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CHAPTER 19

Sports events: dealing with uncertainty

*Ivan Prudky*¹

ABSTRACT

The crisis caused by the COVID-19 pandemic has influenced many (economic) activities. Sports and sports events are one of the most affected activities - the inability to accurately assess the emergence of future events and frequent changes to the conditions, rules and regulations lead to uncertainty, significantly aggravating event organisation and execution possibilities. Operational and strategic uncertainty has urged sports- and other establishments involved in sports events to conduct prompt analyses and adjustments to sports event organisation, reducing negative influences on desired benefits. Questioning the aim and scope of sports event organisers' adaptation to uncertain work conditions, and the impact of uncertain conditions on achieving sports events' desired socio-economic benefits, the research aims to display the types of operationalised transformation to sports events while facing uncertain work conditions and highlight examples of achieving the best results. The analysis of relevant academic and sector reports found that the sports industry faced high losses in future values of projections before the emergence of a crisis caused by the COVID-19 pandemic. Sports event organisers attempted to transform sports events and associated products and services by incorporating digital, eSports or virtual reality elements to various degrees. The annulation of negative impacts had short-term mixed results. Still, the selfless sharing of knowledge led to a faster-than-projected industry recovery. The industry benefited on multiple levels, developing possibilities through virtualisation and gamification of (pro) sports events, media content diversification, enhancing fan engagement in commercial activities, and establishing new collaboration models amongst industry stakeholders.

Keywords: *sports economics, sports events, COVID-19, uncertainty, digital transformation*

JEL classification: *JEL_Z20, JEL_Z21*

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1. Introduction

Delays, shifts or cancellations of sports events during the turbulent COVID-19 pandemic brought numerous setbacks to sports event organisers, participants, customers and associated subjects and institutions. The problem is recognised by global decision-making institutions, researchers and sports (event) industry stakeholders. Sharing knowledge of timely and appropriate reactions and opportunities for the unforeseen environmental state in which stakeholders in sports competitions are critical. Therefore, a comprehensive overview of the industry's state analysis results and presenting the best countermeasures and actions found by institutions (i.e., UN, WHO, Council of Europe), scientific researchers, sports events stakeholders and commercial research (i.e., PwC, Nielsen Sports, Research and Market, Statista) helps accelerate the sector's recovery.

COVID-19 influence on sports (Council of Europe, 2020) carries dire consequences for (1) athletes preparing for competitions, (2) organisers and sports clubs providing sufficient funds for business in conditions of uncertainty, and (3) people who were denied practising physical activity to ensure a healthy lifestyle. The highest governing bodies recognise the extreme global pandemic effects on the sports industry. The United Nations Department of Economic and Social Affairs (UN DESA) (2020a, 2020b), in their policy series response to COVID-19, point out that the pandemic's implications on sports events affect overall social development. The exceptional impacts on the entire sports sector are recognised by the European Parliament (2020) as well, headlining dire economic and social consequences on society as an extended result. The danger of losing jobs and reducing business, amongst other economic activities, threatens professional athletes and sports retailers. A significant decrease in organised sports events directly endangers related industries and activities – transportation, travel and tourism, food and drink industry are just a few examples. Adverse consequences are economic and social since sports events contribute to social cohesion, creating and strengthening connections between social groups. The effects are unattainable in their absence.

Research and analysis on the pandemic's impacts on the sports event sector become important, aiming to find ways to diminish and negate the unforeseen consequences, structuring a corpus of knowledge about means of adjustment and resistance building towards conditions of uncertainty (Parnell et al., 2020). Keshkar et al. (2021) highlight the need for new business structures in the sports (event) industry together with easier adjustable processes management combined with product and service adjustment. More importantly, the authors underline the importance of crisis management incorporation and knowledge sharing, which will help the industry recovery curve to take a positive slope. Martins et al. (2021) suggest a partial conversion of sports events to eSports events, and Thibaut et al. (2021) share evidence that people with previous eSports experience adjust better to lockdown conditions, helping to soothe the overall poor socio-economic conditions. Other virtual technology opportunities are helpful to all sports event stakeholders, from the investment companies, over sport event

