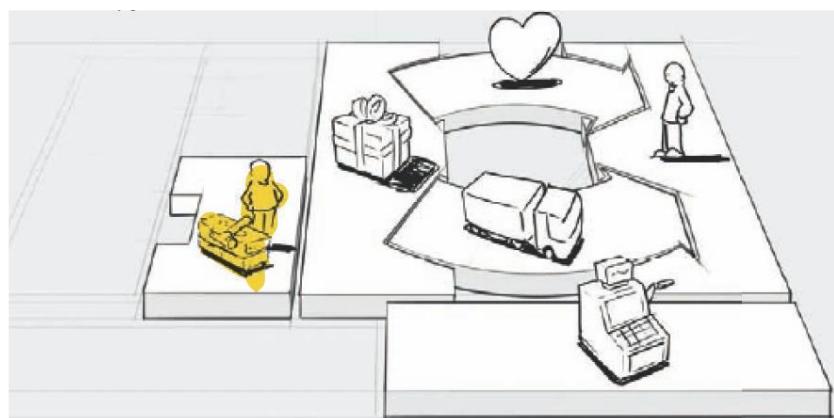


Figure 22: Key Resources building block

Key Questions

- What Key Resources do our Value Propositions require?
- Our Distribution Channels? Customer Relationships? Revenue Streams?



2.3.7 Key Activities

The Key Activities are the most important things that the company must do to make the business model work. Coupled with Key Resources, they are needed to accomplish value creation and offer, market accessibility, Customer Segments acquisition and retention and revenues creation.

“What Key Activities do our Value Proposition require” is the key question to identify them.

Depending on the context, as Key Resources, there are many types of activities:

- Production: activities related to designing, making and delivering products. They are the dominant activities in manufacturing firms.
- Problem solving: deals with solution finding at individual customer problems.
- Platform/ Network: business models that include platform or networks in Key Resources will be dominated by all the related activities, such as the continuous maintenance and development activities to improve and update the platform/network.

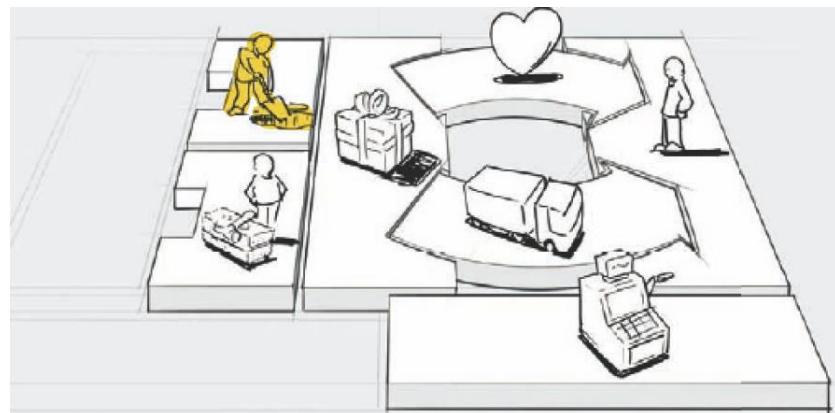


Figure 23: Key Activities building block

Key Questions

- What Key Activities do our Value Propositions require?
- Our Distribution Channels? Customer Relationships?
- Revenue streams?



2.3.8 Key Partnerships

In this section are reported all the partners the company needs to implement his business model. There are four possible types of partnerships:

1. Strategic alliances between non-competitors;
2. Coopetition: strategic partnerships between competitors;
3. Joint ventures to develop new businesses;
4. Buyer-supplier relationships to assure reliable supplies.

It can be useful to distinguish three motivations for creating a partnership:

- Optimization and economy of scale: it represents the most basic form of buyer-supplier relationship, designed to optimize the allocation of resources and activities. For a company, it is rarely possible to own all the resources or perform all the activities by itself, for this reason optimization and economies of scales are aimed to reduce costs or outsource or share infrastructure.
- Reduction of risk and uncertainty: these kinds of partnerships are formed to share the risks related to competitive and uncertain environments.
- Acquisition of particular resources and activities: another consequence of not owning all resources or performing all activities. These kinds of partnerships can be motivated by the need to acquire some knowledge, licenses or access to customers.

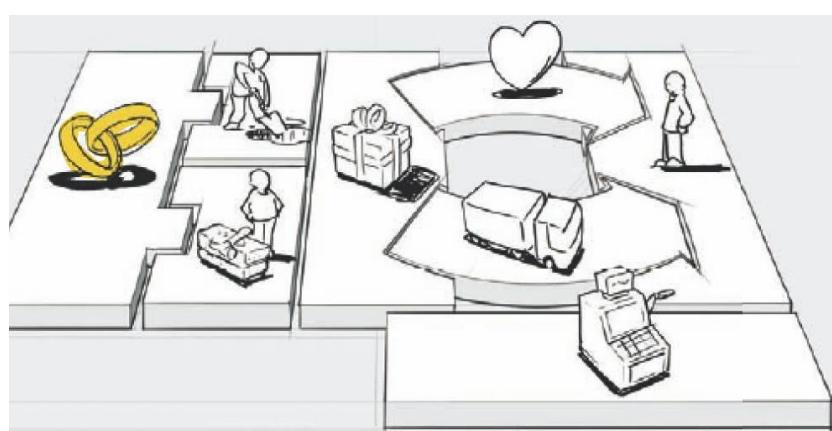


Figure 24: Key Partnerships building block

Key Questions

- Who are our Key Partners?
- Who are our key suppliers?
- Which Key Resources are we acquiring from partners? And which Key Activities do partners perform?



2.3.9 Cost Structure

This building block is composed by the most important costs incurred while operating under a particular business model.

These costs could be consequently identified after defined Key Resource, Key Activities and Key Partners, and are generated to create and deliver the Value Proposition, maintaining Customer Relationship and generating revenues.

Naturally, costs should be minimized in every business model, but company may decide to give much or less importance to Cost Structure.

From this importance level, we can distinguish between two categories of organizations:

1. Cost-driven: in these enterprises the main objective is to minimize costs as much as possible. Usually, this imply low cost Value Proposition, maximum automation and extensive use of outsourcing.
2. Value-driven: some companies are less concerned about cost implications and are very focused on high value creation. Premium Value Proposition and a high degree of personalized service, usually characterize this kind of business models.

Most common Cost Structures are composed by:

- Fixed costs: costs that remain the same despite the volume of goods or services produced.
- Variable costs: costs that vary proportionally with the volume of goods or services produced.
- Economies of scale: cost advantages deriving from output expansion. Larger companies, for instance, benefit of lower average unitary costs.
- Economies of scope: cost advantages that business exploit due to a larger scope of operations. For example, the marketing activities of a large enterprise may support multiple products.

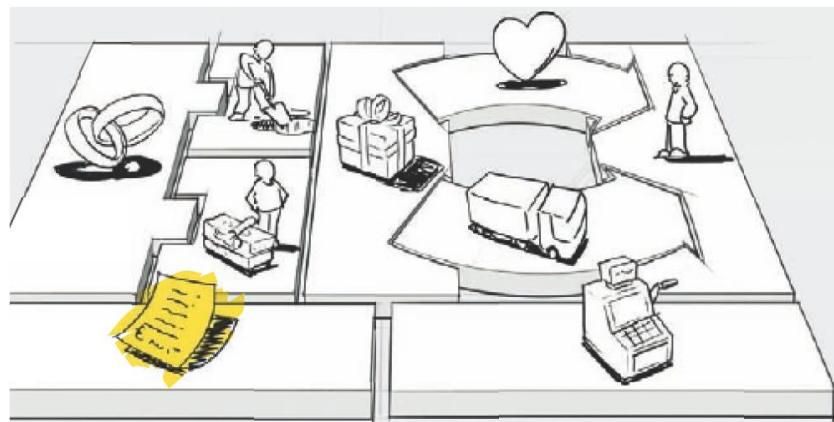


Figure 25: Cost Structure building block

Key Questions

- *What are the most important costs inherent in our business model?*
- *Which Key Resources are most expensive?*
- *Which Key Activities are most expensive?*

3 RESEARCH DESIGN

The structure of this Thesis will follow a predefined path, which has been configured to ensure a complete and detailed research.

3.1 Objective of the research

The ambition of this Thesis is to analyse the implementation of the digital strategy in the sport industry, considering how sport clubs engage in the use of digital technologies.

Digital technologies have disrupted the traditional method to carry out activities, starting from individual people, who own different smart devices and spend relevant amount of time on them, changing mindset and behaviours.

Enlarging the focus on sport organization, then, it is observable that the technologies open new possibilities to differentiate the business model from the core business of the sportive result.

Starting from the athletic performance aspect, in the last years digital technologies have been applied to support traditional operations and training analysis, integrating with human knowledge and cognitive capabilities, to make more data-driven and informed decisions.

Considering fans, they acquire high value for the clubs and given their technology-addiction, even organizations should evolve in the way they relate with and engage them.

Based on these considerations, it has been developed the actual objective of this thesis: investigate on what is the actual level of sport club in the innovation process, providing a useful and applicable model to map the technological initiatives undertaken by the sport clubs.

3.2 Methodology

The logical path followed by this thesis it is shown in the following flowchart, which represent the structure of the work.

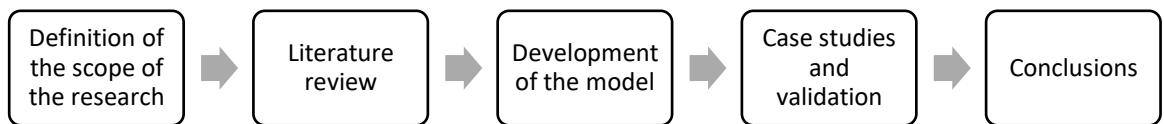


Figure 26 Thesis configuration

The Introduction chapter starts with the definition of strategy, starting from the first military formulation, to the application at the business world. It continues with the historical evolution of this concept, through the IT strategy elaboration, its initial limitation at functional level, ending with the important conceptual change, that considers one unique strategy integrating business and technological aspects, named Digital Business Strategy.

For complete the introduction, an overview of the sport industry is provided, illustrating the context in which this thesis is developed.

In the first chapter, then, a literature review is carried out. The central reference point is a framework about the innovation in the sport industry, developed by Politecnico di Milano. Is then described the Business Model Canvas, at which the new model is inspired.

The following step is the core of the thesis: The Sport Club Digital Strategy Canvas.

This new model aims to be a supportive instrument in the analysis of the implementation of digital strategies in sport organizations. It is also valid for a feedback on which area is the area in which the club has main invested in technologies.

After developed the model, there is the Case Studies phase, in which some sport clubs have been taken as objective of the analysis and it is been applied the model. The interviews at figures working for sport clubs has a double purpose: firstly, validate the model, with its application to real cases, then analysing on which innovation level the clubs are.

In the conclusion chapter, the results of the research and their interpretation are provided.

In the next paragraphs, the details about the methodology adopted for each phase are illustrated.

3.2.1 Literature review methodology

To build a robust knowledge about the topics and the industry is the essential first step to carry out, to engage in the research with the opportune background.

To track all the sources used, a working sheet it is been adopted, in which documents where detailed by the dimensions: Level of pertinence, Year, Topic, Sport, Title, Authors, Source, Keywords, Notes.

The first step was to study the concept of strategy, from the original to the current meaning. The evolution in IT strategy and, subsequently, Digital Business Strategy was the further analysis element.

With this aim, have been taken as sources:

- Politecnico di Milano bachelor and Master of Science courses materials;
- Scientific papers;
- Books specialized on the topic;
- Consultancy company reports.

After understood the digital strategy concept, the focus is shifted the awareness about the sport industry context, with particular interest to researches, case studies or models already existent about sport management and digital strategy application in sport organizations.

In this case, the main sources were:

- Google search engine;
- Google Scholar search engine;
- Biblio.polimi search engine;
- SportTechie;
- SportBusinessMagazine;
- Scientific papers;
- IBM blog and pressroom;
- Consultancy company analysis such as PwC, ATKearney, Deloitte, Atos, Nielsen Company and Nielsen Sport.

To provide a comprehensive and reliable knowledge base, in the first two chapters, the research questions to answer were:

- What is a Business Strategy?
- What is a Digital Strategy and how it differs from the Business Strategy?
- How is shaped the Sport Industry and what are its peculiarities?
- How a Digital Strategy could be applied in a sport club?

Being the argument of the research particularly unexplored, none existent model about sport management or digital innovation in sport organizations has been found in literature.

An original model about the Digital Innovation in the Sport Industry, it was included to enhance the context picture.

With the purpose to develop a model for mapping Digital Strategies implementation, it has been also included an established business tool, used to analyse different context, the Business Model Canvas.

3.2.2 Digital Innovation in Sport Industry framework methodology

This is an original framework, developed by Osservatori Digital Innovation, of the Politecnico di Milano, with the aim of provide a reference about the digital innovations application in the sport industry.

In particular, it classifies the technologies according to four different areas, which one groping applications that are referred to the same target and final users.

The four macro areas identified are:

- ❖ Fan Experience
- ❖ Athletic Performance
- ❖ Sport Club
- ❖ Event Management

Using this model as a reference, it is possible to identify where technologies are applied, the value they create, and which will benefit from this value.

After understood the meaning and interpretation of this model, a new phase started, and was dedicated to find digital technologies projects already carried out by sport firms.

To collect information on these cases, in addition to the previously mentioned search engines, important sources were the website of the organizations, the blogs, websites and newsrooms of software and technology company, such as IBM or SAP, sport business focused magazines which reported the initiatives or reports from consultancy companies interested in the sport industry.

The aim of this research was to provide practical examples of implementations to support the framework, but mainly drawing a picture of real project undertaken by clubs, understandings criticalities, motivations, collaborations and results and benefits gained.

3.2.3 Business Model Canvas methodology

The Business Model Canvas is a model developed by Osterwalder and Pigneur in 2010, that is aimed to representing strategic decisions made by companies.

It is used by managers as a tool for supporting in a visual, clear understandable and efficient way, the creation of a whatever organization business model. It can be also applied to existent business models, with the aim to understand which the key elements are and understanding how it works.

The characteristic for which it is a very widely used tool, is its adaptability to interactive context, in which people can discuss and participate, sharing ideas and reasoning about a specific business model.

The structure is quite simple and is composed by nine blocks, disposed in a defined order in the canvas, representing a logical reasoning.

The nine building blocks are:

- Value proposition,
- Customer segments
- Customer relationships,

- Channels,
- Key resources,
- Key activities,
- Key partnerships,
- Cost structure,
- Revenues streams.

The heart of the model is the value proposition, in which is described what the company offers to customers. The other boxes, instead, details the way the offer is created, delivered and maintained.

There are three sub-structures that describe the offer:

- Value proposition, composed by the value proposition, customer segments, channels and customer relationships blocks. It represents what is the offer, to whom it is targeted and in which ways it is delivered and managed.
- Value infrastructure, constituted by key resources, key activities and key partners. Illustrate what is needed for the purpose creation and delivery.
- Value formula, expressing the costs necessary to sustain and the relative revenue streams generated by the offer.

The Business Model Canvas it is the reference for the new model for several reasons:

- ❖ The application context: the analysis will consider organizations and the way they create and deliver value through digital technologies;
- ❖ The purposes of use: the aim is to develop a model which is easy and intuitive in the use, in a compilation mode;
- ❖ The structure: as for the Business Model Canvas, the objective is to detail digital technologies application, highlighting the value they create, who they target, the activities necessary for the implementation and the benefits both for users and club.

3.2.4 Sport Club Digital Strategy Canvas methodology

The objective of the model, accurately illustrated in chapter 4, is to provide a useful support in the analysis of the Digital Strategy implementation in sport organizations.

The development process started with the baseline knowledge acquired in the literature review phase, carefully observing projects of sport organizations who already implemented some initiatives about digital technologies.

The sources used have been mentioned in the previous paragraph 3.2.2, since the phase of practical case research was finalized both for the framework understanding and for the big picture draw regarding the new model.

The structure of this model is strongly influenced by the two before illustrated models, the Framework of the Digital innovation in Sport Industry and the Business Model Canvas.

