

# Identifying the Role of Digital Technologies in Sport Spectators Customer Experiences through Qualitative Approach

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*The massive uptake of digital technologies has changed the way how fans and the sports service field communicate and interact. In the current paper, we would like to emphasize the role of technology holistically in sport spectators customer experiences (SSCX) as a "game-changer" marketing in sports and the digitalization of SSCX. In this paper, we aim to explore and qualitatively describe by interviewees verbatim how new technologies impact SSCX. It draws on the literature review, combined with the primary data collected on unstructured interviews with international sport management and technology experts (N=10). It brings sports marketing insights followed by examples from industry professionals. Iterative analysis of data combined with literature review let us achieve to outline the crucial points and trends of technological transformations in sports spectacle. We offer an updated perspective on the SSCX through the prism of the impact of digital technologies and reshaping sports consumption culture. To this end, we develop a conceptual model that captures the nature of modern SSCX influenced by digital technologies.*

**Keywords:** technological transformation, sports spectacle, customer experience, co-creation, connectivity

## Introduction

Sports Spectators Customer Experiences (SSCX) are changing because of the rapid uptake of digital technologies. This study aims to explore, explain and visualize the impact of new rapidly diffused digital technologies on SSCX, focusing on smartphones, mobile applications (apps), immersive technologies, connected objects by the Internet of Things (IoT), and big data. Thus, we intend to offer an updated perspective on the SSCX through the prism of the effect of digital technologies and reshaping sports consumption culture. To this end, we develop a conceptual model that captures the nature of modern SSCX influenced by digital technologies.

Italian novelist Alessandro Baricco (2020) begins his book "The game" with the indignant question about how it happened that people lost such simple human pleasures as a carefree weekend and a long dinner with friends, and voluntarily plunged into the digital world as if wearing "electronic collars". Where was the first "crack"? At what point was a turning point (and a point of no return as well) in the modern world? Baricco (2020) finds this point, and he believes that it happened in 1978-1979 in bars at the moment when people moved from hand-

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made soccer games to the computer game "Space Invaders" because it was the first blockbuster computer game. And, it seems to be directly related to sports. The person who wanted to play a game stopped playing hand football with a real friend.

"First scene. Table football, pinball machine, video game. Take half an hour and go from one to the other, in that order. You thought you were playing, instead, you crossed the space that separates one civilization, the analogue one, from another, the digital one. You have migrated to a new world: light, fast, immaterial. Second scene. Take the icon that for centuries has embodied the meaning of our civilization: man-sword-horse. Compare it to this: man-keyboard-screen. And you will have before your eyes the mutation taking place. An earthquake that has redesigned the posture of us humans spectacularly. Whatever you think of the Game, it is a useless thought if it does not start from the premise that the Game is our insurance against the nightmare of the twentieth century. His strategy worked, today the conditions for a tragedy like that to repeat itself have been dismantled. We are used to it by now, but it must never be forgotten that there was a time when, for such a result, we would have given anything. Today, if they ask us to leave our email in exchange, we get nervous".

Analyzing this quote, we realize the significant role of sports spectating pastime in the overall human digitalization and transformation, and vice versa, the crucial impact of technologies on sports spectacle culture (Gulhan 2014). Thus, this paper focuses on massively diffused in sports consumption digital technologies: big data, social media, smartphones and other personal screen devices, IoT (internet of things), XR (immersive technologies), and mobile applications (apps), as the "quintessence" of SSCX digitalization (Glebova and Desfontaine 2020).

Despite technological development and sports digitalization trends, research on sports digitalization in the international sports discipline is surprisingly nascent. "The sports environment is complex and needs to be analyzed in a holistic manner" (Ratten 2018). Earlier Glebova and Desfontaine (2020) described the technological and digital transformation of SSCX and proposed in a narrative manner that the employment of new technologies may change SSCX through different dimensions (Lemon and Verhoef 2016).

"The digital transformation is the main point of attention due to its impact on processes, infrastructure and business models. But we don't want people to think that sports are a business, right? It's all about passion. Nowadays, a process in progress is the 'digital revolution', with technology dictating the timing of a new vision in the sports industry that is materializing every single day. Using events, the elimination of distances, constant communication, mobile entertainment, new payment methods and proximity, you can build some of the pillars that drive the sports management to the creation of specific and advanced digital resources, to be integrated with structural ones" (George-Ciprian Enache, personal communication, 21.11.2020).

The present study aims to explore and investigate the effect of digital technologies implementation and employment on spectators customer experiences in sports (SSCX), referring to the customer-centric approach (Glebova and Desfontaine 2020). It delineates the usage of technologies as a multidimensional

construct and proposes that new technologies affect consumer psychology and experience (Lemon and Verhoef 2016, Glebova and Desbordes 2020a). Positive perceptions toward technology use lead to positive behavioural outcomes (Morosan and DeFranco 2016), research has determined cases when the use of technology may increase technology anxiety, in turn leading to customer dissatisfaction (Liu 2012, Lee and Baker 2017). It brings us to ask the question: "How the digital technologies should be employed and used in SSCX effectively and efficiently, to maximize the positive impact on consumer behaviour, experience, and satisfaction?" Accordingly, the findings of this research are interesting for sports management and marketing professionals, scholars and all the stakeholders in the sports industry.