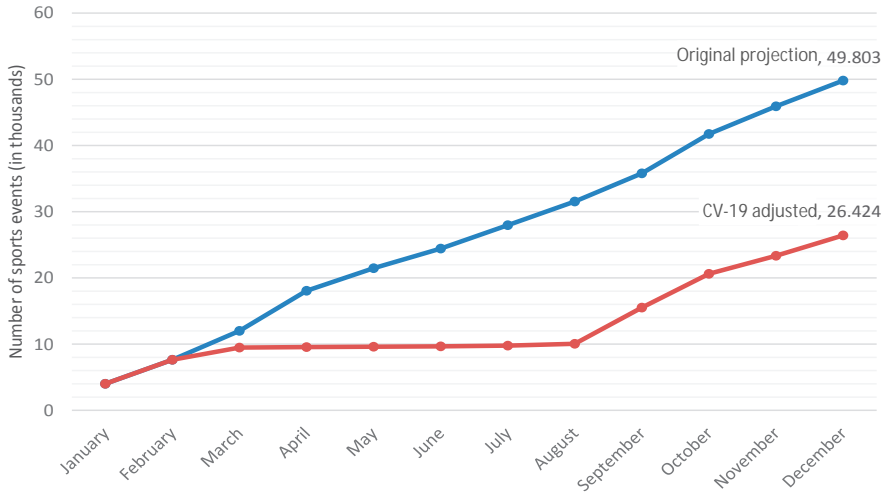
organisers, to the sport event end-users (Hayes, 2020). The virtualisation of sports events motivates sports participants to engage, reaching an even broader audience than the sports event physically could do (Helsen et al., 2021). The virtualisation process of sports events also benefits athletes, making them physically active, gaining financial earnings (for athletes, event organisers, media, and sponsors), and providing entertainment to spectators (Westmattmann et al., 2020). The imposed digitalisation of sports events enabled progress in event customer experience and opened new forms of cooperation and activities for sports organisations. The digitisation of sports events also represents a trap, as excessive digitisation can compromise the essential qualities of sports events and, therefore, should be avoided. The utilised commercial research, concluding on the current state of the sports event industry derived from all stakeholders' opinions, gives a clear insight into the most significant obstacles. Such a precise examination of the current state makes it easier to make effective decisions to achieve the desired positive impact of successfully organised sports events.

A combined overview of the most significant effects of the global pandemic as an unforeseen issue, together with countermeasures of adjustment of the sports events sector to conditions of uncertainty, are valuable contributions of this scientific research. Our research aims to present effective resilience-building methods of sports events coping with situations of uncertainty, highlighting possibilities and potential traps brought by digitalisation.

2. Global pandemic implications for the sports industry

The spread of the COVID-19 pandemic brought uncertainty to various business sectors, and social, cultural, and economic limitations occurred at all societal levels. The sports industry was not exempted from the negative influences, and due to the nature of the products and services it offers, it became one of the most affected sectors. Cancellation of all public events gathering a more significant number of people in one place has been a worldwide trend, a phenomenon mainly reflected in the number of sports events held (Figure 1). Before the global pandemic outbreak, during the starting months of 2020, the planned number of sports events and the number of held sports events overlapped. From March till August, the cumulative number of sports events discloses almost no upwards movement, as nearly no sports events worldwide were organised. Following August, the number of organised sports events on a cumulative scale started to rise again. Still, the damage done was already too significant, as only 53.06% of the number of initially planned sports events at the world level was held. Almost six months of inactivity and a high drop in the overall number of held sports events indicates a high level of rigidity in, or inability to adapt to, unforeseen circumstances.

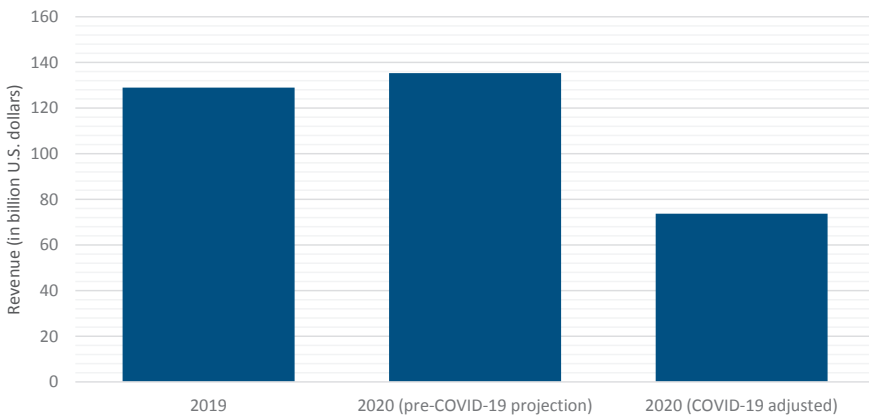
Figure 1: Number of sports events worldwide in 2020