The former, has provided a robust base for the categorization and subdivision in four macro-areas, that is correspondent to the distinction made in the framework. Consequently, the structure of the Sport Club Digital Strategy Canvas is composed by four quadrants:

1. Fan Experience

Deals with technologies aimed at enhancing and enriching the experience of people interested in the team or more broadly in the sport event. It groups all the fan-targeted applications, both for those physically present at the arena and for those who are not. The focus it is not limited at event-time, but the consideration enlarged at always-connected fans.

2. Athletic Performance

It cares about technologies applied for match and player analysis and performance evaluations, those which support or are the way of the training and those useful in the monitoring of the health condition and important in the rehabilitation phase.

3. Sport Club

This section is about technologies used by the club for managerial purposes, supporting the operations in an efficient way. Technologies in this category are aimed at team

management, infrastructure and facilities management, sponsorship and supplier relationship management and talent scout activities.

4. Event Management

The digital technologies in this group are finalized at supporting events organizations, cultural and value promotions, arenas management and decision-making support for referees.

Once defined the general structure and subdivision of the canvas, the attention has been turned on one single quadrant at time.

The subsequent objective was to define a clear structure for each one of the areas. The question was if develop a unique internal schema fitting with all the sections or personalize the single area with a more tailored schema.

The decision made, after pros and cons analysis of the two possibilities, was to personalize each context, in order to better highlight the peculiarities of each.

Next step was the schema development, and the key characteristics importantly accountable were the intuitiveness and practicality of the model, and the exhaustive coverage of the relevant details.

With these considerations, of particular inspiration was the Business Model Canvas, described in chapter 2 with its recognized qualities.

To prove the correspondences, at the end of each quadrant description in the chapter 4, a table with explicit links between the model and the Business Model Canvas sections is provided.

Despite the choice to personalize each configuration, three common parts are:

- ❖ Target

The reference is to the Customer Segment, in this subsection should be detailed to which the technologies application is dedicated.

- ❖ Investments and Costs

Like the Cost Structure building block, this part is dedicated at the investments necessary to the implementation and the relative costs and maintenance expenses.

- ❖ Value created and Exploitation

The correspondence is with the Revenue streams section, but the slight difference is that for this model, due to frequent difficulties in highlighting the economic benefits of the initiatives, the concept is enlarged to value created for the club and the relative exploitation modes.

To establish the specific vertical entries of each schema, the references were the already implemented technologies and their cases.

For the **Fan Experience** area, the details to fill in are:

❖ Initiative

It is simply the name or identification of the application.

❖ Value Proposition

It explains what the technology offers to the fans and the value created for the final users.

❖ Technologies

It specifies which technologies have been implemented, which are needed by the arena to let the technology work and those needed from the user side to benefit of the value.

❖ Activities

Highlights the activities needed to carry out in order to implement and maintain the technology, both technical activities and organizational, such as a hypothetical new area creation in the organization structure.

❖ Partners

Explains which partners or suppliers are participating or collaborating.

The **Athletic Performance** quadrant is the most customized, due to its specific context characteristics, and is composed by:

❖ Technology

Which technology is applied.

❖ Application field

The classification of the purpose, among those mentioned before, such as performance measurement, training and health & rehabilitation.

❖ Functionalities

How the technology works and what allows to do.

❖ Data provided

What are the data useful for the staff work that are collected by this technology.

- ❖ Stakeholders

Which are the figures interested in the use and in the output of the technology.

- ❖ Partners

As before, the collaborators or suppliers.

In the **Sport Club** section:

- ❖ Activity

Highlights which activity or organizational process is performed or supported through the digital technology.

- ❖ Technology

It explains which technology, software, platform or app it is used.

- ❖ Functionalities, Stakeholders, Partners

These parts assume the same or slightly personalized meaning as in the other sections.

In the **Event Management** macro-area:

- ❖ Finality

It clarifies which is the objective, the operation or the process supported by the technology implementation.

- ❖ Technology, Functionalities, Stakeholders, Partners

The same interpretation as before.

The instructions for the model use are simple and intuitive: considering every technology applied by the club, classify it in the four macro-areas and then fill the boxes to detail and understand its characteristics and application.

The need to validate this new model, made necessary the analysis of real cases to have the opportunity to apply it. In the next paragraph the methodology followed.

3.2.5 Case studies methodology

The aims of the case studies are to gather information about Digital Strategy for sport organization, not extractable from the literature and web sources, and apply and validate the Sport Club Digital Strategy Canvas.

To deeply understand the interpretation and opinion about digital technologies use, indeed, the collaboration of someone who works in the field is essential to catch qualitative and motivational information about the research.

With these purposes, have been developed Case Studies, following the CASE STUDY METHODOLOGY (Michela Arnaboldi, Management Engineering Department, 2016).

The problem

The best way to know a context, is to discover it by the inside. The lack of consistent online material and the absence of case studies about the subject, made the study of the sport club situation tricky. The opinion of sport managers, have been considered essential to understand how sport club approach Digital Strategy concept and how they engage in technology-oriented projects.

Objectives

The objectives for which case studies have been created and analysed are the following:

1. Understanding the opinion of sport club managers about the Digital Strategy, their interpretation of the concept and their approach to technological projects.
2. Provide a confirm of the industry situation described by the literature and analysing the Italian clubs level in the innovation process, through information not collectable from other sources.
3. Validate the model developed in chapter 4, with its application at real cases.

Thus, an interview schema has been defined and addressed to different figures, working in Italian sport clubs. Consequently, to the collection of the opinions, 6 case studies have been developed.

Finally, once analysed the case studies and validated the model, the results have been explained in the conclusions.

Framework of analysis

The selection of the cases has been done among the team sports with the highest numbers of participants in Italy, such as Football, Basketball and Volleyball. Since the four macro-areas defined in the framework and in the model, have different field-specific knowledge, the choice on whom to interview was done considering the competences and trying to provide a balanced collection for all the ambits. For this reason, in some cases it was necessary to involve more than one figure of the club.

Methodology

A. Deciding the unit(s) of analysis

With the aim to be as complete and realistic as possible in the analysis, a multi-case approach has been adopted. The attention was on high-level Italian clubs, from different leagues, that has already undertaken some initiatives about the research topic, taking care of covering all the four areas of the model. The occasion of the interviews was exploited even for verifying the level of innovation of Italian clubs and their approach to research topics.

B. Selecting Case Studies

Sport Clubs were selected trying to provide the highest level of heterogeneity, in terms of sport considered and structural level of the organization.

The people interviewed works in different roles in clubs competing in the major league of the sports most followed in Italy, which are Football, Basketball and Volleyball. Have been

interviewed mainly figures from marketing department, in Unet e-Work Busto Arsizio case the Head coach of the team (Marco Mencarelli), and in the case of VeroVolley the Team Manager and Scoutman. For Genoa CFC, has been interviewed Claudio Severoni, General Manager of CVE Spa, the company in charge to care of the club digital department.

Due to time and territory constraints, have been considered only Italian clubs, but an interesting analysis could be done with other countries teams, to have comparisons between different context and digitalization levels.

In the table below, the list of the interviewed with relative sport and club belonging, and the role.

Sport	Club	Interviewed	Role
Volleyball	Unet e-Work Busto Arsizio	Marco Mencarelli	Head coach
Basketball	Pallacanestro Varese	Luca Piontini	Marketing staff
Football	Genoa CFC	Claudio Severoni	CVE Spa General Manager, digital partner of the club
Football	Parma Calcio 1913	Jonathan Greci	Brand & Digital Marketing Manager
Football	UC Sampdoria	Marco Caroli	Head of Marketing
Volleyball	Consorzio Vero Volley Monza	Cesare Capetti	Team Manager
		Silvia Fortunato	Executive Assistant to the President
		Danilo Contario	Scoutman

Table 3 Case Studies analysed

C. Collecting data

Before the direct contact with organizations, an appropriate knowledge about the club and the person interviewed was built, through the club website, LinkedIn and traditional search engines.

The channels used for contacting the company were:

- Emails
- Message on company's website
- Private message on social networks

While for the interviews the ways were:

- Written interview
- Call or videocall via Skype.
- Face to face interview

The structure of the interviews was semi standardized, with predefined and open-ended questions, both about general information and covering the areas of the research. Then, in the interview moment, the peculiar topics were discussed, giving space to the guest for personal and related observations and comments.

Contents and aims of the interviews are specified and illustrated in the following paragraphs.

D. Interview

As previously anticipated, the structure of the interviews was semi-standardized, with the aim to build comparable case studies.

In the first contact, have been proposed both the written questions and the Sport Club Digital Strategy Canvas model to be compiled with the club's initiatives. It was specified that eventual comments, observations or critics about the model were well and constructively accepted.

This allowed to optimize the time, dedicating the time of the interview at the more interesting and peculiar topics, exploiting personal experience and knowledge of the interviewed.

The questions were structured in different sections as follow:

General questions

In this section, the objective was to understand the interviewed background, the club structure.

1. Which is your background? What is your role within the Club?
2. How your organization is strategically organized? Have been elaborated a Digital Strategy?
3. Which is the business model of the company? The main revenues inflows?

Fan Experience

This section refers to the first macro-area of the model, the interest is in understanding the role played by fans for the club.

1. What is the importance attributed to fans and their engagement, for your Club? There are some initiatives to entertain them even in extra-match times?
2. Social networks, nowadays, cover a key role in creating and maintaining a community. In your firm, how are these communication channels used? Which are their objectives and eventual campaigns created? Are there dedicated or specialized figures for their management?
3. Are there clubs organized, or co-organized, activities that engage fans with virtual realities, videogames (with reference to eSports) or new experiences, digital enabled?

Athletic Performance

This area deals with technologies dedicated to performances, the objective is to understand which and if technologies are used.

1. In the high-level sport, at performance level, it is important care about each detail. How do you judge the use of digital in support or substitute to traditional practice mechanisms?
2. Since it is a sport club, one of the fundamental resources are the athletes. Do you consider useful and/or necessary the use of digital technologies in the monitoring of player conditions even in free time?
3. How is the communication between team and staff, or among different staff organized?

Sport Club

This part is dedicated to the club and the purpose is to broaden the focus of the analysis to aspects related to more business aspects, to understand how the club perceives itself like a business company or it is more traditional linked to the sporting results.

1. At managerial level, how is your company organized? Are there any areas dedicated to non-sporting activities? Which importance has the different areas?
2. Another important aspect of sport organizations are the sponsorships. Which kind of relationships you have with your sponsors? Have they visibility on your results (both sporting and economical)? Which impact they have on Club management?

3. An emerging concept is the “Smart Arena”, the facilities which offers digital connections and services of different kind, technology enabled. Is there any project of investment on your facility in this sense? Have already been implemented some technologies for this purpose?
4. Across the years, the concept of sport club has evolved. In particular at high level, a sport organization has not only to deal with sportive results, but the tendency is more and more oriented to a management similar to the traditional business one. What is your opinion about this conceptual evolution? In your organization, how much do you think is important the idea of the “brand” of the club?

Event Management

The last section is dedicated to the event related aspects and the promotion of cultural and club values.

1. Is your organization organizing events dedicated to cultural promotion both of the sport and about club principle, with the aim to strengthen and spread the idea of club brand?
2. During sport events, are being organized correlated events, in collaboration with sponsors, local associations, commercial partners etc?
3. (In case of facility ownership) In your facility, have been organized other kinds of events (music concert, other sport events...)? If affirmative, from who are managed? What are the economical/image benefits for you?

E. Case Studies creation

Once concluded the interview phase, the data gathered have been carefully reviewed and analysed, case studies reporting the main characteristics and finding about each situation have been developed.

Data analysis and model validation

In the final step, after drafted all the case studies reports, information collected have been comprehensively analysed, providing an overview of the global and specific situation.

Important attention was given to the model compilation, trying to understand even from observations and comments, if it reached the predefined objectives, any criticalities and potential further improvements.

4 SPORT CLUB DIGITAL STRATEGY CANVAS

4.1 Goals of the model

The aim of this chapter is to present in detail a new model and explain its utility.

Since the concept of digital strategy for sport organization is an emerging research field, there are not instrument that allow to have a complete overview of the different initiatives undertaken by a club.

For this reason, the purpose of the following model, is that of support the study of the digital strategy development in a sport organization, providing a big picture of the digital innovations implemented by the club in its different areas.

The idea comes from the model described in chapter 2, the Business Model Canvas, which is, nowadays, an established tool to describe and create a business model.

Another pillar at the base of the idea is the framework developed by Osservatori Digital Innovation of the Politecnico di Milano, precisely by the section dedicated at the sport industry, from which the structure of the model is inspired.

4.2 Structure description

The model is composed by four quadrants, corresponding to the four macro-area identified by the framework previously mentioned.

Each quadrant deals with a different purpose for the implementation of digital technologies, bundling initiatives targeted at similar or equal final users, who will finally benefit from their application.

Considering a specific technology, its application will be described by highlighting the elements characterizing the category of purposes, answering at the implicit questions who the model user will face filling the boxes.

Every technology or initiative, will be allocated to a different row.

Each column, instead, represent a descriptive complement, which specifies some particularities of the technology application.

To ensure a consistent description of the implementations, the choice of the vertical entries is made with a specific criterion: the conceptual link with one of the nine building blocks of the Business Model Canvas.

To explicit this connection, in the description of the quadrants will be provided a table showing the Business Model Canvas reference (on the lower row) of each element of the new model (on the upper row).

Sport Club Digital Strategy Canvas label
Business Model Canvas correspondence section

Table 4: Legend for references tables

The following paragraphs are dedicated each at the description of a single quadrant, excepting paragraph 4.2.1, which provides the explanation of “*Target*”, “*Investments and Costs*” and “*Value created and Exploitation*”, the common entries for all the quadrants, assuming the same role and meaning in all the sections.

FAN EXPERIENCE					ATHLETIC PERFORMANCE				
INITIATIVE					TARGET:				
INVESTMENTS AND COSTS		VALUE CREATED AND EXPLOITATION			INVESTMENTS AND COSTS		VALUE CREATED AND EXPLOITATION		
EVENT MANAGEMENT					SPORT CLUB				
FINALITY	TECHNOLOGY	FUNCTIONALITIES	STAKEHOLDERS	PARTNERS	ACTIVITY	TECHNOLOGY	FUNCTIONALITIES	STAKEHOLDERS	PARTNERS
INVESTMENTS AND COSTS		VALUE CREATED AND EXPLOITATION			INVESTMENTS AND COSTS		VALUE CREATED AND EXPLOITATION		

Figure 27: Sport Club Digital Strategy Canvas

4.2.1 Common elements

Despite the personalization for each macro-area, some voices will occur in more than one, being fundamental for the description of a digital technology application.

Three tags that will figure the same in all the four sections are *Target*, *Investments and Costs* and *Value created and Exploitation*, which easily recall the Business Model Canvas blocks.

- Target

It appears near quadrants names and it is referred at the whole sections, instead of a dedicated technology as the other voices.

With “target” are meant the specific individuals that will benefit from the application of the group of technologies, those to which are addressed.

The Business Model Canvas reference is the Customer Segment building block and, supported by this relation, in this slot will be indicated the type of individual for which create value.

Among the areas, different possible target could be identified:

- For the Fan Experience section, the big category are of course the fans, but a deeper subdivision will increase the precision of the model. Some examples of fans typologies could be statistics lovers, social addicted, technically prepared, families, young players, international fans, fans form other region of the country etc.;
- In the Athletic Performance section, the main focus is on players and athletes, both actual member of the team and potentially interesting one. Around them, there are other important figures that work for implementing performances and should apply digital technologies to gather and analyse essential data. The roles involved in this occasion are technical and athletic conditioning staff but also medical staff, such as physiotherapists, osteopaths or specialized doctors;
- Analysing the Sport Club context, instead, the figures to which the digital implementations are dedicated comes mainly from the internal personnel of the organization. Team managers, logistic manager, event managers, communication area staff, marketing staff or talent scouts. Fundamental role is also played by sponsors,

- that could benefit from the use of technology to keep under control the results, both economical and sportive, and how the club works;
- The Event Management quadrant, is characterized for being involved in more external relationships. The functions interested in the applications for this purpose are event managers, partners with which organize the events, facilities owners and managers, the marketing staff or the communication staff both from the club and the partners, the sport federations, the security staff or the referees, for supportive instruments for making decisions.