## Literature Review

Over the years scholars described the importance of communicating with a customer (Yu and Trail 2011), including the sports industry (Bee and Khale 2006, Abeza et al. 2013). We have noticed that diffusions of technologies have changed the way how fans and the sports service field communicate and interact (Glebova and Desfontaine 2020). Establishing customers/users profiles (Hautbois et al. 2019, Schut and Glebova 2020), because it allows targeting and personalization providing new marketing opportunities. All Sport Spectators experiences are different because they are affected by various factors through many dimensions (Glebova and Desfontaine 2020, Klaus and Maklan 2012, Steward et al. 2003).

According to Shank (2005), there are three types of sport consumers: spectators, participants and sponsors, subsequently, the sports industry intends to satisfy the needs of. Accordingly, the current study is mainly focusing on spectators. Biscaia et al. (2018) study provides the exploration of an identity as a multidimensional construct, referring to the stakeholder theory, indicating acceptable psychometric properties of the multidimensional construct of fan identity composed of power, urgency, internal legitimacy and external legitimacy, which is influencing intentions to recommend games to others. All these constructs have been extensively impacted by the digitalization of SSCX.

Gentile et al. (2007) suggested that a customer's subjective response is multifaceted, accordingly, can be seen from different perspectives, and nowadays the digital technologies perspective is the most important in delivering CX (Glebova and Desfontaine 2020). Verhoef et al. (2009) noted "total experience" included "search, purchase, consumption, and after-sale phases of the experience". Later, these ideas were continued and developed on the work of Lemon and Verhoef (2016). But Lemke et al. (2011) built a conceptual model of CX based on 3 main constructs: communication, service and usage. Finally, it was concluded that there are many challenges to researching this area and the field of customer experience management is a relative area for future research (Lemon and Verhoef 2016). Furthermore, Lemon and Verhoef have mentioned that CX is a fundamental factor in marketing, accordingly, many empirical findings have suggested a link between CX and business outcomes economic value, loyalty, satisfaction (Morgan

and Rego 2006), profit, purchasing decision. According to Gilmore and Pine (2002), customers' needs go beyond just a quality service, transferring to experience. And, again, digital technologies are the main driver of improving SSCX quality (Glebova and Desfontaine 2020).

Jaakkola et al. (2015, p. 19) see the perspective of "address the dynamics of interaction between customers and communities, new types of service emerging in the "sharing economy" that generate inherently co-created service experiences, and the emotional, cognitive and behavioural aspects of service experience co-creation from the respective viewpoints of customers, service providers, and other actors". Furthermore, Jaakkola et al. (2015) develop the integral conceptualization for "service experience co-creation", identifying the multiple dimensions of this construct: value co-creation, foundational sociality in contemporary markets, methods for measuring and managing experiences.

In the current paper, we would like to emphasize the role of technology in a holistic manner in SSCX as a "game-changer" through the perspective of sports management and digitalization of SSCX, outlining the main trends and defining the areas of impact and, consequently, of change.

## **Methodology**

The synthesis of literature and collected data let us build the theoretical model and provide qualitative insights to describe, explain and visualize modern SSCX and technological transformation. It involves personal communications in form of open-ended unstructured qualitative interviews (N=10) with sports management and technology international experts (Table 1). All participants prefer to display their names, retaining "ownership" over their opinions and maintaining a kind of public link to their professional identity. Every personal communication has been individual in terms of collection tools, structure, questions, contents and time, taking into account the preferences of an interviewee. We actively use verbatim to convey the meaning without distortion and try to reflect the nature of the modern SSCX. It allows delivering the field practitioners' insights accompanied by further interpretations and analysis.

Interviews were unstructured, open-ended, personalized and have been conducted through skype or messenger (call/chat) or face to face, including the option of writing responses. Most cases included questions regarding:

- Digital technologies applied in SSCX, main trends.
- Effect of technologies in SSCX, impact and change of the industry.
- Positive and negative sides of technology influence in SSCX.
- Technology impact through cognitive, emotional, behavioural, sensorial, and social dimensions (Lemon and Verhoef 2016) of SSCX.