Source: Statista (2020a)

The impact of the global pandemic was not only reflected in the number of sports events but also in the overall business success of the sports industry. Although the sports industry's worldwide revenue (Figure 2) in 2020 was predicted to be 135.3 billion U.S. dollars (+4.88% compared to 2019), the revenue generated reached 73.7 billion U.S. (-45.53% relative to predictions) (Statista, 2020b). As soon as of May 2020, different segments of the sports industry worldwide were affected by significant losses: fan spending on professional sports of 3.25 billion U.S. dollars; tourism related to youth sports of 2.4 billion U.S. dollars, national TV revenue of 2.2 billion U.S. dollars and wages for ticket takers, beer vendors and other stadium and arena employees in 0.37 billion U.S. dollars (Statista, 2020c).

Figure 2: COVID-19 influence on the sports industry revenues



Source: Statista (2020b)

The negative impacts of uncertainty on the sports sector and the activities of sports events are recognised at all levels of decision-making. The most significant world organisations relatively quickly present general, almost uniform guidelines to preserve the industry. The EU (European Parliament, 2020) consider available support and recovery instruments that will help the industry in the short term, referring to the Member States to guard various funds and plans for recovery and resilience to help the sports sector (e.g., Erasmus+ program, European Rural Development Fund, Cohesion Fund, European Social Fund Plus, EU4Health). UN DESA (2020b) presents instructions for sports events focused on two levels: (1) sports federations and organisations and (2) the professional sports ecosystem. Action at both levels should contribute to extinguishing the COVID-19 pandemic's negative impacts on the industry. At the sports federation and organisation level, the main goal is to strengthen the cooperation of all stakeholders (governments, sports federations, organisations, and clubs) to ensure safe and enjoyable future sports events. The sports ecosystem (athletes, businesses, manufacturers, broadcasters, and fans) should jointly look for innovative solutions (creating new operational models and sports events strategies) to cancel out the negative influences of the pandemic, safely including fans in sports events, with the starting prerequisite of the maintenance of jobs.

Unexpected pandemic conditions on a global scale have a fundamental impact on ways of performing sports events. Due to the frequent limitations on all participatory sports events, they were often cancelled or postponed. Parnell et al. (2020) stress that organisers of sports events and their participants must learn from such cases for future times and emphasise the need for further analysis of such disturbances. Different modes of action by industry stakeholders have led to varying levels of success. Kashkar et al. (2021) point out the various means sports organisers successfully used to adapt to the new crisis conditions. While some adjusted the ways of managing business structures and processes, others adjusted the services and products they offer. Regardless of the direction, different actions brought new knowledge to the field of sports management, which promptly spread among the stakeholders of the sports industry. The need to adjust more efficiently to the new business conditions made the need for crisis management knowledge within the sports industry (Keshkar et al., 2021) much more apparent.

Adapting new knowledge and processes was much quicker adopted in professional and large-business sports organisations, while non-profit, more minor, and (half) amateur organisers (school competitions especially) had more problems adapting to ensure and satisfy the set standards. Regardless of their higher level of adaptability, the bigger, more influential sports industry stakeholders were still encountering significant problems, which at best led to the delay of major sports events, if not to their cancellation (e.g., the 2020 Olympic Games in Tokyo). Consequently, sports event stakeholders faced a big blow to their financial results. Market growth predictions for all industry stakeholders plummeted or were at least cut in half for a 3–5-year period starting in 2020. Most notably, the sports teams and clubs (5.9 PP), league and event organisers (-5.6 PP), and the public sector (-4.8 PP). Society has encountered an even higher loss, which is the reduction of the social value