- Investments and Costs

The conceptual link with the Business Model Canvas is easily recognisable, both for the label of the subsection and for the positioning in the schema.

In fact, “*Investments and Costs*” and “*Value created and Exploitation*” boxes are situated under the other items and in a transversal position, almost to remember the concept that at the base of innovations there are investments and costs, undertaken to create value not only for the others, but also for the organization itself.

In this slot will be mentioned all the main actions performed by the organization to implement and keep working the technologies applications.

To be specified, not all the actions should be economical in nature, there are other important ones that the club should accomplish, to improve itself and its structure. A practical example could be a sport club that decides to create and dedicate a new area in the organization structure to a specific purpose (Fan Experience could be an example), hiring professional figures or partnering with established realities in that sector.

- Value created and Exploitation

In this context, could be tricky to exactly identify causes-effects relationship related to economical inflows. In some cases, the effects of an initiative will affect another incoming channel, making the distinction not easily identifiable.

However, the value created for the club, from the various activities, it is not limited to revenues but is coming from information, useful to analyse and elaborate to improve organization.

For these reasons, the Business Model Canvas building block finds correspondence in a similar but conceptually broader label, named “Value created and Exploitation”.

In the digital technologies implementations, value for the club could arise from different types of data, to be reinterpreted and integrated in new processes to improve them.

It is highlighted the importance of the double-step data gathering and data elaboration, adding the term exploitation at the label name, allowing the model user to ask himself how data are then used as a source of value.

A practical example could come from Fan Experience area where data coming from social network or mobile app can create precise profiles of fans, allowing to create marketing campaigns and initiative more targeted and effective.

4.2.2 Fan Experience

Fan Experience	Athletic Performance
Event Management	Sport Club

As stated in chapter 2, paragraph 2.2.2, the concept of “fan experience” has evolved to a wider range of situations. The experience is not limited to the match time slot, but it is extended before and after and in some cases have not a time limitation (such as for the mobile app, accessible whenever the fan wants).

In this change, the role of catalyst is played by digital technologies, which enable new engagement possibilities, increasing the team appeal for fans and transforming a sport event in something more interesting and participatory.

Thus, in the Fan Experience quadrant, will be listed all the initiative undertaken with the aim to offer something more than a sport match to fans, trying to build their loyalty.

The vertical entries of this area are the following:

- Initiative

It is simply the denomination of the initiative, which identify immediately the object under discussion.

Whit reference to the Business Model Canvas, the conceptual link is with the Customer Relationship, exposing all the different touch points enabled by the digital technologies.

- Value Proposition

It is the core label of this section, the same as the namesake building block is for the Business Model Canvas. It describes what is the really value offered to fans, what is enriching their experience. The value proposition concept includes both material elements (an example could be a particular mobile ticketing modality) and more abstract one (such as the feeling to be always with the team with constant news and contents), and it explicit what are the real intentions of the club through the descripted implementation.

- Technologies

This box will be filled with all the technologies involved in the application. For completeness, it is worth to include besides the ones adopted by the club, also those that are required to the final user in order to benefit from the offer.

The technologies implemented represent the Channels with which the offer is delivered, whit reference to the Business Model Canvas.

- Activities

The adoption of a technology it is not limited to its acquisition but are required constant activities to let it keep working. As for the Business Model Canvas, the Activities building block include all those actions that are needed for the maintenance and update of the solution.

It could be included operations on the organization, such as recruitment of specialized figures.

- Partners

It is easier that sport clubs implement third parties' technologies instead of developing one from the inside. For this reason, are very common partnerships with vendors or start-ups, to be mentioned in this column.

The clear correspondence is to Key Partners section of the Business Model Canvas, which represents the fundamental collaborations for the realization of the initiative.

FAN EXPERIENCE		TARGET:		
INITIATIVE	VALUE PROPOSITION	TECHNOLOGIES	ACTIVITIES	PARTNERS
INVESTMENTS AND COSTS		VALUE CREATED AND EXPLOITATION		

Figure 28: Fan Experience quadrant

Digital Strategy Canvas	Initiative	Value proposition	Technologies	Activities	Partners
Business Model Canvas	Customer Relationship-Touch points	Value proposition	Resources-Channels	Activities	Key Partners

Table 5: Fan Experience references to Business Model Canvas

4.2.3 Athletic Performance

Fan Experience	Athletic Performance
Event Management	Sport Club

The digital technology applications in the athletic performance field are, certainly, the most diffused at current state.

In professional sport, particularly, the attention to performance details is essential, the matches are prepared with strategy formulations and all these operations need to gather and elaborate a lot of data and information, the more accurate the better.

For this purpose, digital technologies represent a valid support instrument, automating some processes (such as data analysis) and creating conditions for new and dedicated training ways (an example could be the use of touchscreens to improve peripheral vision in volleyball).

The Athletic Performance quadrant is composed by the following elements:

- Technology

In this column it is simply identified which technology is adopted, writing the specific name, if any, or specifying the typology of device.

They represent the Key Resources box of the Business Model Canvas.

- Application field

For differentiating among the technologies, a categorization based on the objective and utility it is worth. There are three main application fields in which the scopes and situations can be grouped:

- Performance analysis: it includes all the situations in which a performance is tracked, and relative data are analysed and elaborated;
- Training: this field is dedicated to technologies used to perform specific trainings, employed as training instrument;
- Health & Rehabilitation: it is a category dedicated to the monitoring of the health status of players in different moment (both training sessions and free time), providing precious information even in case of injury and subsequent rehabilitation period, or, previously, to keep under control efforts levels to avoid wear caused injuries.

This label has not a reference with one of the Business Model Canvas constituents, but it is an information useful for identifying the technology in the sector-specific context.

- Functionalities

This is a descriptive column, in which the key functionalities of the technology are listed.

For completeness and better interpretation, a brief notion about the practical use should integrate the technical functionalities series.

- Data provided

In this space will be explained the kind of data which are collected through the application. They could be different in nature, from numbers and statistics, to clinical and medical data. It is interesting to know even how the technology provide and display this data and if some automatic analysis is performed.

The “*Functionalities*” and “*Data gathered*”, together, represent the source of value from the implementation of the specific technology, representing the return that the club, or in this case its staff, have.

- Stakeholders

The stakeholders are the individuals that have interest in an organization's affairs. Applying this definition to the context, the stakeholders of a specific technology application are the individuals which are interested from the use and the data provided by the technology itself.

In the case of Athletic Performance quadrant, some possible figures involved are players, coach and technical staff, physiotherapist and medical staff or talent scouts, among the others.

Even for this label there is not a conceptual correspondence with the nine building blocks.

- Partners

Analogously the namesake column in the previous described quadrants, the partners could be some vendor or start-ups, rather than collaborations with other organizations, such as the spin-off of Politecnico di Milano “MoxOff” which works with different sport realities.

ATHLETIC PERFORMANCE		TARGET:			
TECHNOLOGY	APPLICATION FIELD	FUNCTIONALITIES	DATA PROVIDED	STAKEHOLDERS	PARTNERS
INVESTMENTS AND COSTS		VALUE CREATED AND EXPLOITATION			

Figure 29: Athletic Performance quadrant

Digital Strategy Canvas	Technology	Application field	Functionalities	Data provided	Stakeholders	Partners
Business Model Canvas	Key Resources	-	Value proposition	-	Key Partners	

Table 6: Athletic Performance reference to Business Model Canvas

4.2.4 Sport Club

Fan Experience	Athletic Performance
Event Management	Sport Club

This area refers to the sport club from a managerial point of view, considering it as a company.

The digital technologies applied will support organization processes, allowing to make more informed decisions.

The operations commonly involved in this context are relationship management between staff and team, and even among staffs, resources and facilities management, club identity management, relationships with sponsor and suppliers, and the monitoring of results from an economical point of view.

The constituents of this sections are:

- Activity

It is the identification of the operation or process on which it is applied the technology as support. Some examples could be sales monitoring, inventory management or information sharing.

In the Business Model Canvas, the correspondence is with the Key Activities section, focusing on one at time.

- Technology

In this box is named the technology applied, that could be a software, a platform or an application. It is worth to specify on which device it is installed, to give an idea of the instruments needed by the organization to perform the operation in this way.

The reference in the Business Model Canvas is with Key Resources building block.

- Functionalities

This part explains how the technology works and which are the main characteristics and functionalities used. Will be included also the kind of data gathered and the way they are reported and managed.

These represent the Value Proposition of the digital technology.

- Stakeholders

This column has the same meaning as in the previous quadrant, explicating the roles that are interested in the use and outputs of the application.

In this case, some possible figures are team manager, talent scout, operations managers and administrative staff.

- Partners

In this quadrant, the partners are mainly software or platform developers and vendors, with which there could be a collaboration or simply a supplier-buyer relationship.

SPORT CLUB		TARGET:			
ACTIVITY	TECHNOLOGY	FUNCTIONALITIES	STAKEHOLDERS	PARTNERS	
INVESTMENTS AND COSTS			VALUE CREATED AND EXPLOITATION		

Figure 30: Sport Club quadrant

Digital Strategy Canvas	Activity	Technology	Functionalities	Stakeholders	Partners
Business Model Canvas	Key Activities	Key Resources	Value proposition	-	Key Partners

Table 7: Sport Club references to Business Model Canvas

4.2.5 Event Management

Fan Experience	Athletic Performance
Event Management	Sport Club

On average, once a week, a sport club an event to manage. Nowadays, the sport event, is not limited at the match on the court, but often there are many other side-events.

In this section of the model, are grouped all the digital technologies applications aimed at support or perform managerial activities for the events organizations.

Furthermore, are included even the operations related to the facility management, in the event situation, extra-sportive events, dedicated to cultural promotions of sport and club values and activities to provide referees a technological support for their decisions.

The voices for this quadrant are:

- Finality

The process or operation which is influenced by the technology application. It can be interpreted as the in-depth description of one of the Key Activities of the organization, with reference to the Business Model Canvas structure.

- Technology

The software, platform or application implemented by the club.

As for the other quadrants, this entry is linked to the Key Resources building block.

- Functionalities

What the technological implementation allows to do and what are the benefits gained from its use, the value proposition.

- Stakeholders

In this context, the probable stakeholders will be event managers, security staff, facility owner and manager and marketing and communication staff. For the event management area, there is also the possibility to interest cultural and territorial entities, as collaborators or co-organizer of events, and for this reason

- Partners

Software, platform or application developer, in a collaborative or supplier-customer relationship with the club.

EVENT MANAGEMENT		TARGET:		
FINALITY	TECHNOLOGY	FUNCTIONALITIES	STAKEHOLDERS	PARTNERS
INVESTMENTS AND COSTS			VALUE CREATED AND EXPLOITATION	

Figure 31: Event Management quadrant

Digital Strategy Canvas	Activity	Technology	Functionalities	Stakeholders	Partners
Business Model Canvas	Key Activities	Key Resources	Value proposition	-	Key Partners

Table 8: Event Management references to Business Model Canvas

4.3 Overall view and considerations

Once analysed each area separately, it is worth to “zoom out” and observe the overall club situation.

The first consideration, coming from a visible impact, could be the balance of the implementations in the different areas of the club. In fact, thanks to how filled will be the quadrants, will be possible to distinguish where and how much the organization has invested in digital technologies applications.

This can be interpreted as a signal of the weights and importance covered by Fan Experience, Athletic Performance, Sport Club and Event Management for the under-analysis club, highlighting where it is given priority, or interest, to investment.

On the other way, and valuable even the club point of view, it is a feedback which indicate where it is necessary to focus, to further improve its work and develop a more complete digital strategy.

Considering, instead, the transversal sections “*Investments and Costs*” and “*Value created and Exploitation*”, it is possible to make a rough costs-benefits relationship, useful as an input for deeper and more accurate investigations.

Moreover, from the lower-right box, are identifiable the sources of value of the club, with the indication on how then are treated and exploited.

In conclusion, to sum up the utility of this model, it allows to draw a map of the digital technologies adopted by a specific sport club, differentiating the context in which they are applied and providing an indication of how much the digital strategy of the organization is balanced, respect the different areas of the organization itself.

5 CASE STUDIES

After analysed the literature to have a theoretical base, and developed the model, in this phase the objective is to verify if in Italian clubs can be observed the same trends and situations.

For this purpose, case studies about Italian clubs that have distinguished for digital projects already implemented have been created, with an additional motivation: apply the developed model to practical and real cases, in order to validate the structure and utility.

The detailed methodology followed is reported in the dedicated chapter 3.

For all the cases the first step consisted in an e-mail contact, with the provisioning of the model and some written questions. Then, an interview was done, focusing on the peculiarities of each club.

As conclusion, for each club has been applied the Sport Club Digital Strategy Canvas and analysed the context.

5.1 Case Study reports

The aim of each case study was to acquire information that are not collectable by the traditional channels, such as web and papers, because are strongly based on the personal on-the-field experience of managers and coaches.

Each case study is structured in the same way, described in chapter 3.

In the analysis and interviews, the focus was on two main pillars: the application of the developed model, with the consequent considerations about digital technologies application in the different areas proposed, and the general overview of the sport club, with its concept and structure evolution in last years. For these reasons, the cases have a first part with a precise structure, represented by the model, while in the last phase large space was given to a colloquial and personal interview, with opinions given from the point of view of the interviewed position and personal experience.

In the table below, the list of all the cases and figures interviewed, in the same order in which the case studies have been created and analyses, which correspond to the chronological order in which the various clubs have expressed their availability to collaborate.

Sport	Club	Who Role in the club
Volleyball	Unet e-Work Busto Arsizio	Marco Mencarelli Head Coach Serie A1
Basketball	Pallacanestro Varese	Luca Piontini Marketing department
Football	Genoa CFC – CVE Spa	Claudio Severoni CVE General Director
Football	Parma Calcio 1913	Jonathan Greci Brand and Digital Marketing Manager
Football	UC Sampdoria	Marco Caroli Head of Marketing
Basketball	Olimpia Milano	Ilaria Mazzeo Head of Marketing and Sponsorship
Volleyball	Vero Volley Monza	Cesare Capetti Team Manager
		Silvia Fortunato Executive Assistant to the President
		Daniele Contario Scoutman

Table 9 Clubs and Figures interviewed

5.1.1 Unet e-Work Yamamay Busto Arsizio



<i>Who</i>	Marco Mencarelli
<i>Society</i>	Unet e-Work Busto Arsizio
<i>Role</i>	Head Coach
<i>Sport</i>	Volleyball – Serie A1

Introduction

Marco Mencarelli is the head coach of the UYBA team since the season 2015/2016. His professional career is mainly linked with the national teams and the collaboration with the Italian federation. In particular, with the youth teams, where he is the head coach since the 2006, he reached numerous successes in continental and world championships. Mencarelli is also federal lecturer for training courses for coaches and his many technical books are used as official manuals.

UYBA volley is one of the main clubs in Italy, located in Busto Arsizio (VA) since the 1998. Across the time it has established at the highest level in the Italian volleyball, with the highest pick in the season 2011/2012 in which it won the Italian championship, the Italian Cup and the European CEV Cup and, still in the 2012, it won the Italian Super cup.

The rosters of the first team are every season composed by prime-level players, coming from different countries and from the main National teams.

The club is composed even by a high-level youth sector, with athletes coming from all the Italian country.