**Table 1.** *Personal Communications List (in Alphabetical Order)*

#	Name	Position	Expertise field, focus on	Communication tools
1.	Barracough, Stuart	Expert in Business Innovation and stakeholder engagement	Sport technology innovations	In-depth responses by writing
2.	Book, Robert	PhD. Candidate in Sport Sciences	Fan engagement	Skype interview, followed chat communications
3.	Brice, Nicholas	Keynote Speaker, Culture Consultant and Theatre Producer/Director	CX	In-depth responses by writing
4.	Enache, Ciprian	Marketing Director at Digital Economy Development	Sports Digitalisation	In-depth responses by writing
5.	Iraola, Juan	Chief Innovation Officer at Real Sociedad and Sports Innovation Alliance	Sports innovations and fan experiences	Skype interview
6.	Jacobs, Stijn	Leading Sports, gaming & esports industry at Okuden	Sports innovations, marketing and fan experiences	Face-to-face open-ended interview
7.	McCumber, Ryan	Global Sports Innovation & Sports Tech Futurist and Evangelist	Sports innovations, sports ecosystem and fan experiences	Skype interview
8.	Mukanova, Karina	PhD student, researching co-hosted major sports events	Co-hosting and co-creation	The combination of written and spoken responses, divided into few communications including clarifications
9.	Niaz, Faran	Founder, CX Future; Customer Experience, Change Management and CX Transformation Expert	CX, Technological transformation	The combination of written and spoken responses, divided into few communications including clarifications
10.	Saleh, Khaled	CEO at MSA Academy	Sports management and ecosystem technological transformation	Skype interview, followed chat communications

*Source:* primary data, collected by authors.

The data analysis process is continual and iterative. All interviews are transcribed, read several times to catch main accents, identify and outline the key concepts and, finally, deeply understand experts' speeches. After all, transcripts are attentively reviewed to check the relevance and meaning of these concepts and themes and further synthesized and analyzed towards research results. We use verbatim to transfer the original meaning of collected data to a reader. We believe the qualitative approach gives us the ability to provide complex textual

descriptions of how and why interviewed experts explain the technological transformation of SSCX.

The research results provide benefits for all organizations in the sports industry, sports-related brands, event organizations, researchers and customers as well. It extends the literature review on SSCX and technological impact and compliments with empirical dataset analysis. Sport managers need to know and understand their spectators to better adjust technological implementation. Furthermore, possessing knowledge enables managers to keep a track of various types of technologies they have planned, introduced and implemented, make better decisions in the area of resource allocation and enhance SSCX.

## Results and Discussion

The results section and Discussion section of this paper are combined since in the case of this study, in terms of the presentation, results make little sense without interpretation.

The literature review and iterative data analysis (holistic and fragmental) let us highlight and outline the key points of digital technology successful employment in SSCX, and, accordingly to build the 10-Co theoretical model. It reflects all the basics of modern SSCX in intersection with technological transformation. Furthermore, it is followed by the 11<sup>th</sup> "Co" that became drastic on the intersection of SSCX and digital technologies: COVID-19, accreting penetration, diffusion and adoption of technologies in sports spectacle culture.

### *Content*

Sports media content embraces various types, volumes and proportions of information addressed to the audience or an end-user.

"Taking into account the absence of fans in stadiums, digital and OTT<sup>1</sup> have become the main trends in sport spectating along with simultaneous use of a second screen. There seems to be a significant shift towards more interactive experiences i.e. being able to engage with other spectators remotely and with in-play engagement on a second screen be it chat forums, betting sites or social media interactions. This second screen will increasingly become the target for advertising and sponsorship activations allowing the main screen to deliver the sporting content" (Stuart Barraclough, personal communication, 05.03.2021).

The concept of "content" is key in this study, because the development of technology has primarily influenced the quality, quantity and accessibility of sports media content (Glebova et al. 2020). This concept partially includes experience in itself, but it also directly influences the building of experience by internal and external responses:

"Fans are overloaded both by the total volume of content but also the fragmentation of the means to find and engage with the content. At present, there

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<sup>1</sup>Over-the-top media services.

are numerous social media platforms, bespoke apps and websites for each team and league, media companies' websites and apps, sports news platforms and apps... As a result, there is a lot of duplication and spectators don't have time or patience to be presented with the same content twice and they certainly don't want to have to sift through content to find something new and engaging. Both time and attention spans appear to be increasingly limited" (Stuart Barraclough, personal communication, 05.03.2021).

Sports events going far beyond just sport, thus, this well-known phenomena is called "Sportainment" (Desbordes and Richelieu 2012, Chavanat and Bodet 2014). Sports spectacle is constantly moving in the direction of pure entertainment. Sometimes sport itself and entertainment are overlapping, blurring the border between, then mix up together.

"A key driver for better SSCX design is the desire to entice people to attend for longer and spend more money on their experiences at each visit. At Spurs, former players and live music are now an expectation in both GA and Premium. They are helping the club attract 1000's fans in the first hour of now extended opening times, as well as retain them for up to an hour post-match. This approach often helps support the traffic congestion on the roads and at stations. Two exchangeable pitches mean the venue can quickly transform from one kind of football to another – NFL. More and more the SSCX design is aimed at customers seeing an event as a fuller day/night out and not just about the 90 minutes of a football match" (Nicholas Brice, personal communication, 06.09.2020).

The entertaining nature of sports spectacle can be enhanced and empowered by technologies as well, as a supplementary source of fun and carefree pastime. For example, immersive technologies or gamification can be used supplementary for the pure pleasure of fans or for switching audience attention.