of all persons directly or indirectly involved. The usage of new technological capabilities as a medium of contact with their customers and encouragement in sports activity (Hayes, 2020) is one of the ways to move forward. Social medial technology is one of the options through which organisations, clubs or professional athletes can create and maintain contact with their followers, encouraging them to engage in sports activity while gaining certain economic earnings. A successful example is the National Olympic Committees (Hayes, 2020) – by using social media, they directly and successfully impacted people's engagement and inspiration for more active sports participation. Participating in digital/online sports events was proven to have multiple advantages for organisers and participants. While analysing the impacts of the pandemic-imposed limitations on individuals' sports activity level, Thibaut et al. (2021) find that people with previous experience in online sports events adapted better to the restrictions in time of participating in sports activity, infrastructure (in)availability, cancellation of sports events and closing of sports clubs, as well as to the fear and duration of illness.

In addition to using digital media technologies and participating in digital sports activities, the transition from standard to eSports competitions represents a further step forward in combating the negative consequences of pandemics on the industry. The problem of lower-level sports competitions, especially school competitions (Martins et al., 2021), has been solved by developing natural alternatives - eSports competitions. The result was to encourage the development of eSport competitions at the school and national levels. Westmattelmann et al. (2020) investigated the differences between sports and eSports competitions. While analysing the level of physical activity of athletes who participated in virtual, mixed-reality competitions during the pandemic, the level stemming from virtual and actual competitions was comparable. While the athletes pointed out some specific risks such competitions carry, many positives arising from the virtualisation of sports were highlighted. The role of virtual sports events proved crucial in mastering the pandemics' conditions of uncertainty. Helsen et al. (2021) state two motivation determinants to participate in virtual events: (1) individual traits, more precisely, individuals' motivation to develop specific skills, and (2) interpersonal determinants in the form of previous participation in virtual events. Due to the possibility of participating in virtual events, the frequency of involvement in sports activity did not decrease; only a decrease in intensity was recorded. The need for physical activity and earnings has opened the door to participating in virtual competitions. Such knowledge of the motives of participating in virtual sports events greatly helps organisers adjust action in future conditions of uncertainty.

3. Dealing with uncertainty: threats or opportunities?

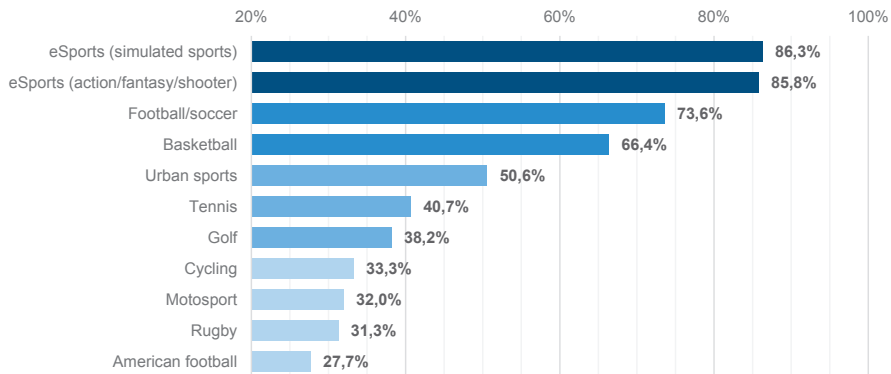
Poor financial results and trends in the sports industry, especially the segment of sports events at the beginning of the global pandemic crisis, brought to the surface the big problem of not being able to adapt quickly enough to unexpected changes in operating conditions. The industry's primary goal was to suppress the highly damaging impacts and return to a growth trajectory

as soon as possible. Research by global institutions (UN, EU) has pointed to the need for such a way of development that will lead to resistance to market shocks. The same is confirmed by other commercial research and market reviews (PwC, Nielsen Sports, Market and Research, Statista). Most of the sports industry stakeholders (PwC, 2020) (sports federations, media companies, marketing agencies, sponsors and brands, sports leagues and event organisers, sports clubs, technological companies, scientists and the public sector, and investment and consulting companies) – 56.5%, when asked to analyse the level of preparedness for pandemic conditions compared to other industries (on a scale of 1 – very poor to 5 – excellent), conclude that the level is below average or worse. Roughly a quarter of the surveyed stakeholders (28.4%) claim that the level of preparedness is, on average, the same as all other industries, while only 14.2% of them are optimistic and conclude that the industry is better prepared for the uncertain business conditions, in comparison to other sectors. Additionally, when asked to predict the recovery trajectory (Statista, 2020d), 8.7% of sports industry stakeholders indicate the recovery period will start in 2021, the most, 43.3%, state 2022 will be the turning point, 27.1% of stakeholders agree on the year 2023, and 10.9% think this will happen only just in 2024. Scientific research, presented in the previous part of this paper, also supports the thesis about the need to build the industry's resilience through diversification of forms of activity. Research and markets (2020) also predict a similar timeframe for the recovery process of the sports industry, spanning from 2021 to 2023, accumulating an 8% increase in value. They have a more optimistic view in subsequent research (Research and markets, 2021, 2022a, 2022b) where they see the COVID-19 pandemic as only a "black swan" event for the sports industry that it will overcome quickly, predicting a growth of 10.6% from 2022 to 2026.