Model application

Fan experience

Initiative	Value proposition	Technologies	Activities	Partner
Monitors	Provide live statistics, rankings, event promotion, sponsor visibility	Led monitors and side-court monitors	Advertising and statistics update	
e-Ticketing	Offer the possibility to buy online match tickets	Mobile App and website, internet connection needed	Updates in care of partner	BookingShow
News, photo and video content	Keep the fans always updated with the latest news and content	Mobile App and website, internet connection needed	App maintenance and upgrade	
Social Networks	Engaging fans, create a community	Social Wall on website and App, Social Networks sites	Social Media Management	
e-Commerce	Official merchandising of Parma Calcio	Mobile App and website, internet connection needed	Service maintenance	
FanWall	Section of the App in which fans are free to upload their photos of matches or training sessions and interact each other	Mobile App, internet connection needed	App maintenance and moderation	
Investments and Costs App and website development and maintenance, e-commerce and ticket vendor partnership		Value created and Exploitation Fan engagement and involvement, with registrations for app, website and e-commerce are collected data to profile fans		

Athletic performance

Tecnology	Application field	Functionalities	Data provided	Stakeholders	Partner
Data Video System	Match analysis	Real-time assesment of the match, statistic and video data sending to the coach, monitoring of performance parameters individually and at team level	Performance indexes, at individual player and team level	Coach, technical staff, players, strength and conditioning coach	DataProject
Volleystudio	Match analysis	Ex-post evaluation of individual and team performance in competition - construction of video sequences of individual actions indexed through the Data Video System software	Database of statistical indicators of each team - database of the video clips of every single action detected in the competitions - study of tactical choices	Coach, technical staff	EMMEAX
Beast Technology	Performance measurement	Detection of the force delivery modes in relation to the speed in time	Data related to the delivery of force - delivery speed and relative peaks - power expressed and relative peaks - index of decrease in performance	Coach, strength and conditioning staff, medical staff and physioterapist	Beast
Optojump	Performance measurement	Qualitative detection of some characteristics of the jump	Height of jump - flight time and contact time on the ground	Coach, strength and conditioning coach, physioteraphist	Microgate
Investments and Costs Technology acquisition, data collection and elaboration		Value created and Exploitation Data essential to strategy development, individualization processes of trainings and rehabilitations			

Sport Club

Activity	Technology	Functionalities	Stakeholders	Partners
Staff-Team communication	Whatsapp, Mobile App	Instant messaging, limited access app section for info, data, statistics, weekly plans sharing	Players, Coach, Technical staff, Physical staff	
Technical-Athletic staff communication	Share documents softwares	Possibility to edit files with weekly and monthly training plans to integrate technical coach and strength and conditioning staff necessities	Coach, strength and conditioning coach	
Investments and Costs Software licenses (if any), Mobile App maintenance costs		Value Created and Exploitation Facilitating communication, tools to co-work and planning activities, with result of optimal training balance		

Event management

Finality	Technology	Functionalities	Stakeholders	Partners
Referees decision making support	VideoCheck	Sistem composed by high quality cameras to detect net touches, block touches and ball in-out of lines	Referees, TV audience	DataProject, supplier
Event promotion	Social networks, Mobile App	Exploit community and followers to promote events	Fans, Social followers	
Investments and Costs Technology acquisition, Content creation		Value Created and Exploitation Ensure fair play, events awarness, fan interest		

Analysis

Mencarelli considers technologies fundamental and essential in the support and measurement of athletic performances but, for the specific application in volleyball, they do not represent a feasible instrument for training technical-tactical aspects. Technologies are, instead, indicated for complementary aspects such as the development of the physical and motorial performance, as a support in the development of the visual, mental and behavioural performance.

The monitoring of the player condition is, nowadays, essential. At the high level, each player needs an individualization process of training and performance parameters. Each one has to be at his top level, not at the level established by literature.

Mencarelli in his past experience at Club Italia, was committed in an experimental study in collaboration with the Sport Medicine Center of Forlì, for a continuous monitoring aimed at drawing a tonic-postural profile for each athlete.

Similarly, in these years is under experimentation a particular application of the iso-inertial technological system. The technology, providing the possibility to increase the individualization of analysis, support the performances in cases of excellence level.

The application of these innovative systems at club level, justify the high investments by sponsors and club itself, providing an advanced support for trainings.

The criticalities for the applications of these projects are mainly of two different nature.

First, usually the benefits are not easily identifiable, and this leads to postpone the undertaking of these initiative in favour of less economically expensive investments, perceived as a priority.

Second, the athlete prejudice in the use of the technology. A crucial aspect is to convince the players that the application of that technology will leads to benefits. For this reason, best technologies should provide in short time some feedback on their utility, being it positive or negative, but has to be verifiable by the athlete.

In Mencarelli opinion, the only way to promote the use of these systems is the formation. The context for the application should be sensible to these themes, committed to invest in these

projects, and the possibility to involve clubs is only through formation campaigns that show the benefits obtainable.

For the areas Fan Experience and Event Management, information has been collected through club website, social networks profiles, UYBA mobile app and by personal experience at home matches at PalaYamamay.

For Sport Club, information about communication ways, has been provided by Marco Mencarelli, with the comment that since the staffs works together every day and even personnel of the medical staff are in daily contact with the team, there is not the real need to support the communication with digital instruments.

5.1.2 Pallacanestro Varese



<i>Who</i>	Luca Piontini
<i>Society</i>	Pallacanestro Varese
<i>Role</i>	Marketing assistant
<i>Sport</i>	Basketball – Serie A

Introduction

Pallacanestro Varese is one of the most prestigious basketball clubs in Italy and Europe. Founded in 1945, the team has won 10 Italian championships, 5 Italia Cup, 1 Italian Super cup, 5 European Championship Cup, 2 Euro cups and 3 intercontinental Cups at the highest level, in addition to Legadue championship, SerieA2 and Serie B. Since the 2016 is part of the Italia Basket Hall of Fame as the first club to enter in the list. In the 2010, to support the club, was founded the Consortium VARESE NEL CUORE, a group of entrepreneurial and economical local entities.

Luca Piontini is part of the Club since 2015 in Marketing, Merchandise and Administration section. He has graduated at Università di Milano in Law and has a Master in Sport Law at Università Milano-Bicocca.

Model application

Fan experience

Initiative	Value proposition	Technologies	Activities	Partner
Fan Engagement during the match	The digital cube installed in the arena allows to enrich fan experience with live statistics, results, replay of best actions and highlights of matches, creating live interaction	Jumbotron	Content management, maintenance	Bertelè
News, photo and video content	Keep the fans always informed on team activities	Mobile App, website	Channel maintenance and update	Weblink srl
Fans' MVP election	In the last quarter of the match, fans can vote for their match MVP and see the winner on the jumbotron at the end	Mobile App, Jumbotron	Service maintenance, App and Jumbotron maintenance	Weblink srl
Social Networks updates	Create a community of fans and keep it always updated with latest news, offering engagement and event promotion	Social Networks sites	Social Media Management	
Web TV	Exclusive video content of highlights, interviews and press conferences	Youtube, website	Content management and Social Media Management	
Radio commentary of the match	Even for fans not in the arena is possible to follow the match with the live radio news	Mobile App	Service and App maintenance	Weblink srl
e-Ticketing	Possibility to buy online tickets for the match	Mobile App, website	Service maintenance, App and website maintenance	
e-Commerce	Possibility to buy merchandising of Pallacanestro Varese online, in addition to physical store	Mobile App, website	Service maintenance, App and website maintenance	
Investments and Costs App development and maintenance, e-Commerce and e-Ticketing service maintenance, dedicated staff, Jumbotron acquisition and maintenance		Value created and Exploitation Revenues from tickets and merchandising, community loyalty, fan entertainment and engagement		

Athletic performance

Technology	Application field	Functionalities	Data provided	Stakeholders	Partner
SINERGY	Performance measurement	Allows to analyse players and teams, through videos, to draw and study strategies	Players and teams statistics	Coach, Technical staff, Players	Sinergy
Investments and Costs Software acquisition, data gathering and analysis		Value created and Exploitation Provide useful scutings and analysis on players and opposite teams, to better define game tactics			

Event management

Finality	Technology	Functionalities	Stakeholders	Partners
Referees decision making support	Instant Replay System	Equipped with HD cameras, allow to review in slowmotion the actions in order to verify the correctness of the referee's decision	Referees, Coach, Technical staff	Grafica&Multimedia
Event promotion	Social networks, Mobile App	Exploit community and followers to promote events	Fans, Social followers	
Investments and Costs Software acquisition, Social Media Manager, Communication staff		Value Created and Exploitation Technological support for referees, ensuring fair play, Fan involvement and information for events		

Analysis

Fan Experience

Fans and supporters are considered the most important asset for the club, without them all what they do would be meaningless. In the last two years, indeed, have been invested huge resources for the creation of a new store for merchandising inside the arena, with the purpose to offer an additional service to supporters, and to increase the revenues from this channel.

To enhance the engagement of people in the arena during matches, Pallacanestro Varese has installed a jumbotron, a led-cube of last generation which allows to broadcast highlights of best actions, fan engaging games like fan cam, kiss cam and similar, statistics and other content that enrich the experience.

The club has developed a proper mobile application dedicated to fans, which allows to keep in touch for news about team and club, ticketing services, merchandising, web radio, photo and video content and will be uploaded to interact with the jumbotron in the arena.

Another service available through the app is the food and beverage delivery service, which allows to buy items and receive them directly at the seat.

Pallacanestro Varese is present on the main social networks, such as Facebook, Instagram, Twitter, LinkedIn and YouTube, with a defined editorial plan, and with the objective to maintain the community of fans always solid and updated with news and daily life of athletes. Often are also created initiatives which combine fan engagement with visibility for commercial partners. For their management, the club relies on a dedicated person and on an external agency, Mas Factory, which takes care of the contents. There is a strong collaboration between the two parts: the club develops an editorial plan and then shares ideas and proposals on content with the agency.

About new technologies such as Virtual Reality, e-Sport phenomenon and similar, the club is planning to adopt some possible activities in this direction.

Athletic Performance

For the interviewed opinion, nowadays there are many and different technologies which can be applied to support the technical staff in their work, and those must not be ignored.

The club is thus interested in technologies that measure athletic performance, providing also possibility to share statistics with fans to enrich their involvement.

For the monitoring of athletes in free time, the club should always be vigilant on what happens, however, players should be responsible and able to manage their life outside the court, taking care of all the elements which are essential for a professional athlete.

Sport Club³

The property of the club is owned by a consortium of companies, under which is constituted a governing board, which delegate the management at the general director, Claudio Coldebella. The most importance is given at the sportive section but just after that comes the marketing and communication departments.

The business model of the club is based on the past experience that the club itself has matured among the years and the managers have clear ideas of the objective and the ways to reach them. The revenues are represented in sponsorships, property contribution and commercial activities such as ticketing and merchandising.

Sponsors are thus fundamental for the club but even for the entire movement. The relationships between Pallacanestro Varese and their sponsors are optimal, the club try to keep them always informed about results and often create occasions of involvement in sport and non-sport events. An example are the matches dedicated at one sponsor at time, with gadgets and content broadcasting dedicated to the partner.

Despite this, though, there is the necessity to differentiate the income channels, trying to release the revenues from the mere sport result.

³ The Sport Club area has been discussed in the interview, but not sufficient details were collected for applying the model

The criticality, in Piontini opinion, is represented by the Italian and European culture, that not considers the sport event like an entertainment event, and for this reason the success of a club in establishing its brand, cannot prescind form the sportive result.

Pallacanestro Varese is situated in a mainly local context, not largely extended and this allows fans, which are even simple citizens who meet players in the streets, to be affectionate to the club. The society is interested in exploiting even from territorial promotion, taking benefits from tourism and collaborating with provincial institutions and organizations.

Great importance, moreover, is given to the youth sector, investing in the education and growth of young players.

Interesting to mention, the initiative that allows fans to own the 5% of society rights through the trust “Il Basket Siamo Noi”, which organize with support of Pallacanestro Varese, events involving players and staff of the principal team, bringing them closer to audience.

Event Management

Pallacanestro Varese plays home matches in PALA2A, building owned by the municipality of Varese but exclusively managed by the club.

The club, thus, can autonomously decide to rent the facility for other events, like music concerts, gaining in terms of revenues and image.

Pallacanestro Varese is committed in the promotion of the sport, sending athletes in territorial schools to illustrate and explain what the values of the sport and of the club are, showing to younger fans how a professional club works.

Furthermore, the society hosts guys for the school-work alternation projects.

The initiatives within the match are different in nature: from the beside mentioned seat-service for food and beverage, to the visibility for the match-sponsor, which is given the possibility to have the name showed on cheerleader's uniforms, perform sampling and use dedicated spaces on monitors in the arena. In some cases, have been organized small events within restricted areas in the arena.

Given the growing diffusion of the “Smart Arena” concept, the club is sensible to possibilities to implement technologies for these purposes.

Despite the PALA2A is an old building, there is the free wi-fi connection, food and beverage services and other offers that will be introduced to move towards the Smart Arena. These investments are possible thanks to the exclusive management delegation given by Varese municipality to Pallacanestro Varese.

5.1.3 CVE S.p.a. – Genoa CFC



Who	Claudio Severoni
Society	CVE – Genoa CFC
Role	General Manager
Sport	Football – Serie A

Introduction

Genoa CFC is the oldest Italian football Club, with its foundation year in 1893. It is currently competing in Serie A and, in its history has won 9 Italian championships, 6 Serie B championships and 1 Italian Cup at national level, while 1 Anglo-Italian Cup, 2 Alps Cups and 1 Friendship Cup at international level.

The club has partnered with CVE (Compra e Vinci Emozioni) Spa, for managerial consultancy and for entrusting them as managers of the digital section, in addition to the implementation of their platform.

Claudio Severoni is the general manager of CVE Spa, and is an expert in marketing and communication, especially for loyalty and CRM⁴ programs.

CVE Spa is owner of a platform for tracking, collecting and analysing customer data, applicable at any kind of event organization company.

⁴ CRM, Customer Relationship Management

Model application

Fan Experience

Initiative	Value proposition	Technologies	Activities	Partner
e-Ticketing	Offer the possibility to buy online match tickets	Website, internet connection needed	Updates in care of partner	Listicket, CVE Spa
News and photogallery	Keep the fans always updated with the latest news and content	Website sections	Constant update and maintenance activities	CVE Spa
Genoa Channel	Web TV with exclusive video content of interviews, press conferences and youth team news	YouTube channel, website section	Channel maintenance and constant update, videomaking activities	CVE Spa
Social Networks	Engaging fans, create a community	Social Wall on website, Social Networks sites	Social Media Management	
e-Commerce	Official merchandising of Genoa CFC	Website, internet connection needed	Service maintenance	CVE Spa
Experiencial e-Commerce	Possibility to buy special experiences in different packages, to live the arena during matches with exclusive benefits	Website, internet connection needed	Experiences organization and service maintenance	CVE Spa
CRM and data integration	CRM system that integrates all the fans data coming from activities of the different digital channels, possibility to deep analysis	CVE Spa platform	System mainenance, in charge of CVE Spa	CVE Spa
Fans profiling	Thanks to CVE platform is possible to cluster fans according to their peculiarities, to exploit valuable information for more targeted marketing actions and monetization	CVE Spa platform	System mainenance, in charge of CVE Spa	CVE Spa
DEM and newsletter	Direct Marketing activities, with customized graphics, to keep the fans constantly informed	CVE Spa platform	e-mail management and content creation	CVE Spa
Investments and Costs Marketing and Communication staff, partnerships, top management commitment in digital transformation		Value created and Exploitation CVE digital ecosystem, with tools, CRM and data analysis, monetization of fans data with commercial partners and external enterprises, fan loyalty and engagement, brand building		

Analysis

Fan Experience

For the fan experience area, Genoa CFC has partnered with CVE Spa, which is in charge to manage the digital division. The partnership is articulated in a consultant service in addition to the usage license for the platform developed by the company.

The platform could be adopted by any kind of enterprise which organize events, and it is aimed at registering customer (fan) data and their behavioural actions respect to the activities undertaken with the club. The main functions enabled are the following:

- Engagement

Club's marketing director and his team develop a marketing plan, creating actions to attract interest and engage fans, with the objective to convince the fan to register on the website. Once registered, each activity performed will be tracked by the system.

- Involvement

The digital architecture is based on the Single Sign On (SSO) system, that allows to access with a single registration to a digital ecosystem composed by different services.

The components of this digital world are the new company website, the e-ticketing service, the new web tv Genoa Channel, two e-commerce, one dedicated at the merchandising and the other dedicated at experiences, the new social wall, where all the social network profiles are integrated. The experiential e-commerce includes special activities that involve the fan, gifting a stadium experience such as a guided tour, catering and buffet services before and in the break of the game, reserved seats, the possibility to meet players in the pre-match or special occasion packages such as for children birthdays.