"I think we are moving to the direction where the sport is more like entertainment, so, sports performance experience, organizations, clubs, rights holders are focused more on entertaining a spectator. LaLiga, the Spanish football league, has a real clear view on this point, it's more about entertainment than about football itself. So, they offer a certain amount of services of entertainment rather than choose football, because on the venue and outside of the stadium and between games they should always interact with the fans, move to fans, giving them an immersion, knowing what fans want. So, moving from sport pure performance to pure entertainment. I think in Europe, in general, we are behind in this kind of things... We have the very old school of sports, they want people to come to the stadium to watch a game and then go home. In the US for a couple of years already, they are consuming events, but basically, the result is not that important, but between they are walking around and have activity, in-venue they are connected, food, drink, so people stand up, walk away, come back to sit down... let's say it is an evening out instead of a sports game. I think we need to see trends that (it is not officially declining but) declining attendance, in order audience is getting older, we need to move in a new era of spectating, to go to pure entertainment" (Stijn Jacobs, personal communication, 08.12.2019).

### *Context*

The circumstances that shape the settings for the sports event and services affect SSCX directly and indirectly. Nowadays, context is mostly built by digital technologies: media, informational background, and online communications, including CRM (customer relations management) and interactions between customers. Recently, moreover, the trend of "digital context" has been even accelerating with the COVID-19 pandemic.

Voss et al. (2016) determine the context in terms of service important and challenging. The context in which SSCX occurs plays a crucial role in how CX is organized, managed, delivered, received, and perceived. And sports industry itself is the base for building the context for SSCX, as the specific industry context (Voss et al. 2016). A deep understanding of the SSCX context allows to manage variables (vary in each particular case) and control the process and quality of CX and CJ.

### *Collection of Data*

The past years have seen unprecedented growth in the ICT economy that has fundamentally altered business models and consumer cultures (Gössling 2020), and SSCX is not an exception. Thanks to digital technologies and big data, marketing becomes more targeted and personalized.

"Data services also enhance the media and commentary offering by providing real-time comparisons against historic datasets to enhance the quality and depth of commentary. Video connected viewing platforms are also potentially changing habits although my personal opinion is that these still need some refining and are yet to have a significant impact. However, being able to interact with other spectators through a video connection whilst watching the same match may become commonplace as the ability for providers to synchronize their streams improves" (Stuart Barraclough, personal communication, 05.03.2021).

"More and more, digital technology is helping inform CX design through the easy collection and analysis of customer data. These tools can add to the more traditional methods of survey and focus groups. We're seeing venues take a closer look at actual customer behaviour and the choices they make in real-time to give clues for new ideas for experiences and develop proactive sales strategies. This strategy can result in more personalized sales communications and higher levels of customer intimacy across the customer journey; a greater capability to be able to develop insights into the 'inner voice' of different types of customer and what drives their behaviour. Innovative venues can then reflect the learning in CX design and drive experience design efforts and the team training and development programs to go with them to ensure a return on the investment through greater customer loyalty and spend" (Nicholas Brice, personal communication, 06.09.2020).



### *Collaboration*

First of all, any sporting event, product or service is a result of collaboration, because it requires the complex interactions of various stakeholders. "Hosting a sporting event itself is a collaboration of multiple stakeholders: government, Local Organizing Committees, event owner [...], sponsors, volunteers, fans and others" (Karina Mukanova, personal communication, 15.03.2021).

Co-hosting is an example of collaboration in the field of sports event management, moreover, it gives an opportunity to "profit respectively" (Mukanova 2020, pp. 392–416). "Co-hosting event with other territorial units, which means the stakeholder is mirrored at each territorial unit and there is a collaboration between these units to host the event jointly. So, in both cases, event hosting and event co-hosting are the examples of collaboration" (Karina Mukanova, personal communication, 15.03.2021).

"In some cases co-hosting allows each host nation fans to attend their home team "at home". This is one of the reasons why some co-hosting alliances are formed so both host nations host the group stage where their home teams are playing. This is especially the case for IIHF Men's World Championships' business model" (Karina Mukanova, personal communication, 15.03.2021).

Collaboration, as a form of synergy, is an interaction or cooperation, expected to give rise to a whole entirely that is greater than the simple sum of its separated parts. It leads to term co-creation (see below).