Data on the growth rate of the sports industry worldwide from 2016 to 2019 speak of an average increase of 8% in value (PwC, 2020), while the prediction for the period from 2020 to 2023 states an average growth rate of 3.3%. One year later, the predicted global sports industry values increased (PwC, 2021) to a 4.9% growth rate from 2021 to 2024. Within one year (2020 – 2021), as an adaptation to global pandemic conditions improved, the projected growth rates increased drastically: Europe – from 2% to 4,2%, Australasia – from 1,5% to 4%, North America – from 3,6% to 7,4% and South America – from -1,3% to 8,6% in value. Areas where sports events involve large numbers of participants and or spectators traditionally take place were expected to be the most affected. Advances in the suppression of the pandemic and innovations in the performance of sports events lead to the most significant positive changes. The projected sports industry growth rates in Asia (from 7.3% in 2020 to 5.8% in 2021) and the Middle East (from 8.7% in 2020 to 7.1% in 2021) were high even in the starting year of the global pandemic. The reasons can be found in the highly developed and prevalent eSports industry in the Asian market and the giant sports competitions (Olympic Games in 2020, postponed to 2021) held in the area at a specific time. The Middle East owes its high growth rate of the sports industry to the popularisation of sports in general, which is again heavily stimulated by the organisation of significant upcoming sports events (World Cup in 2022).

Sports industry stakeholders were also to evaluate and predict which sports branches could generate revenue during the COVID-19 pandemic (PwC, 2020). Figure 4 shows the ten most pronounced sports branches, graded as having above-average and very high revenue generation potential (in the share of stakeholders).

Figure 3: Sports branches' potential to grow revenues



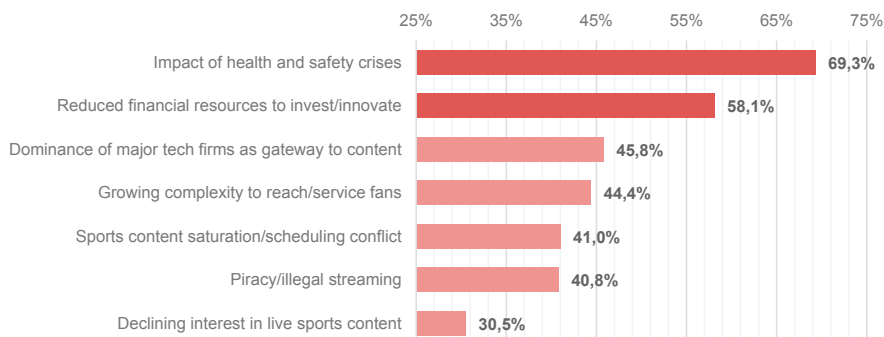
Source: adapted from PwC (2020)

The substantial leaders, the first group, are two categories of eSports, of which the simulation eSports ranks first, having the highest market potential. The second group contains traditional revenue leaders' football (soccer) and basketball, and the third group consists of urban sports, tennis and golf, and the last group consists of cycling, motorsport, rugby and American football. Ascent on the ladder compared to the previous annual research is recorded by simulation esports, golf, cycling and motorsport. The changes are expected and logical: simulation esports are growing because they replace traditional sports during the pandemic, and golf, cycling and motorsport are individual sports with no harsh limitations set to competing athletes by pandemic conditions. Sports with the highest contact level, rugby and American football, record the most significant falls in market potential value.