The platform allows marketing staff to customize direct marketing actions, such as DEM⁵ and newsletters, with new graphics.

- Data matching

All the data are then stored in a database which is the source for the CRM system, which can be integrated with external sources, such as near located restaurants, hotels, Airbnb or supplier and sponsors data, to perform careful analysis on fans behaviours and habits.

⁵ DEM, Direct E-mail Marketing

This allows to identify customer clusters of interest by marketing actions from Genoa CFC but also for partners that could exploit fans passion for the club to attract them with specific initiatives.

From the club side, the analysis and the cluster drawn, will be the input for marketing and communication plans that are tailored on the specific fan.

All these functions will be integrated with new and more innovative initiatives in future upgrades.

There are already in place projects to exploit artificial intelligence technologies for enhancing the fan engagement, such as bots that analysing fan data could associate a favourite player, and connecting him with an avatar representing the player, aimed at collecting more interesting information and provided with a database on which are built the answers.

Nowadays is a beta system but, by the end of the year, could be a service for the CVE Spa customers, including Genoa CFC.

General Considerations, Benefits and Criticalities

Especially for football clubs, after the financial fair play introduction in 2009, increased the necessity to differentiate the income sources, to reach a more stable economic situation and aiming at the auto-financing.

Claudio Severoni, with its start-up CVE Spa, is sure that with their digital ecosystem they represent a new revenue source for clubs and organizations.

Before, until the 80% of the revenues of sport clubs were generated by image rights by TVs, nowadays, instead, the equilibria are changing, with traditionally considered marginal sources such as ticketing, merchandising, sponsorship activities, are becoming relevant items in the inflows.

In Severoni opinion, in the future three years, many clubs will show an exponential growth in marketing activities, with important revenues to consider in the business model definition.

It happens that teams don't have title sponsors on their jerseys, and this is a symptom of the changing in sponsors requirements for collaborations. The sponsorship relation, nowadays, it is not only a matter of visibility and image, but enterprises are interested in other information, useful for their business. These kinds of data are those one collected by the platform by CVE, such as fans/customer profiling, customer behaviours and preferences, or possibilities to use club brand to enhance the efficacy of their communication and marketing actions.

Many marketing managers of companies operating in the consumer electronics or in the mass distribution, agree in considering that for attracting and engaging their customers, they need to find topics that catch attention thanks to their great interest generated, and in some cases the passion for a football team is a powerful tool to exploit for targeted marketing initiatives.

Until 2-3 years ago, out of 100 emails sent for marketing purposes, no more than the 2-3 % are effectively successful, while, the same promotion but with more customer tailored design and content, offers nowadays feedback that in some cases reach the 120%. This means that, not only the message is successful for that client, but this customer will share the promotion information with friends with same interest. (Data from CVE Spa experience)

According to his company experience, Claudio Severoni believes that the criticalities in the realization of this kind of projects, are of two main natures.

Firstly, the Italian clubs are still related to an entrepreneurial focus, choosing the partner that offers the higher amount of money. This preclude many interesting initiatives, offered by smaller companies or start-ups, that cannot compete in the economical offer, but they could provide other relevant services.

In some cases, these projects are assessed as interesting for clubs, but their structure is not able to support them, for example for lack of professional figures skilled for the activity.

The consequence of this conception, is that marketing departments of football clubs have often to operate with limited budget, that preclude important investments.

The other critical element is more cultural in nature, related to an Italian prejudice, in particular compared with United States, in the investments in the strategic marketing. This leads to difficulties to find human resources skilled, working for clubs, able to sustain the project implementation. Could be a paradox, but this issue is more verified in big club, while the medium-small teams are more sensible to this kind of activities, maybe because their more constrained fanbase, usually limited to the local area, and for this reason are more reactive in initiatives that will be remunerative in the medium-long term.

For sure, in future, even more important clubs, will understand the importance and effectiveness of this projects, and will massively invest in them.

5.1.4 Parma Calcio 1913



Who	Jonathan Greci
Society	Parma Calcio 1913
Role	Brand & Digital Marketing manager
Sport	Football – Serie B

Introduction

Parma Calcio 1913 is a football club reborn in 2015, after economic issues of the failed Parma FC Spa. The two owner companies are Nuovo Inizio srl., composed by local entrepreneurs, and Parma Partecipazioni Calcistiche, composed by all the fans who wanted to be part of the team history. The club continues the football tradition in Parma of the predecessor societies, and in the season 2015/2016 restarted in the category Serie D, winning the championship and the rights to return in the professional football, in LegaPro in the season 2016/2017. Even in the following season, after winning the play-offs, the team celebrates the promotion in Serie B, the current championship. In its history, Parma has won 3 Italian Cup, 1 Italia Super Cup and at international level 1 Cup of the Cups, 2 UEFA Cup and 1 UEFA Super Cup.

Jonathan Greci is the brand & digital marketing manager of the club since its re-foundation. After a bachelor's degree in communication design at Politecnico di Milano, he followed many formation courses, while he specialized with a Master in Big Data Analytics in Bocconi University. The professional career is composed by many experiences as Marketing and Digital marketing manager, while since 2015 is Marketing Consultant freelance.

Model application

Fan Experience

Initiative	Value proposition	Technologies	Activities	Partner
Monitors	Provide live statistics, rankings, event promotion, sponsor visibility	Led monitors and side-court monitors	Advertising and statistics update	
e-Ticketing	Offer the possibility to buy online match tickets	Mobile App and website, internet connection needed	Updates in care of partner	Listicket
News, photo and video content	Keep the fans always updated with the latest news and content	Mobile App and website, internet connection needed	App maintenance and upgrade	ilGer.com, app partner
Social Networks	Engaging fans, create a community	Social Wall on website and App, Social Networks sites	Social Media Management	
e-Commerce	Official merchandising of Parma Calcio	Mobile App and website, internet connection needed	Service maintenance	
Quiz Game	Game to engage fans, that can challenge friends in a quiz on Parma Calcio history	Mobile App	Maintenance and upgrades	ilGer.com, app partner
Museum interactive information	Provide information on Parma Museum exhibitions, with descriptions, historical uniforms, best players...	Interactive totems and monitors	Maintenance and upgrades	
Walk with historical players	Offer fans the possibility to have a virtual walk on the court with historical players	GearVR, virtual reality helmet	Maintenance	Samsung, Politecnico di Milano
Food&Beverage	Fans in the arena can buy items directly from the app and receive them at their seat	Mobile App, digital ordering system of the bar	Service maintenance	
Investments and Costs App and website development and partnerships, dedicated personnel		Value created and Exploitation Fan Engagement and Loyalty, Fan data for more targeted marketing campaigns, visibility for sponsors, revenues from Museum visits		

Event Management

Finality	Technology	Functionalities	Stakeholders	Partners
Event promotion	Social networks, Mobile App	Exploit community and followers to promote events	Fans, Social followers	
Sponsor and events advertising	Montiors and side-court led	advertise sponsors brands and events organized	Fans, TV audience	
Crowdfunding for museum realization	Crowdfunding platform Tifosy	Allows fans to contribute in the fund raising for realizing the museum and the museum app	Fans, Everyone interested	Tifosy
Investments and Costs Monitors acquisition, installation adn maintenance, content creation		Value Created and Exploitation Funds for Museum and Museum app realization, event awarness, fans loyalty		

Analysis

Fan Experience

Fans represent a fundamental element for Parma Calcio, they are the final customer which exploit the “product” of the club, that is the football match.

In the three years of the new club, followers have consistently increased on all the social networks official profiles of Parma Calcio, creating a solid community.

The choice of the managers, though, is to not undertake direct marketing push techniques, to avoid the annoying “spam effect”. Greci justifies this decision arguing that Parma Calcio is not a media or communication agency, the marketing activities should be aimed at creating value for fans through information, events and news diffusion.

Two years ago, Parma Calcio has launched the club mobile app, the traditional news, photo and video sections, the live match section that allows to follow team results during matches and an innovative gaming section, a game where fans can challenge each other in a quiz about historical questions of the club.

There is also another app, created through a crowdfunding on a digital platform, which is dedicated to the Parma Museum, which transform pictures in video thanks to the augmented reality technology. Digital technologies plays a central role in the experience of fans in the Museum, in addition to the app, interactive monitors will show information about history, interactive totem allows to better know the historical players and see their uniforms, video contents replicate the best and glorious goals of the club but the advanced implementation is represented by the Gear VR helmets, project in collaboration with Samsung and the Politecnico di Milano, that allow to “walk on the court” together with the historical players of the club.

Further upgrades are planned for the Parma Calcio app, with new functionalities such as the seat delivery service of food and beverage.

In the arena, there are posters stating, “switch off the phone and switch on passion”, inviting fans to really enjoy the match without wasting time with smartphones, as often happens. Jonathan Greci cares to specify that this is not in contrast with the use of smartphones for enhancing fan experience, as contrary he thinks that they will play a central role in the future

fan experience, but the additional services offered should not oblige the audience to exploiting it, they will only be available for advanced value, in addition to the essential element which is the love to enjoy a match.

“Stadio Tardini” is also equipped with monitors for statistics, goals, rankings, promotion of particular events for fans but even for sponsor visibility, together with the side court led-monitors.

Athletic Performance⁶

Digital technologies allow to collect and store huge amount of information, and are exploited even for collecting data about players, their performance indexes, their training plans and other kind of details.

This application is not limited to the Serie B team, since the youth sector has a relevant importance for the club, young players data are collected among the years, monitoring best talent that are potential future players of the first team or potential other-team players on which gain revenues. These activities are supporting even for talent scout activities.

Sport Club⁶

The club has a strong commitment in the digital technologies application and this is based on the consideration of the Digital not only for aspects related to social networks or what is on internet, but broad the view at technologies that can support traditional activities or create new valuable functions for different figures.

As Jonathan Greci stated:” We consider Digital under a strategic vision”, integrating digital technologies in the traditional club strategy, developing thus a Digital Strategy.

This conception is demonstrated by the digital technologies application in different ambits such as the museum or the app for fans.

⁶ The Athletic Performance and Sport Club areas have been discussed during the interview, but the detailed information for filling the model were not available

Even in internal managerial operations, the use of technologies is diffused. It is, though, related to personal habits of the different figures.

In general, there are managerial software, in addition to software dedicated to the communication department that facilitate the social network management.

Parma Calcio is developing a Fan (Customer) Relationship Management system, to be able to digitally collect all the data about customers, not only app users but also ticketing buyer, e-commerce customers or physical fans in arena, monitoring where they are from, how much time they spend in the arena, what times they arrive and leave, all information that embed a great value for the club, which will be used for analysis on what fans like or not, what offers are successful and new possible services or offers, in addition to more targeted campaigns.

The club is also interested in the “Smart Arena” concept and is planning to introduce more technologies to reach this objective, an example was before mentioned and is the possibility to receive the food and beverage directly at the seat.

Event Management

Parma Calcio is deeply connected with its fans. After economic troubles, the club has reborn thanks to some initiatives involving fans and local entrepreneurs.

The popular shareholding initiative was possible thanks to a digital platform, with the hashtag #weareparma used to spread the visibility at international level by the means of social networks.

The digital footprint of Parma Calcio is present also in the event management, with all the pre and post-events activities that are performed by digital technologies mean. From the online or by app ticketing, to the event promotion through digital marketing campaigns, to the experience enrichment with e-commerce and merchandising, coming to all the related events.

All these activities performed by means of digital technologies allow to collect high value-embedded information that will be stored in database and CRM system to provide support for future decision making.

General Considerations, Benefits and Criticalities

In Jonathan opinion, a sport club could be compared with a Small-Medium Enterprise, where the commercial, communication and marketing activities are aimed at selling the product, in the specific case the sport event.

Considering this, the brand of a club become a relevant aspect. More the name of the club is associated at the club itself and its activities, more visibility will gain and, of course, more possibilities for sponsorships will rise.

However, apart from the international top club, this necessity is not strongly felt by the medium club or better, will cover only a marginal role.

Working for Parma Calcio, Jonathan admits being lucky to find a collaborative context for innovation and digital technologies application, a reality open to new initiatives, with a consciousness on the potentiality of digital technologies and a know-how on what is a digital strategy.

Maybe, the reason for this open mentality is the young age of the club, which is be refunded in 2015, but the objective elements which have permitted the already implemented and planned initiatives, are the strong top management commitment and the consequent communication and marketing department that is a unique hybrid function constituted by professional and skilled figures.

The possible difficulties that managers of a common club could face in the implementation and adoption of digital technologies could be of two natures: cultural, with a scarce consideration and commitment from top management in these topics and lack of skilled personnel, and, consequently, economical, with limited budget dedicated at digital projects.

5.1.5 UC Sampdoria



<i>Who</i>	Marco Caroli
<i>Society</i>	U.C. Sampdoria
<i>Role</i>	Marketing Director
<i>Sport</i>	Football – Serie A

Introduction

UC Sampdoria is an Italian football club, founded in Genova in 1946, and is one of the ten clubs with the best football tradition. Currently competes in Serie A, for the 61st season in its career, in addition to 11 Serie B championships.

At national level UC Sampdoria won 1 championship, 4 Italian Cup and 1 Italian Super Cup, while at international level won 1 Cup of Cups.

It is the first Italia football club that, since 2017, has partnered with a professional e-Sport gamer, Mattia Guarracino, officially competing at FIFA as a player of UC Sampdoria.

Marco Caroli was he club marketing and communication director, contributing to the growth of the club from a managerial and image perspective, at international level, since 2004 to 2014, when the change of the president the marketing area was reorganized.

In 2004 co-founded TeamSport srl, a marketing and communication agency for sport organization.

Since 2016, Marco and his agency become Marketing and Communication consultant of UC Sampdoria, returning to cover the Head of Marketing and Communication position.

Model application

Fan experience

Initiative	Value proposition	Technologies	Activities	Partner
Social Networks	Engaging fans, create a community	Social Wall on website and App, Social Networks sites	Social Media Management	
News, Photo and Video content	Keep fans always updated	Mobile App, website, Social Networks	Content management, channel maintenance	Do Next (app developer)
e-Ticketing	Online ticket office to buy all the ticket types	Website	Service maintenance	Listicket
e-Commerce	Online store for merchandising	Website, Mobile App	Service maintenance	Do Next (app developer)
SAMP TV	Online video channel with exclusive video of highlights, interview, press conferences and events	Youtube	Channel and content management	
Monitors	Provide live statistics, rankings, event promotion, sponsor visibility	Led monitors and side-court monitors	Advertising and statistics update	
Investments and Costs Technologies acquisition and maintenance, dedicated staff, mobile app development and maintenance, content creation		Value created and Exploitation Value added information for fans, fan engagements, fan loyalty		

Sport Club

Activity	Technology	Functionalities	Stakeholders	Partners
Staff-Players quick communication	e-mails, WhatsApp	exchange rapid information on training times,	Team manager, Coach, Staff, Players	
Warehouse-Technical Sponsor relationship management	Microsoft Excel	Collecting and transmitting data about numbers and details of technical	Warehouse manager, Technical Sponsor	
Administrative management	TeamSystem software	Support the administrative operations such as external relationship	Administration staff, Sponsors, External interlocutors	TeamSystem, software developer
Security System	52 cameras, Monitors	Guarantee an high security level during events	Security staff	Zucchetti
Talent scouting		Software to collect all the players data, from athletic performances to health condition	Technical staff, Medical staff, Club managers	
Investments and Costs Software licenses and acquisition, software upgrade and customization, software maintenance, security system acquisition and maintenance		Value Created and Exploitation High level of security, Support to operations and relationships		

Event management

Finality	Technology	Functionalities	Stakeholders	Partners
Event promotion	Social Networks official profiles	Promote events with ad-hoc content	Fans, Social Media manager, Marketing and Communication staff	
Technological support at referees decision making	VAR	Allows to review the actions to support the referees' decisions	Referees	Hawke Eye Innovations
Investments and Costs VAR system acquisition, content creation, dedicated staff		Value Created and Exploitation Support for referees to ensure fair play, event awareness		

Analysis

Fan Experience

At the current situation, the fan experience is articulated with the website, the social networks and a mobile app.

On the official club website there are dedicated sections for fans, such as photo and video galleries, online ticket office, e-commerce for merchandising.