### *Consolidation*

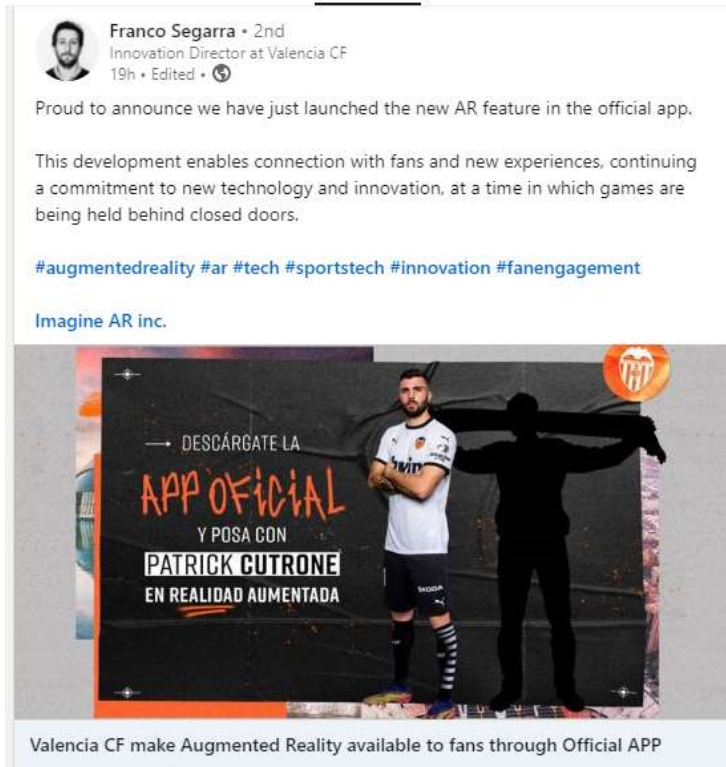
Mobile applications have become the "quintessence" of SSCX (Glebova and Desfontaine 2020), in terms of consolidating all the services and information at a single place, personal screen device, like a smartphone. Nowadays, sports organizations actively develop apps, by constant upgrading and adding new features:

"First of all, the strategy to put the mobile app started in the 2017th and most of the time it aimed to replicate the content published on the web. Now we think it was not the right approach and we should make the app useful in the offline world (stadium, stores, and museum) so, we integrated the loyalty program, this is active now, and it offers money or points for fans that purchase particular brands to develop loyalty. This discount is applied to those who pay online-only, so in 3 years or something about, more than 800,000 EUR and 16,000 members are already involved in this program. It is quite popular and it motivates fan to get the season ticket. The next feature we release is sending of QR code for accessing tickets via mobile. Another useful thing is that mobile app can be used as a payment tool. And with all these tools benefits and data we are going to experiment with what goes better to improve fan experiences. In our case, the mobile app is related to the smart app. We have 9 clubs in 9 countries. And it's useful for local and international campaigns... Mobile app the main channel to interact with fans, mixing online and offline. But there are also other touchpoints important for us, for example, providing ticketing solutions. It's not the only one,

but the main one to interact fans and club" (Juan Iraola, personal communication, 10.12.2019).

Franco Segarra, Innovation Director of Valencia Football Club (FC) has posted on LinkedIn: "Proud to announce we have just launched the new AR feature in the official app. This development enables connection with fans and new experiences, continuing a commitment to new technology and innovation, at a time in which games are being held behind closed doors" (Franco Segarra, personal post in social media, cropped screenshot, Figure 1).

**Figure 1.** Post of Franco Segarra on the LinkedIn 14.03.2021



Source: LinkedIn feed.

Saleh discusses fans today (hinting at the transparency of data, previously inaccessible for followers): "If they have an official application of a club or the team, they can enjoy even more information and details, which before never been shown to fans. All statistics: prices, TV revenues, TV coverage, so, there is something special as well. Its annual report" (Khaled Saleh, personal communication).

### *Co-Creation*

The collective (Jaakkola et al. 2015), social (Lemon and Verhoef 2016) and interactive aspects of SSCX are key drivers of the sports fandom culture.

Jaakkola et al. (2015) argue for the wider relevance of service experience co-creation and connects it to three broader topics in marketing: (1) value co-creation,

(2) foundational sociality in contemporary markets, (3) methods for measuring and managing service experiences.

Verleye (2015) points that from the customer perspective, the co-creation benefits determine the importance of the level of customer role readiness, technologization, and connectivity for generating the co-creation experience.

Woratschek et al. (2014) and Horbel et al. (2016) have disclosed the construct of co-creation, particularly in the sports management field. "There is a concept called "value co-creation" or Sport Value Framework, that describes very well the co-creation or production even of the even by all these stakeholders..." (Karina Mukanova, personal communication, 15.03.2021) (Woratschek et al. 2014, Horbel et al. 2016).

SSCX is a result of co-creation as well. "According to Sport Value Framework, sports spectators are co-producers of the event. If there are no spectators, the element of hosting is missing, because you take into account sports spectators when preparing for the event" (Karina Mukanova, personal communication, 15.03.2021). Moreover, besides, recently Mukanova argued: "Firstly, it is worth mentioning that major sports events have always been "co-hosted" in a way, as the organization of the event is not dependent merely on one stakeholder. The cooperation of various stakeholders makes the event possible, where athletes are the reason of the event happening, the organizers deliver the event, the police and security guards ensure in the overall safety of the event and the fans or spectators produce specific ambience" (Mukanova 2019, Deutscher and Pawlowski 2020). The co-creation among fans themselves is explored by Yechezkel and Williams (2021) in terms of co-watching experiences, bringing the term "togetherness" of SSCX.

Furthermore, the collective and collaborative process of the creation of SSCX leads to a wider range of experiences: "One of the big trends in top-level sports is the development of a much broader range of experiences for spectators over and above the 'basic' concourse-based visitor... Modern venues have always tiered their experiences but have historically relied on the more traditional model of 'Bronze-Silver-Gold'. We are now seeing an evolution to five, six, seven or even more tiers of experience based on casual or formal dining, gastropubs, premium dining, fine dining and other experience differentiators. These creations are driven today much less by social class per se, but more are personal tastes/style, disposable income, and the many different reasons people may want to see an event – i.e., to get a drink and see the event or to spend time, network, relax, entertain clients, socialize, enjoy great food, while maybe only seeing glimpses of sport/music etc. In many cases, we are seeing the event as only part of a broader blend of experiences" (Nicholas Brice, personal communication, 06.09.2020).

### *Connectivity*

Connectivity allows consuming sports and additional content without physical attachment to a particular place or time. Referring to the context, it is important where, when and how information is consumed using mobile devices. Unlike the usual "surfing" the Internet, information consumption occurs in different ways,

sequences and circumstances. Also, the framework of the Internet of Things (IoT) builds a system, enhancing in-stadium experiences (Glebova et al. 2020).

Furthermore, connectivity can be considered as one of the key dimensions of communication: "Connecting spectators in the stadium to those watching remotely will become more common. We have seen some examples during the pandemic but we are yet to see which will succeed in the long run and how they will be managed alongside full stadiums" (Stuart Barraclough, personal communication). Thus, connectivity embraces the social aspect of fandom, essential for sports spectators (Theodorakis 2014, Glebova et al. 2021), providing tools for communication: "Other things we are activating are about we are going to do a prototype, it will be a smart app, which connects fan and club. For example, once a fan is in a stadium, he receives a particular message. So, we are connected to fans via the mobile app. We appreciate these kinds of benefits and apply communication technology on the stadium" (Juan Iraola, personal communication, 10.12.2019).

The internet connectivity occurring all the time and 24/7 content access from anywhere is the point of sports fandom digital transformation:

"Any club or league or team or FC... their fans are not geographically based, so we are not regionalized anymore. Fans are all around the world. So I live halftime of Europe, I was living in Australia, and I am a fan of my Philadelphia teams. I expect to get something you know 24/7 content access is an expectation now, but any time of the day fans are watching somewhere in the world and the ability with social media for clubs to push out stuff regularly 24/7, and then from the news to be the whole thing, is it is one big vicious cycle. The news reporters are collecting information and sometimes pushing out false information or rumours just to push stuff out but that's keeping the fan hungry and wanting more and then the platforms are there to enable it so basically technologies enabled that platform technologies enabled a regional fan to now become a fan... So, technology enabling a real-time message to be dispersed around the world, no matter where you are and then between the press and the clubs and the players they are-adapting it and the players lies do not stop when they step off the field they are embracing technology and they are engaging from a 24/7 perspective" (Ryan McCumber, personal communication, 10.02.2020).

Furthermore, connectivity can be seen as a driving factor in the straightening of fans role in the co-creation experiences (Karina Mukanova, personal communication, 15.03.2021). Fan Controlled Football, as a modern sports phenomenon, is a vivid example of how digital technologies empower spectators in terms of experience co-creation.

### *Complexity*

Gössling (2020) notices that ICTs (information and communication technologies) predict and brings their complexities and controversies, including many phenomena like FOMO (fear of missing out), fear of mobile phone loss, digital dead zones, or low battery status, and conditions ranging from anxieties to depressions and low self-esteem to techno-stress. Glebova and Desbordes (2020a)

tend to identify positive and negative sides of apps impact on SSCX, emphasizing the complex nature of CX and technological impact as well: use of technologies as a multi-dimensional construct.

"We are living in a multi-generational world, where diverse tastes and needs combined with spending power have created a range of new markets for venues to exploit. This means the ways different people want to be entertained is changing and the strategies venues are adopting to develop the innovative and compelling experience to drive up revenue is evolving. For example, in the premium market, there is a trend where some customers don't want to be described as 'corporate guests' or 'hospitality customers' anymore - they want to be treated like 'VIP' or 'Premium' customers. As we have seen evolving in the airline business, even general admittance (or economy) customers are looking for enhanced offerings. One reason for this is that the primary age group for 'old school' hospitality was mainly 40-65, now we are seeing a broader age group of 25-65, with a diverse array of tastes, with many people looking for experiences rather than just hospitality packages. At one major venue, I work with, for example, a simple upgrade in their use of language has resulted in better sales conversions" (Nicholas Brice, personal communication, 06.09.2020).

### *Comfort*

Internet connectivity, user-friendly interfaces, information accessibility, distant services and communications make sport fan experiences more flexible and comfortable in terms of fans time management and physical location mobility and flexibility.

"At leading venues in the UK football sector, we're seeing enhancements such as on-site breweries, pie bakeries, pizzerias, curry houses, guest beers for away supporters along with stand lighting in away club colours – all adding up to a more relevant and resonant range of offers, at different price points to match wallet size" (Nicholas Brice, personal communication, 06.09.2020).