Great importance is covered by social media, which represent a powerful instrument to create and maintain a fan community, opportunities to inform, engage and involve people. On the website there is a social wall which collect all the posts of the official accounts of UC Sampdoria, on Twitter, Instagram (the leading channel), Facebook (which represent the main context where fans discuss and comment matches and news) and Google+.

SAMP TV is the official video channel of the club, on YouTube, where exclusive video content with highlights, interviews and press conferences are broadcasted.

The mobile app, developed by Do Next, give the possibility to have mobile access to news, team's details, photos and videos, club information and provide a link to the online store.

There is a project to develop a “container” mobile app, which collect other smaller applications allowing to offer different services.

An example is the Speedy Bar service, which allows to buy food and beverage directly from home, or the possibility to have an exclusive preview of the two teams' formations that will play.

The idea is to realize a mobile app able to accompany the fan from his home, to the stadium through transportation services, to queue monitoring for entering the stadium, to special promotions of bars, guide in the route to the bought seat, and at the end of the match the same until the home return. Today, there are in place promotions with city areas where is possible to buy packages of park and stadium subscriptions.

According to club study, many fans, depending on weather conditions, decide if attend the match at the stadium or by TV from home. For football, the TV channel is of high quality, providing some value-added services such as live results of other matches, commentary,

statistics, and similar. UC Sampdoria aim at delivering the same valuable services at the stadium, incrementing the fan offer, trying to equalize the service level. The instruments of information will be both traditional monitors and mobile devices.

With the new stadium, the objective is to develop initiatives to enrich fan experience.

UC Sampdoria is one of the few professional football clubs that, together with the Serie A team, has a e-Sport professional player, Mattia Guerracino, nickname “Lonewolf92”.

Furthermore, the club organize open e-Sport events for young fans, with tournaments of FIFA game.

The club objective is not to organize e-Sport competitions with hundred thousand of players, because is aware of the Italian context. The aim, instead, is to exploit this channel to target specific cluster of fans, as millennials, that are more interested in virtual football than real football. The mission is “from virtual to real”, meaning to speak to younger generations with their language, but than trying to bring them to the stadium to experience the real sport.

Sport Club

This area, by Caroli admission, is the one where digital technologies are less applied, in current situation. There is not still the use of a managerial software specific for football club management.

UC Sampdoria adopted a Team System software, but across the years, continuous updates and changes have been implemented, to align with new requirements and legal norms introductions. The operations managed with the software are of administrative nature, such as supplier and external relationships, or wages management.

The specific characteristics, form the managerial and financial point of view, of a football club, together with incremental regulations changes, are factors that inhibit the development of a dedicated software.

An important activity in the club organization, is the warehouse management. every player of UC Sampdoria, from the youngest to the Serie A captain, are equipped and dressed in the same jerseys and uniforms, and every year are managed almost 2 million € of technical

material. For this reason, one of the key aspect is the interaction between the warehouse and the technical sponsor which provides the materials.

This relationship is managed with manual systems, mainly with Microsoft Excel files exchange, without an automatized synchronization of data.

Stadio Ferraris is equipped with a high-level security system, composed by 52 cameras, able to detect and monitoring every person movement and acts. The key point is the privacy, with new regulations to respect and a tightening in the sanctions.

UC Sampdoria, together with Genoa CFC, is negotiating for buying the stadium and, in relation to the Smart Arena concept, has many projects to realize in this sense.

For sure, one of the basic interventions, will be the stadium cabling, to build a valid infrastructure through which offering additional services, guaranteeing an adequate level of connection quality.

Event management

The club is working for developing a CRM that allow to manage all the different client types and fan, such as specific pass for TV operators, pass for hospitality guest, pass for distinguished visitors' gallery.

Almost the 40% of tickets are sold through digital channels but, for entering the stadium it is needed a printed copy of the ticket. In the past season, only the 7-10% of tickets were sold online, with an increment of 20%. The same for seasonal tickets, the past season only 150 subscriptions came by online channel, while this year have been sold 1500 online seasonal subscriptions, whit an incredible increment of the 1000%.

This justify the investments in the CRM development, for profiling all the online subscribers, with the aim to reach to 100% of fans in the stadium tracked.

Today the analysis and considerations are performed with single files gathering data.

For promoting events, are used the social media exploiting the community and the diffusion of fans on them.

The Lega Nazionale Professionisti Serie A, has introduced as a mandatory instrument, the technological support for referees' decision making. This technology is the VAR system, with 2 referees dedicated to the video examination of actions to support principal referees.

The company producing the technology is the Hawk-Eye Innovations, which develops similar systems even for other sports.

General considerations, Benefits and Criticalities

Nowadays, when a Sport Club decide to seriously invest in digital technologies, to reach the standard level of service, the amount needed can vary from 1 to 2 million €.

In great part, these are dedicated to infrastructures, for example to develop a wi-fi infrastructure to which could be connected 10.000 people cost around 1 million €, moreover the mobile app development and related services. The investment for infrastructures could be spread on five years, while app projects usually take a couple of years.

Caroli cares to specify that with these investments, nowadays the aim of a club should not be to increment sponsor revenues, because the digital technologies level reached is now a standard not an exclusivity. Nowadays investing in digital technologies in arenas do not provide a value added, but simply keep the club up with the times.

To add further value, there are needed advanced initiatives which involve, for example, virtual reality, which, however, imply consistent commitment and investments.

About the concept of club brand, Caroli agrees that it is important to establish, but for a reality as UC Sampdoria, it should be always contextualized, meaning that the central focus should remain the core of the club, that is the football.

In building brand awareness, the club should elaborate specific strategies for the different targets, which is the role of marketing in football clubs.

The difficulty could be to assess the quantitative perspective of the club brand, objectively identify which are the potentials and possibilities.

UC Sampdoria has just launched the project “Ambasciate Blucerchiate”, aimed at enlarging the awareness of the club in US, Honk Kong and the Middle East. The initiative consists in exploiting the club know-how in football, to offer products/ services related such as training courses for coaches, clinics for young players and football tourism.

Other international clubs, maybe, could try to launch a club branded soft drink in Japan and could have success, for example, but for a society as UC Sampdoria this is not meaningful, because is not coherent with the key characteristics of the club which are the football and the distinctive jersey, that has potential to penetrate foreign markets.

5.1.6 Consorzio VeroVolley Monza



Who	Cesare Capetti
Society	VeroVolley Monza
Role	Team manager – Male team
Sport	Volleyball - SuperLega

Introduction

The Vero Volley Consortium was officially created on 9 September 2008, in response to the need for a support structure for the individual volleyball clubs in the area. The Consortium's aim is to devise organisational strategies designed to satisfy the community's need to engage in physical activity and socialise via the medium of sport, with particular focus on young people.

As a club, it is the unique case in which are present both the male and female team in the highest national category.

Cesare Capetti works for the club since the 2016 and is the Team Manager of the male team, in addition to assist the sportive direction. He has past experiences as a team manager of the Crema Volley in female Serie A1, Club Italia in Serie B and positions in provincial and regional federations.

Capetti is graduated at Bocconi University in Economical Institutions and Financial Markets, cum laude.

Note: at the case study contributed also Silvia Fortunato, Executive Assistant to the President, and Danilo Contario, scout man of the male team competing in SuperLega, in particular for the application of the model.

Model application

Fan Experience

Initiative	Value proposition	Technologies	Activities	Partner
Monitors	Provide live statistics, rankings, event promotion, sponsor visibility	Led monitors and side-court monitors	Advertising and statistics update	
e-Ticketing	Offer the possibility to buy online match tickets	Mobile App and website, internet connection needed	Updates in care of partner	BookingShow
News, photo and video content	Keep the fans always updated with the latest news and content	Mobile App and website, internet connection needed	App maintenance and upgrade	
Social Networks	Engaging fans, create a community	Social Network profiles	Social Media Management	
Vero Influencer	Contest for fans, every match is elected a winner	Instagram	Social Media Management	
VeroVolley Channel	Online video channel with exclusive video of highlights, interview, press conferences and events	Youtube	Channel and content management	
EatsReady	Delivery service of food and beverage at the seats	EatsReady mobile app	Service management	EatsReady
Investments and Costs App and website development and maintenance, ticket vendor partnership, personnel		Value created and Exploitation Fan engagement and involvement, fans data collection, fan loyalty		

Athletic Performance

Tecnology	Application field	Functionalities	Data provided	Stakeholders	Partner
Data Video System	Match analysis	Real-time assesment of the match, statistic and video data sending to the coach, monitoring of performance parameters individually and at team level	Performance indexes, at individual player and team level	Coach, technical staff, players, strenght and conditioning coach	DataProject
Beast Technology	Performance measurement	Detection of the force delivery modes in relation to the speed in time	Data related to strenght, speed and relative peaks, index of decrease in performance	Coach, strenght and conditioning staff, medical staff and physioterapist	Beast
Optojump	Performance measurement	Qualitative detection characteristics of the jump	Height of jump - flight time and contact time on the ground	Coach, strenght and conditioning coach, physioteraphist	Microgate
Hosand Bodymetrix	Performance measurement	Digital scanner plicomiter	Measurement of body mass indexes	Strenght and Conditioning coach, player	Hosand
Mechanical Plicometer Gima	Performance measurement	Mechanical measurement of body mass indexes	Measurement of body mass indexes	Strenght and Conditioning coach, player	Gima
Polar Team 2	Performance measurement	Analysis of cardiac performance and recovery times based on the type of training	Cardiac index, thresholds and workout indexes	Strenght and Conditioning coach, player, Medical staff	Polar
Investments and Costs Technologies acquisition		Value created and Exploitation Valuable data for athletes monitoring and for drafting ad-hoc workout plans, Data support for match analysis and match strategy development			

Sport Club

Activity	Technology	Functionalities	Stakeholders	Partners
Instant communication	WhatsApp	Quick and efficient communication between	Steam manager, Staff, Players	
Talent Scouting	DataVideo and DataVolley	Collect performance data of athletes for player engagement decisions	President, Sportive Director, Coach	DataProject
Talent Scouting	Dartfish	Video analysis of player performances	President, Sportive Director, Coach	Dartfish
Facility maintenance- LED lights installation	Smart LED lights	Energy saving and improved possibilities to engaging audience with ambient effects	Logistic staff	Philips L
Facility maintenance- audio system	BOSE	Improvement of the audio in the arena and fan engagement	Logistic staff, speaker	BOSE
Investments and Costs Software licenses and acquisition, Installations of LED and Speakers, Certifications, maintenance		Value Created and Exploitation Improvement in Fan Engagement, Added service in the arena for event organizer		

Event Management

Finality	Technology	Functionalities	Stakeholders	Partners
Event promotion	Social networks, Mobile App	Exploit community and followers to promote events	Fans, Social followers	
Strategic analysis	Shared files	Share data for efficient budget monitoring and cost/revenues mapping	Club managers	
Incoming flow smart monitoring	QR code	Smartphone scan, facilitate access to the arena	Ticket office and audience	
Light games and energy saving	LED lights installation, controllable by smartphone	Create light effects, with instant switch on and off commanded by smartphone	Event manager	Philips
Sponsor and events advertising	Montiors and side-court led	Advertise sponsors brands and events organized	Fans, TV audience	
Referees decision making support	VideoCheck	Sistem composed by high quality cameras to detect net touches, block touches and ball in-out of lines	Referees, TV audience	DataProject, supplier
Investments and Costs LED installation, control management, personnel		Value Created and Exploitation CRM, reduction of referees human error, energy saving		

Analysis

Fan Experience

Fans represent an important element and it is essential their engagement, always respecting the fair play. For this purpose, there are initiatives such as the gadgets for cheering or for involving fans in pre and post-match events, where this is possible.

An example of initiative is the “Breakfast with the Coaches”, a breakfast organized in occasion of some matches, which give the possibility to restricted number of fans to talk with the coaches of the two teams.

Social networks represent an important channel for the information and involvement of the community, in addition to the club website and traditional channels. In the communication department there are at least four figures that deals with social network, website and traditional media.

The mobile app of the club offers the possibility to real time read news about the two teams, check rankings and calendars, read player's description, being updated on social media content published and buy ticket for home matches. A real-time service offered during matches, is the food and beverage delivery directly at the seat.

Athletic Performance

The digital technologies represent a valid support for trainings, and they have been already implied. Thanks to the innovations they will play an always more important role.

Sport Club

VeroVolley has the unique characteristic to have both the female and male team performing at the highest level, Serie A1 for the former and SuperLega for the latter.

For this reason, there are dedicated technical and physical staff for each, while managerial departments are mostly in common, a part of team manager of the team that deals only with one of the two.

In the club there are different areas that takes care of many aspects. Among the offices, a cloud structure is going to be implemented, to facilitate the sharing and common utilization of documents, data and resources.

About the communication channel used between staffs or staff and players, it is constituted by a Microsoft Word document, in which it is detailed the weekly report. For rapid and more direct communication among players-coaches-team managers, have been used the traditional instant messaging mobile application such as WhatsApp.

The club considers important the idea of the brand establishment, that should be solid in order to enhance the visibility and approach to sponsors.

Nowadays the sponsorships are the higher impact revenues sources but, instead of a mere visibility opportunity, they are looking for collaborations aimed at social implications.

Usually, main sponsors, different for the male and female team, offer gadgets during dedicated matches, while the title sponsor of the arena, Candy, every match offers prizes by the means of a lottery.

VeroVolley is already active in the investment towards the Smart Arena building, with some projects realized such as the food and beverage reservation service, and others in plans.

Event Management

VeroVolley Consortium is strongly committed in the diffusion and teaching of the “sport culture”. For this purpose, it organizes many events involving different categories of people, from young players to school children and many others.

Being exclusive manager of the Candy Arena, the club has dedicated a part of the marketing section to the organization of other events for which is possible to rent the arena. The more common are music concerts, theatre representations, conferences or workshops. The club benefits form these external events both in terms of revenues and of image and visibility.

According to Leagues and Federations rules, during the matches, to support the referees' decision making, it is adopted the VideoCheck technology, developed by DataProject.

5.2 Case Studies analysis conclusions

The objective of case studies was of dual nature: understanding what is the current situation of Italian clubs about the topic and apply to real cases the model developed.

The choice of clubs was derived by two factors, first the aim was to investigate in clubs of the main team sports in Italy, football, basketball and volleyball, trying to involve different clubs of different dimensions; secondly, have been selected clubs which had already realized project concerning digital technologies.

The first consideration, is that in all the clubs interviewed, there is a propension to the adoption of digital technologies, considered in all the cases fundamental or strongly supportive for certain activities.

However, only in few cases, there is a digital strategy which is developed to integrate the digital in traditional methods for running the activities, in all the areas before mentioned.

As it was predictable, not all the four application fields have been equally explored by clubs and have shown different level of innovation.

The Fan Experience section, is the common factor of all the cases: the website with news, photo and video content, the e-ticketing and e-commerce is present all the situations, as a reference point for fans. In most of the cases, moreover, has been developed also a mobile app, which represent a quicker channel to information.

It is confirmed that social networks play a central role in the club communication and interaction with fans, since all the society has their official profile in at least the leading platforms (Facebook, Twitter, Instagram, YouTube), and there is a dedicated figure, Social Media Manager, that deals with content creation, event promotion, and community engagement.

The Parma Calcio could be considered the most innovative club, with initiatives which involve the experience at the Museum, that involve digital technologies as instrument of information, with interactive monitors and the Gear VR helmet by Samsung, which allows to have a virtual walk on the court with historical players of the club.

Anyway, in all the interviewed is perceived the need to collect and analyse customer (fan) data, to create precise profile to which target initiatives and marketing campaign, to increase fan satisfaction and loyalty. Only in the case of Genoa CFC, with the adoption of the CVE Spa digital ecosystem, there is a valid CRM, while in the other situation is under development or considered as a future improvement.

The Athletic Performance area is strongly dependent to the peculiarities of each sport, indeed, some sport is more suitable for the use of digital technologies in the analysis of performances, as are defined as situational and thus a technological support in the analysis is worth.

The leading context in this purpose is volleyball, in which dedicated software have been developed to analyse huge number of matches and data, then exploited to draw strategies and training plans. For all the others, solutions to track and monitoring the physical condition of players are the most implied.

Generally, technologies are considered to be of increasing importance and support in performance analysis and improvements, and their role will be more and more central with future developments.

For the Event management, all the top Italian federations have introduced the technology as support for referees' decision making, thus the clubs competing at high level in their sport are equipped with the dedicated solution.

Excluding the social media exploitation for event promotion, is than almost null the use of technologies for support event organization and management.

Only UC Sampdoria has declared to have developed and implemented and advanced security system at the stadium, with 52 cameras which allow to detect any illegitimate behaviour.

Another area which can be assessed with scarce digital adoption is the Sport Club, in which the methods adopted are mainly "self-made" or common software adopted for their internal management, such as Microsoft Suite for collecting and storing data.

Only football club, in particular the case of UC Sampdoria, adopt a managerial software, even if is not designed for sport context and needs continuous adaptations.

This is probably due to the dimension of the business managed, in fact football is the sport with major implication from an economical and bureaucratic point of view.

The concept of “Smart Arena” is well known by all the realities, but mainly for ownership constraints and importance of investment needed, the clubs are proceeding with caution in this direction, even if the aim is to reach the highest possible innovation level, to offer valuable services at people in arena.

The case studies were not only concerning the technological adoption but were enlarged to understand which is, nowadays, the concept of Sport organization, for this proposal some investigations about the structure and the principle of the club have been performed.

In all the context there are complementary functions, that are comparable to enterprise functions, such as marketing and communication office or administrative office.

The organization structures have evolved across the time, after understanding that even if the core business remain the sport event, there is the need to differentiate revenues, trying to create more balance and stability, which only performance related economic results cannot ensure. From this need, for example, the development of Fans (Customers) Relationship Management systems, to being more informed on what people love and target marketing actions on their base.

The moving necessity of this structure change, is the need to affirm the club as a brand, creating awareness that ensure fans that when you will attend a match of that team for sure you will have a great experience, independently by the match result on court.

From the interviewed, it is observable that for the clubs is important to be coherent with their core business, and to carefully assess potentialities of their fan base and club, to invest in the right way for brand affirmation. Only big international clubs can afford to enter in not related businesses with their brand and try to differentiate revenues with other products.

The most important consideration about criticalities and constraints in developing a digital strategy, emerges clearly from the opinion of managers interviewed.

In Italy there is still a cultural problem, for which the sport event it is not considered as an entertainment activity.

From this point, consequently, are created constraints to the possibilities of the clubs, with limited importance given at marketing and communication activities, for example.

As confirmed by case studies, a fundamental and determinant factor for succeeding in digital projects, and more broadly in the development of a complete digital strategy, is the top management commitment. Without a strong belief in these activities, the budget dedicated will be limited, obliging digital managers to prioritize project on the basis of what will produce results in the short term and postponing, instead, projects that will be profitable in a longer term.

To conclude, it can be stated that in Italy the situation is at beginning stage in the innovation but is perceived the necessity to invest in digital technologies, being aware that nowadays those investments will not lead to a competitive advantage but will align the club with the fans' expectations.

6 CONSLUSIONS

The core of this thesis, was the development of a model, to map the digital technologies implementation in sport clubs, as a articulation of the Digital Strategy developed.

Since the aim implies a deep understanding of the concept of digital strategy, the first step was to understand what is meant with the term “digital strategy”, with a literature review. Since the definition is an evolution of the traditional strategy, the changings of meaning have been analysed.

Then, the attention shifted to the sport industry, in the understanding of the characteristics of the business and the trends.

The successive phase was the combination of the two previously mentioned concepts, which is the search of managerial models, created to explain and develop a digital strategy in the context of sport organizations.

The focus was on the deep understanding of a framework developed by Osservatori Digital Innovation, which represent the classification of the application dimension of digital innovation in sport organization.

Beside this framework, no other models have been found, for this reason the creation of a tool for supporting the analysis of the technologies application in sport clubs is a new contribution to literature.

With the idea to combine the framework of the digital innovation classification and the Business Model Canvas, this latter instrument has been studied to understand its potentialities and its structure and meaning.

All the work, is resulted in the development of the Sport Club Digital Strategy Canvas, a fillable model useful for mapping the technologies adopted by the club.

It is composed by four sections, inspired by the four classes identified in the framework: Fan Experience area, that deals with all the technologies that are targeted to fans, from the more commons e-commerce and e-ticketing, to mobile application or more advanced such as virtual and augmented reality; Athletic Performance, which include all the technologies aimed at performance analysis, training or health and rehabilitation support; Sport Club, which is

focused on the internal management of the club, from the communication between staffs and players or between staffs, to the facility management, sponsor relationships and talent scouting activities; Event Management, including event organization and management tools, cultural promotions, security management and support for referees' decision making.

Each of the four section has a similar but personalized structure, aimed at highlighting peculiarities of single technologies adopted.

The overview of the whole model, provide valuable feedback such as the areas in which more investments in digital innovation have been undertaken, and the balance between the different areas digitalization level.

The research was enriched with case studies of clubs that have distinguished themselves for technological projects already implemented.

The occasion to interview club managers was exploited even for understanding the Italian level of innovation in the sport industry, and their development of the digital strategy concept.

In the following paragraphs will be discussed the results of all the aspects of the work.

To simplify the comprehension of the work, the following schema represent the logical flow which has characterized the research.

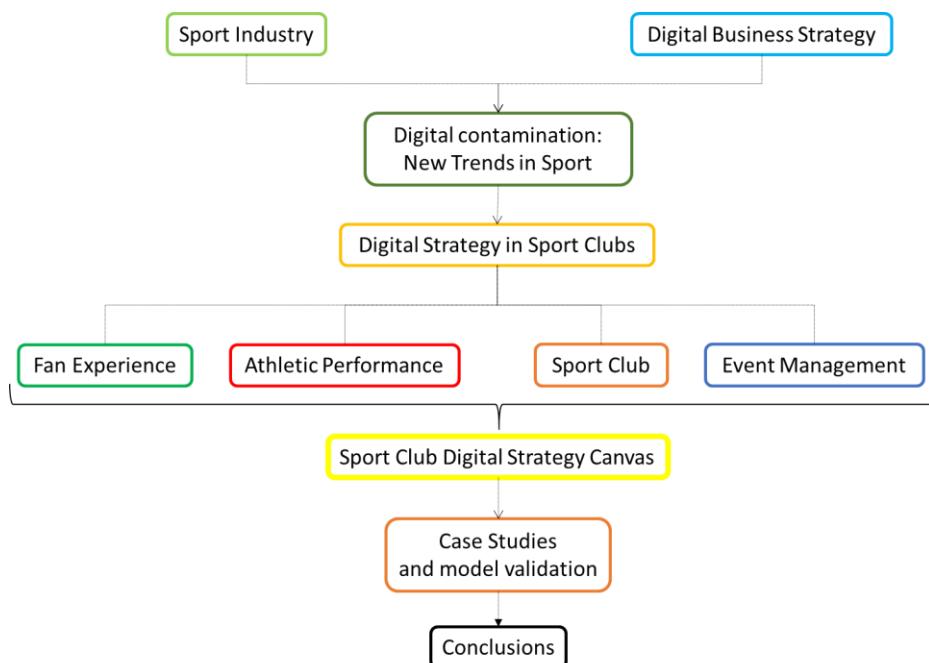


Figure 32 Research logical flow

6.1 Findings

In this section, will be reported all the findings and consideration of the research.

The two main objectives of the research are subdivided in two dedicated paragraphs: firstly, are presented the findings regarding the Digital Innovation applied in the sport industry, summarizing all the observations emerged in the previous chapters; secondly, some consideration about the validation of the model developed are provided.

At the end of this paragraph, a schema summarizing the key findings, and their logical connections, will be provided.

6.1.1 Digital Innovation in Sport Industry

Digital technologies are influencing the whole business context, sport industry included.

The concept of digital strategy, which means exploiting digital technologies as an instrument, integrated with traditional systems, to perform company activities, is evolving and being adopted even by sport organizations.

A confirm of the contamination of the digital world in the sport industry, is observable by the new trends identified by Nielsen in its yearly research on the sport business.

What in the chapter 2 is more deeply illustrated, is that in the majority of trends, the presence of digital technologies is the enabler or the fundamental element of the phenomenon.

In particular, some of them are emblematic:

- The change in the configuration of intellectual property rights, with the possibility to everyone to become a content producer, thanks to the numerous devices available
- As for all the people, sport fans are always connected, creating new possible revenue streams for stakeholders, exploiting for example mobile advertising or secondary content
- The increasing importance, as for traditional enterprises, to acquire more data about fans, to profile customers and be more effective in the offerings, implementing for this purpose a Customer Relationship Management system.

Focusing on the context of a Sport Club, competing at high level, digital innovation is changing the ways they operate.

There are mainly 4 four application area, identified by Osservatori Digital Innovation: Fan experience, Athletic Performance, Sport Club and Event management.

The athletic performance area, is the first in which digital technologies have been applied, with devices and software that allow to increment performance analysis and improve specific training planning, enhancing the efficacy of workouts.

Even at amateur level, in last years can be observed an important increase of free or pay-per-use solutions, mainly mobile application, dedicated at personal care for fitness, running and monitoring physical activities.

In case of fan experience, digital technologies have disrupted the concept, changing the way fans live and follow sport events. Until some years ago, the fan experience was limited by the time in which the person was in the stadium, or at least watching the match on tv. Nowadays, being a fan is become a h24 activity, with incredibly more possibilities to follow the team. A fundamental role in this proposal, is constituted by social networks, massively used by teams for create and maintain a loyal community, creating possibility of interactions and engagement. Furthermore, mobile application enables an always available source of information and content, dedicated to a club.

In more advanced contexts, the use of virtual and augmented reality is exploited for offering new valuable experiences for living sports.

Sport clubs are evolving and reaching managerial characteristics that could be compared to a common company. Even if the core business will remain the sport events, with the team management and their sportive results, other areas are completing the structure of sport organization, with functions such as marketing and communication that are gaining more and more importance.

To support traditional and new operations, technological solutions are implemented, ranging from methods for the internal communication and information sharing, to managerial software, to solutions for collecting and storing athletes' data, in order to better assess their value.

Innovations, has affected even the event management and organization, with solutions to automatize activities such as credit pass management and release, client profiling or direct marketing tools, for example DEM and newsletters.

Even in facilities and security management, sophisticated digital technologies allow to ensure the safety and detect any not admitted behaviour.

The consequence of all these consideration, is the need of a tool which enable the mapping of all the technological implementations, categorized by application field, that will provide a comprehensive overview of the digital strategy of the club.

Since it is a quite new field, a consistent grow of this themes is expected for the future years, with more commitment and resources that will be invested for digital technologies projects.

The case studies created and presented in chapter 5, had a double purpose: first of all, investigate in real cases if the trends and phenomena observed in the literature analysis are proved, and secondly, validate the robustness of the developed model with its application at practical cases. This latter aspect will be discussed separately in the following paragraph.

The realities chosen for the case studies creation are the ones in which some projects have been already carried out, in order to assess the level of Italian clubs in the technological evolution.

The first general observation, is that considering the information of innovative projects developed in other countries, for example in US, the Italian context is at the beginning stages of the digital maturity evolution.

Of course, every sport represents a different field, due to different culture and diffusion, involved people, dimension of the business and consequent investments by club owners and sponsor enterprises. In this reasoning, football is the leading sport, as shown in Figure 3, chapter 1, by an AT Kearney study, in terms of revenues, but within the field, further classification can be done considering the history and importance of clubs both at national and international level, that will lead to economical and organizational situation that significantly vary.

From the interviews performed, it has been verified that even for Italian clubs, digital technologies are perceived as increasingly important to implement successful projects in the different ambiti of activities, but only few of them have already developed a concept of Digital Strategy which is above the use of internet tools and consider the technologies as the mean to perform daily operations.

In this sense, Parma Calcio 1913 and UC Sampdoria have shown an advanced level of maturity.

In relation to the four categories before illustrated, thanks to the application of the Sport Club Digital Strategy Canvas some considerations are worth to be highlighted.

The common aspect in all the case studies, was the alignment of the concept of fan experience, with the changed behaviour of people, who are living sport even by means of digital applications. All the clubs' websites present the traditional sections of news, photo and video content, in addition to the areas dedicated to the e-ticketing and e-commerce.

Social media represent a strongly exploited instrument, with the purposes of creating and enlarging the community of fans, reaching also not local people, and creating and posting content to engage them and give the possibility to interact each other to discuss and share their passion. In 5 cases out of 6, it has been implemented also a mobile app, for facilitating the access to contents, integrating often also live-score services.

To be mentioned the case of Parma Calcio 1913 that, despite competing in Serie B and being a club refunded three years ago, it is the most advanced in terms of innovation, since has developed a separated app for the Museum, with interactive content, and for enhancing the visits exploit the Augmented Reality technology through Samsung Gear VR helmets, allowing fans to have a walk on the court with historical club players.

The most advanced in terms of data organization, instead, is the Genoa CFC case where, thanks to the partnership with CVE Spa adopted their platform for Fan Relationship Management, integrating customer data by all the digital channels and automatically creating fans clusters.

For the Athletic Performance section, a premise should be made: the application of digital technologies in trainings or performance analysis it is strongly dependent to the specificities of the sport techniques. In general, technologies are considered as the future indispensable

support to compete at high level, because allows to monitor and analyse parameters of performances able to develop specific and ad-hoc workouts plans to improve results.

In all the sports have been applied technologies and software for match analysis, that will provide information for drafting game strategies.

For the Sport Club area, dealing with the internal management of the organization, only in the case of UC Sampdoria has been found the use of a managerial software, even if not specific for sport organizations but a standard tool adapted for the case. In other cases, simpler and not-automatized solutions are adopted, such as software as Microsoft Office.

In the case of Unet e-Work Busto Arsizio, the mobile app developed by the club has limited access sections where players and staff can share information and plans such as match statistics, weekly and monthly plans, calendars and similar.

An emerging concept is the “Smart Arena”, which means stadiums or arenas that provide new kind of services, all provided by the means of digital technologies.

The factor that is determinant for the investments in this sense is the arena ownership, indeed, in Italy it is frequent that the ownership of facilities is not in charge of the club property but of local institutions, such as municipalities.

However, in all the cases analysed, there are intentions to invest on this direction and some small improvements have been adopted, the common is the possibility to buy food and beverage via mobile app and receive it directly at the seat.

For the event promotion, the main channels used are the social networks, that complement the activities of website and newsletter in some cases.

To register, all the different national federations has introduced as mandatory for the highest categories, the support of digital technologies for referees' decision making. Each sport has a proper technology, VideoCheck for volleyball, VAR system for football and Hawk-Eye for basketball, and the clubs has acquired the specific solution.

In order to create new and more targeted offers, complementary to the sport event, emerged the necessity to collect and analyse customer data, to profile behaviours and attitudes, which can be valuable even for sponsors, partners or external enterprises and could represent even

a new source of monetization. As a result, many clubs are developing a CRM, in these cases named Fan Relationship Management system, which allows to automatize all the activities aimed at the purpose.

The case studies have been the occasion for investigate how sport organizations has evolved in time, both in the structure and in the business model.

It has emerged the necessity to differentiate revenue streams, to reduce the dependence of sport result related incomes, such as home tickets.

In this perspective, an evolution in organization is observable, with complementary functions, before not important or not present, such as Marketing & Communication or Event and Fan relationship management, gaining relevance and presenting in their organization chart professional figures dedicated to specific aspects. Some examples are the Social Media Manager for the communication staff, or the Brand & Digital Manager for the marketing staff, or an emerging role, the Fan Relationship manager, dealing exclusively with fan interactions and experience enhancement.

This phenomenon is reshaping the concept and organization of sport clubs: the traditional athletic-centric configuration, with activities strongly related to sport results and management, have been modified, enlarging competences and knowledge of managers, and assuming a structure always more like traditional business enterprises.

Jonathan Greci, Brand & Digital Manager of Parma Calcio 1913, stated in the interview that “sport clubs could be compared with small-medium enterprises, where the product is the sport event, but to sell it, all the complementary activities such as commercial, marketing and communication are needed.”