Contracting between stakeholders in the sports industry (especially between private and public sectors) play role in technologies deployment is SSCX (Glebova and Desbordes 2020b), influencing SSCX and UX.

"Governing bodies have a role to play too. UEFA, for example, has introduced the concept of "blue architecture" – which places the emphasis on the need for human well-being and comfort. The blueprint includes sustainable architecture for people, both psychological and physical, which should be an integral feature of any sustainable building design. The focus is on the importance of creating a sense of place and encouraging social interaction, which is especially significant in buildings such as stadia, where the idea of fostering community is important to people. The blueprint suggests also that architecture should include notes of local and regional identity, including that of the home team - even if they are not playing in that match" (Nicholas Brice, personal communication, 06.09.2020).

"It's customer design, it starts even before customer design, it's just having the minimum services than fans expect from any company after we can go further and think about Customer design. We are late and everything is hard because any

stadium requires a really complex environment and the clubs always do whatever they want, often regardless of customer experiences" (Stijn Jacobs, personal communication, 08.12.2019).

"The fan priority to watch live, but the notice appearance of alternative tools and channels for spectating. Probably, it makes experiences more comfortable, but I am not sure. The live experience in a stadium is crazy. If you have gained this experience once, you want to repeat it, but from time to time fans demand better services: to be safe, informed and have any other services they might need" (Stijn Jacobs, personal communication, 08.12.2019).

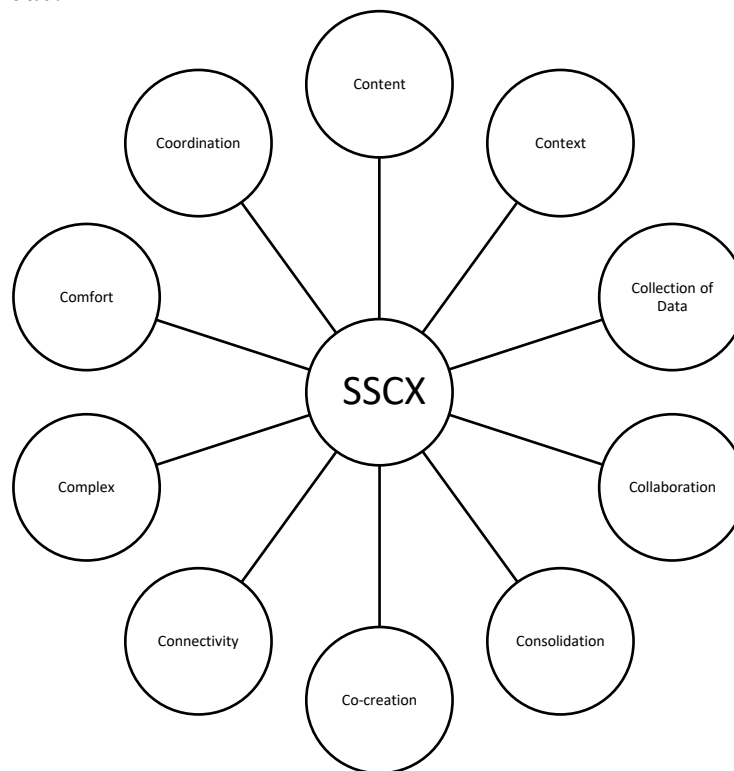
### *Coordination*

In terms of management, coordination is the capability to run and maintain different elements of an organization or phenomenon all together effectively and efficiently, this approach requires for the modern SSCX:

"Nowadays, the main trend in Sports Spectating in the engagement between the fans and the club. The emotions that the fans are willing to feel for their team need to be determined and fed by the club. Everything that is done in a club's marketing department must be centred on their fans, on that person that would give everything to sustain his club. At Digital Economy, we developed a project called FootballCoin. With that project we are one of the sponsors of Politehnica Iași, a Romanian football club, that plays in the first tier. What we saw during this time, was just... disquieting. The bond between the club and its fans is far away from what it should be. But this is not the only case in Romanian's first league, it's like a sports disease, the lack of interaction on the club's part. They are just not playing their role of the 'game'. And it's sad. Now we're trying to fix this problem and help them in the new digital era, building a new bond between the club and its supporters. It's all about engagement. Marketing is done among people. If you want to know your audience, be your audience just at least one second" (George-Ciprian Enache, personal communication, 21.11.2020).

### *10 Co-Model*

Finally, these 10 elements are united together to build the conceptual model and reflect modern SSCX influenced by emerging digital technologies (Figure 2).

**Figure 2. 10 Co-Model**

Source: primary data analysis, collected by authors.

### COVID-19

"Similar to other sectors, 2020 has been a year like no other that dramatically impacted the Sports industry too. Against the backdrop of COVID-19, the effects impacted global sports with events like Olympics, EU Championships, Cricket World Cup and other major sports leagues postponed or entirely cancelled. Not only the event organizers but the players, media, sponsors and spectators, all felt the impact and had to adapt to the new norm of social distancing, strict protocols, limited ground presence or entire event viewership on e-channels and social media platforms. What was supposed to be live moved to virtual world..." (Faran Niaz, personal communication, 05.03.2021)

Faran Niaz argues about the new norm, opened new prospects and ways of conducting business and sports experience its fair share of adaptation too, outlining the key trends into 2021 are revolved around: (1) 5G wireless and Cloud Computing technology are rolled out during 2021 and with its faster transmission speeds has a significant impact on Sports viewing; (2) with live events taking backstage, esports continues to evolve; (3) sports world is also associated to health and safety standards, at the same time, for any live events, the major requirement is to provide safe and healthy viewing environment for the spectator that is visible such as ample availability of sanitisers, seating arrangement with social distancing as per set SOPs (Standard Operating Procedure). Queuing and exit setups to support safety; (4) live streaming is now a standard for sports viewers rather than an option.

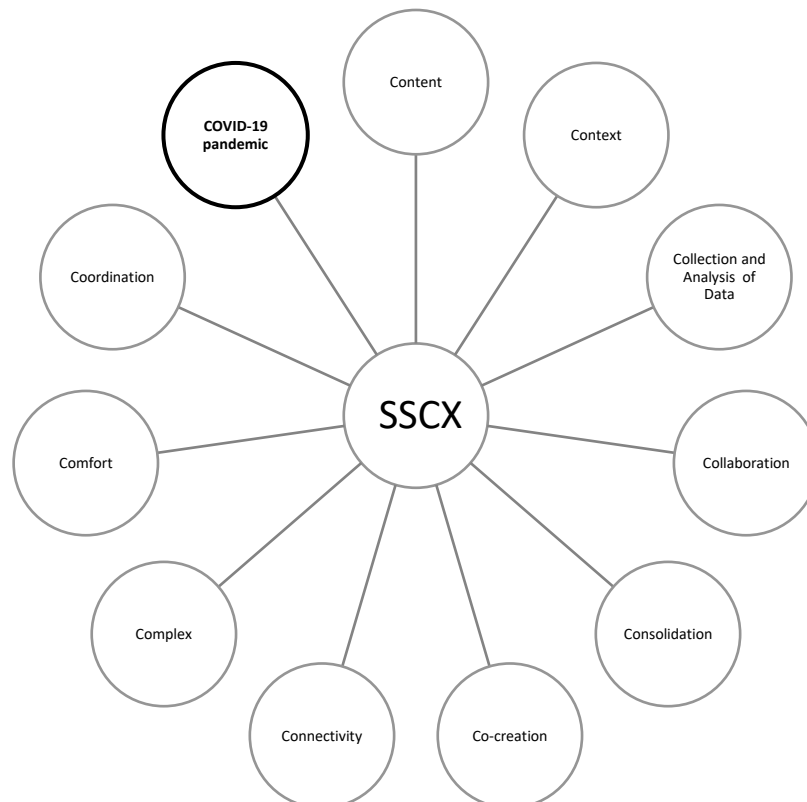
Mukanova notes that because of the pandemic, co-hosted events became single hosted events:

"For example, EHF EURO 2020 was originally supposed to be co-hosted by Denmark and Norway, but due to sanitary restrictions was organized only in Denmark and without spectators. Another example, UEFA EURO 2020 that is co-hosted by 12 cities in Europe was supposed to happen in 2020, and then was postponed to 2021 because of covid-19, and some host cities had to temporarily close up their offices and people had to lose their jobs. Governments had to provide guarantees to host the event in 2021. It caused a lot of expenses and some hosts questioned if they wanted to host the tournament in 2021 and given the sanitary conditions and they could potentially withdraw from hosting" (Karina Mukanova, personal communication, 15.03.2021).

### *10+1 Co-Model*

Considering the crucial impact of the COVID-19 pandemic on sports spectacle, including the digitalization perspective, the 10 Co model accepts to contain one more, the 11<sup>th</sup>, "Co", which stand for COVID-19. However, the 11<sup>th</sup> "Co" seems to be a temporary circumstance, thus, the 10+1 co model (Figure 3) is proposed as a temporary one. The 10 co-model (Figure 2) is supposed to be relevant without any attachment to COVID-19 pandemic scenario development.

**Figure 3.** *10+1-Co-Model*



*Source:* primary data analysis, collected by authors.



## Conclusion

In this paper, we have explored the intersection of SSCX and massively diffused digital technologies, including apps, immersive technologies, advanced big data analytics and others. To the end, we have identified, described and visualized the conceptual model of 10+1 Co, where all 10+1 components contain "co" at the beginning: content, context, collection of data, collaboration, consolidation and analysis of data, collaboration, consolidation, co-creation, connectivity, complex, comfort, coordination, and the last, supplementary, COVID-19 pandemic.

The 10+1 Co Model and related findings may be important for sports innovations policy, practice, and theory, for the profound understanding and improvement of the SSCX digitalization process.

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