The main constraints encountered in the implementation of digital projects, could be linked to two categories, different in nature but in cause-effect relationship.

It is fundamental the top management commitment in projects of this type, but sometimes it's tricky to ex-ante quantify and identify benefits of technology adoption, and the investment needed prevail in the decision.

Consequently, the budget dedicated for digital initiatives, or to specific internal functions, are restricted, creating the necessity to prioritize interventions that provide a return in the short term, postponing more articulated projects, such as CRM development.

In all the application areas, from athletic performance, to sport club, the key element for the development of digital projects, is a sensible context, in which there is the predisposition and the curiosity to discover new possible solutions, to continuously improve the club performances.

6.1.2 Sport Club Digital Strategy Canvas model validation

The second purpose of case studies was to apply and validate the developed model, described in chapter 4.

The model has been applied in all the 6 cases, without facing any problem, being able to complete the technology description in all its details.

However, some considerations should be done.

The first limit found in the interviews, was the knowledge of the person interviewed, because covering the model different aspects of the sport club, the figure involved was not completely aware of the areas out of his competences. For this reason, in many cases was necessary a further interpellation of figures working in a different function, to be able to complete the schema.

The second observation, comes from the individuation of the voices to fill “Investment and Costs” and “Value created and Exploitation”, which was not immediate and required some reasoning.

It is worth to add a note: in the cases of Pallacanestro Varese the sections Sport Club was not completed by the interviewed, while in Athletic performance the only one described is about match analysis, but was not possible to acquire additional information and, given similar characteristics in other sports, it is probable that additional technologies are used.

In the case of Genoa CFC-CVE Spa, instead, the only area analysed was the Fan Experience since Claudio Severoni is the General Manager of the company in charge of the digital section of the club.

The Sport Club Digital Strategy Canvas should be considered a valid model for mainly two reasons, that follow.

First, as stated before, during the application at real cases, there have not been problems in the use of the tool, at least related to the structure itself. This can be a signal of the correctness and easiness to application of the model.

Secondly, it can be considered a useful model because, in addition to describing which technologies have been adopted, in a comprehensive overview it is able to show if the digital strategy of the club covers all the areas or it is more concentrated on some of them.

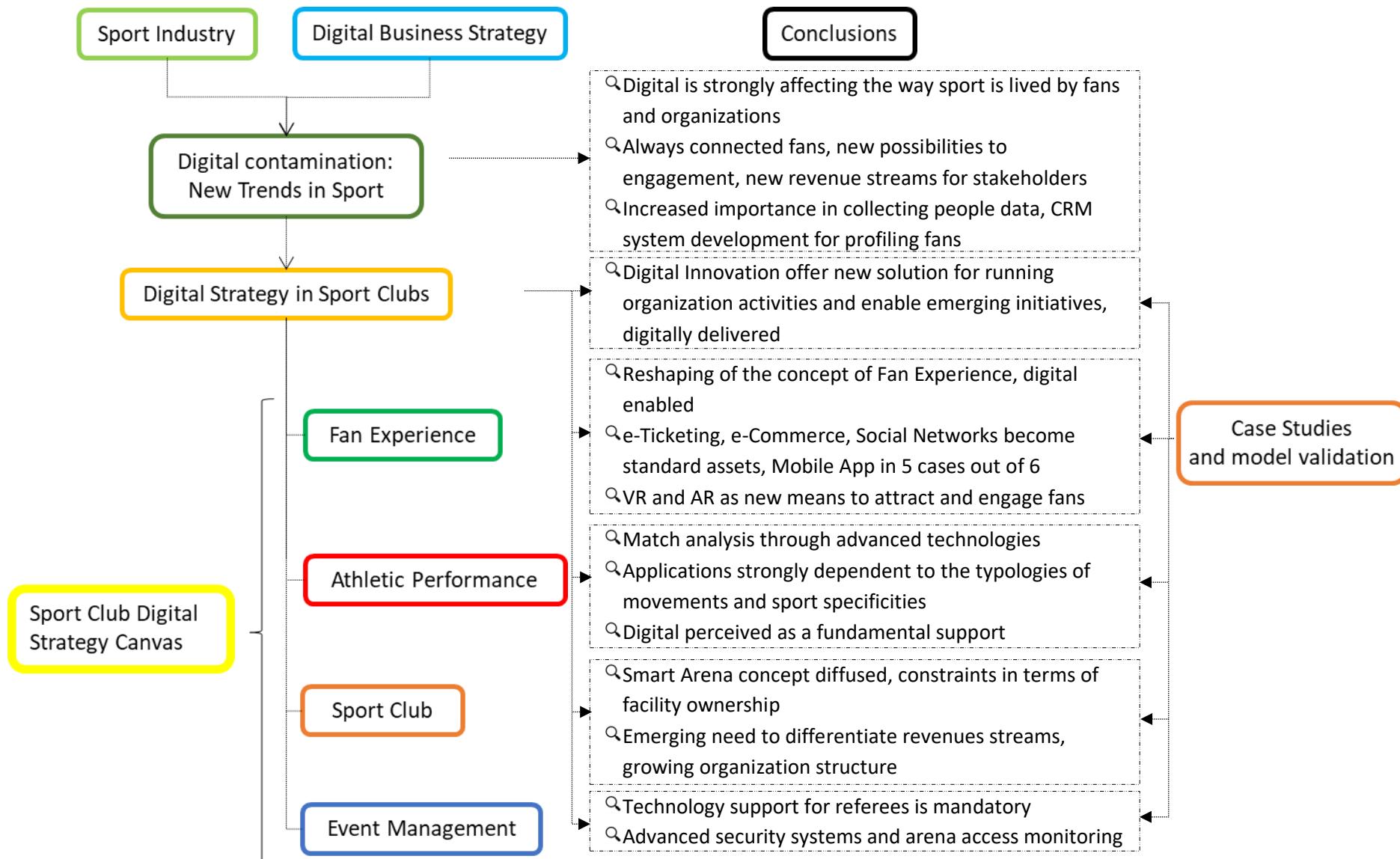
In the application in case studies, it can be concluded that all the clubs have invested in Fan Experience, most of all with traditional channels, such as website and mobile app, while in some cases advanced technologies have been used.

The event management, can be considered the area in which there are less application, while in the sport club many processes are run with not innovative technologies, even if in many cases there are projects to increment the digital support.

About Athletic performance, it is sure that for the match and performance analysis, digital technologies are considered fundamental, while in specific training application they can be affected by prejudice and criticism by athletes.

6.1.3 Summary Scheme of the conclusions

The following summary scheme provides a graphical overview of the logical flow of the research, with the related findings.



6.2 Limits of the research

In the development of this thesis project, some criticalities have been faced.

First, the quite newly of the topic, the digital strategy development in sport clubs, has resulted in the lack of literature cases and studies, and already created and applied models for the analysis, with a consequent limited quantity of information available. In many cases, indeed, the research has been done on website articles or company application reports, in addition to traditional communication channels information.

Another limit, is represented by the Sport Club Digital Strategy Canvas model validation.

Despite the attempt to consider as many cases possible, taking care of having the higher variation in sport and category in which the clubs compete, only 6 case studies have been analysed. Furthermore, in some cases the person interviewed covered a role for which was informed on few areas, while in the other only a general overview was provided. When possible, other figures of the same club intervened.

For obviate to this issue, additional information has been gathered through other means, such as websites and press releases or personal experience in some cases.

6.3 Further improvements

This research is worth to be continued, with some improvements for the future.

Firstly, further investigations in other clubs at highest level in national competitions should be carried out, to have a complete overview for each sport of the current state of the digital technologies used.

Due to time and location constraints, were possible to consider only Italian clubs, but, for benchmarking and having an overview of international situation, it would be interesting to analyse even clubs in more advanced countries, such as US.

In applying the model in a huge number of cases, will be possible to observe if the current structure is suitable for all the situation, or some changes should be performed.

6.4 Contribution to literature

Since the Sport Industry is a field where the Digital Strategy definition and implementation is evolving in the last years, consequently there are not already established instrument to analyse clubs' situation in this concept.

The model developed, could represent a good supporting tool for quickly and easily track what are the technologies adopted by the club and for which proposal.

As previously demonstrated, the model is based on a strong literature reference, specifically to the Business Model Canvas and on the framework developed by Osservatori Digital Innovation, a reliable and competent source.

For these reasons, the Sport Club Digital Strategy Canvas, and the analysis undertaken with the case studies, represent a contribution to the literature, incrementing the materials available for the understanding and mapping the Digital Strategy contextualization in Sport Clubs.

REFERENCES

- Mithas, S., Lucas, H. C., "What is your digital business strategy?", 11-12/2010
- Bharadwaj A., El Sawy O.A., Pavlou P.A., Venkatraman N., "Digital Business Strategy: Toward a next generation of insights"" , 2013 MIS Quarterly, Vol. 37 No. 2, pp. 471 482.
- Porter M. E., "Strategy and the Internet" from Harvard Business Review March 2001
- J. C. Henderson, N. Venkatraman, "Strategic alignment: Leveraging information technology for transforming organizations", IBM Systems Journal, Vol32, No 1, 1993, pp 472-484
- N. G. Carr, "IT doesn't matter", Harvard Business Review, May 2003
- Mithas S. et al., "How A Firm's Competitive Environment And Digital Strategic Posture Influence Digital Business Strategy", MIS Quarterly Vol. 37 No. 2, pp. 511-536/June 2013
- S. Mithas, R. Agarwal, H. Courtney, "Digital Business Strategies and the Duality of IT", IT Pro September/October 2012
- P. L. Drnevich, D. C. Croson, "Information Technology and Business-Level Strategy: Toward an Integrated Theoretical Perspective", MIS Quarterly Vol. 37 No. 2, pp. 483-509/June 2013
- Grant M.R., "Contemporary Strategy Analysis", 2010
- Deloitte, "The income statement of the Italian football", 2015
- A. Ostewader, Y. Pigneur, "Business Model Generation", 2010
- ATKearney, "Winning in th Business of Sports", 2014
- PwC, "PwC's Sport Survey 2016", 2016
- Nielsen Sport, "Commercial Trends in Sports 2017", 2017
- McDonald M.P., "Digital Strategy Does Not Equal IT Strategy", Harvard Business Review, November 19, 2012
- McDonald M.P., "What Is Digital Strategy", Accenture, March 3, 2015
- Aron D., "The Difference between IT strategy an Digital Strategy", Gartner Blog Network, November 12, 2013
- Ghezzi A., "Business Strategy & Digital Strategy", Piano Formazione Osservatori 21-22 febbraio 2017
- Chiaroni D., "Strategy & Marketing", Strategy&Marketing course, 2015

Berthon B., Pearson M., McDonald M., "Being digital: Fast-forward to the right digital strategy", Accenture Strategy, 2015

Edited by SAP, "TSG 1899 Hoffenheim: fare gol con l'innovazione" from "b2s business to sport", n°3 pp. 54-57, 05-06/2017

Maxey, P., "Dallas Mavericks Add Virtual Shopping Experience for Fans with Tixsee", 30/01/2015

IBM Press room, "Per l'edizione 2012 Wimbledon e IBM offrono un'esperienza più ricca ai fan", 21/06/2012

IBM Press room, "IBM Watson fornirà insight cognitivi durante gli US Open di tennis 2016", 31/08/2016

IBM Press room, "IBM e Wimbledon lanciano nuove soluzioni cognitive, hybrid cloud e app studiate per arricchire l'esperienza dei fan", 17/06/2016

IBM Press room, "Honda ha selezionato IBM Watson IoT per abilitare le decisioni in realtime dei piloti di Formula Uno", 17/03/2016

Rose, C., "How Tixsee And The Dallas Mavericks Sell Tickets Through The Mobile Fan Experience", 28/02/2017

"GAME ON: Winning at the Business of Sports" from IBM, November 18, 2015

Awoniyi B., "How digital has transformed the NBA", Econsultancy Blog, November 15, 2013

ADLittle, "L'innovazione nello Sport", 2018

EPSI, "Strategic Research and Innovation Agenda 2016-2021", 2016

Bichi A., "Opportunities brought by innovation and digital technologies in sport", EPSI, 2017

Russel W., "Leveraging Digital Strategies and Analytics in Media and Sports", MIT Sloan Sport Analytics Conference, March 11-12, 2016

Solosky J., "An Inside Look At The Euroleague's Cutting Edge Digital Marketing Strategy", SportTechie, November 16, 2015

Claxton D., "Arsenal FC Launches Its Own Innovation Lab For Startups" SportTechie, September 15, 2017

Andrews M., "Sacramento Kings Hire Vice President Of Strategy And Analytics To Use Data Engineering", SportTechie, April 25, 2017

SportTechie Staff, "Orlando Magic Selects KORE Software To Handle Its CRM And Business Management Software Solutions", SportTechie Wire, September 5, 2017

SportTechie Staff, "KORE Software Supercharges Sponsorship Collaboration With Brands Via Newly Released KONNECT™ Tool", SportTechie Wire, Spetember 19, 2017

Bloom T., "YinzCam, Seattle Seahawks Introduce Mobile Discount Card For Season Ticket Holders", SportTechie Wire, Spetember 15, 2017

SportTechie Staff, "San Jose Sharks Expand Business Intelligence Efforts By Partnering With KORE Planning & Insights", SportTechie Wire, August 29, 2017

SportTechie Staff, "KORE Software's Technology Selected By The Atlanta Braves As Their CRM And Data Warehouse For SunTrust Park And The Battery Atlanta", SportTechie Wire, July 18, 2017

SportTechie Staff, "New BI Consulting Division, KORE Planning and Insights, Drives Forward the Sports and Entertainment Industry", SportTechie Wire, July 11, 2017

SportTechie Staff, "KORE Software Wins the 2017 Sports Technology Award "Best Technology for Commercial Returns", SPortTechie Wire, June 5, 2017

SportTechie Staff, "IMG Learfield Ticket Solutions Selects KORE Software to Improve Business Intelligence and Boost Ticket Sales for Colleges and Universities", SPortTechie Wire, June 14, 2017

Tixsee press, "CASE STUDY: Dallas Mavericks and TIXSEE re-invent the mobile fan experience", February 2017

IBM, "Wimbledon 2016, In pursuit of greatness with cognitive and cloud technologies", 2016

IBM, "IBM @ Australian Open 2017", 2017

IBM news room, "IBM Launches Watson Media at the 2017 US Open Tennis Championships", 30/08/2017

Burns, M.J., "VERT Launches First Multi-Appendage Intensity Tracker G-VERT", 29/12/2016

Andrews, M., "USA Volleyball Renews Partnership With VERT, Will Use New G-VERT Performance Tracker", 10/03/2017

Ogus, S., "Professional Volleyball Player Kelsey Robinson To Cover Olympics Technology From Rio 2016", 13/06/2016

Robinson, K., "Kelsey Robinson Of Team USA Volleyball Documents Her Use Of Tech As She Travels The World In Preparation For The Rio Olympics", 23/06/2016

Robinson, K., "Kelsey Robinson Of Team USA Volleyball Discusses Using The VERT Tracking Device", 08/07/2016

Bloom, T., "VERT's Jump Monitoring Device To Be First Wearable Used In NCAA Volleyball Championship", 18/12/2015

Burns M. J., "Sacramento Kings Redefining Fan Experience At Golden 1 Center With New 'Remote Control' App", from SporTechie, 19/09/2016

Burns M. J., "Miami Heat To Revamp Digital Fan Experience, Team Mobile App", from SporTechie, 08/03/2017

Rettig M., "Why Miami Heat Switched To Mobile-Only Entry To AmericanAirlines Arena", from SporTechie, 17/08/2017

WEB REFERENCES

www.google scholar.com

www.sciencedirect.com

www.sportechie.com

www.sportbusinessmanagement.com

www.sloansportconference.com

www.nielsen.com

www.atkearney.it

www.sloanreview.mit.edu.com

www.ieeexplorer.org

www-03.ibm.com/press

biblio.polimi.it

www.volleybusto.it

www.pallacanestrovarese.it

www.parmacalcio1913.com

www.olimpiamilano.com

www.verovolley.com

www.sampdoria.it

www.genoaafc.it

www.linkedin.com

www.hawkeyeinnovations.com

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