An overview of the most perceived threats to the sports industry by its stakeholders (PwC, 2020) provides in Figure 4. The impact of the health and safety crisis in which they suddenly found themselves was perceived as the greatest threat to their operations. The reduced ability to operate directly affects stakeholders' available financial resources, limiting their ability to invest in research and development of sports products and services. The new and innovative sports products and services are their principal route to success in the unique operational conditions. Given the restrictions, accessing sports content via a digital source is almost exclusively possible. This makes large technology companies dominant market players since they undisturbedly can dictate the means and conditions of sports content distribution to the end users (sports fans). Sports fans also quickly change their preferences in sports content consumption when sports event organisers cannot follow up with the requested innovations in the conditions of insufficient research and development funding. The imposed restrictions led to a shift in the timing of

organised sports events, which led to frequent overlaps in the schedule of different events, thus depriving the audience of each other. The digitisation of sports content and their higher monetisation have increased the threats of using illegal and pirated streaming services, where both organisers and distributors of sports event content make losses.

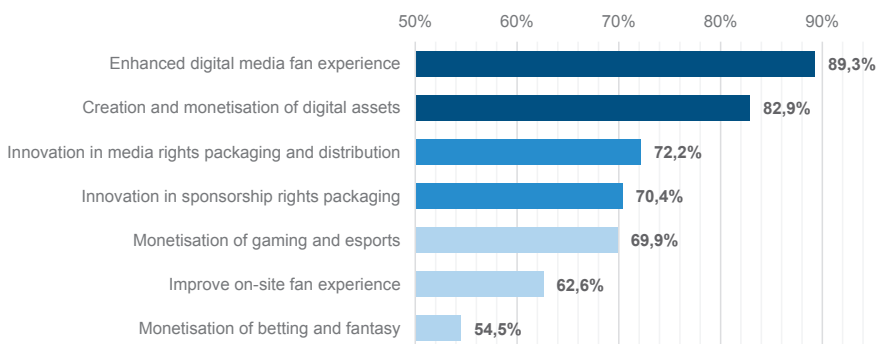
Figure 4: Most recognised threats to revenues in the sports industry



Source: adapted from PwC (2020)

Almost all the advantages perceived by the sports industry stakeholders can also be perceived as potential business opportunities (Figure 5). Users or sports fans primarily get the chance to better content through the digitisation of sports - both through availability and quality. Creators of sports content, in extension, gain the opportunity to monetise their newly created digital assets more efficiently—all the beforementioned open the door to innovations in the contracting and distributing media and sponsorship rights. The digitisation and monetisation of digitised real-world sporting events facilitate the possibility of a higher level of monetisation of eSports and gaming events, as well as the betting aspect of the sports industry. Generally, the digitisation of sports content offers many opportunities to all stakeholders within the sports industry, from consumers to content producers.

Figure 5: Most recognised opportunities to increase revenues in the sports industry

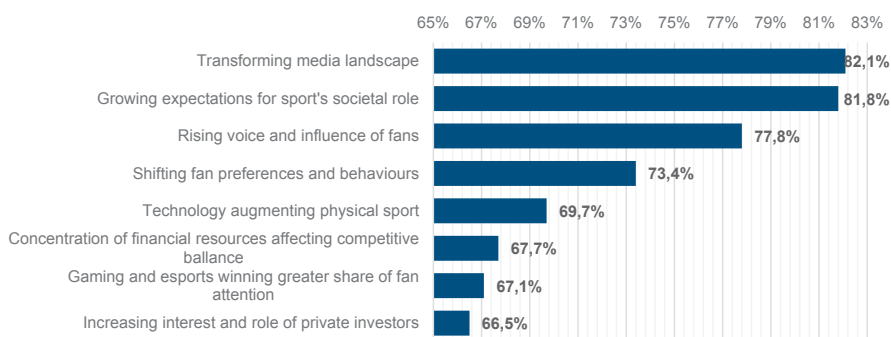


Source: adapted from PwC (2020)

4. Digitalisation of sports: diminishing threats, utilising opportunities

Even before the pandemic-caused crisis, substantial changes in the sports industry have arisen. Several trends have been uncovered in the years before the COVID-19 crisis (Nielsen Sports, 2018): disorders in distribution channels; development of eSports; altering descriptions of desirable content; transforming sponsorship into partnerships and general changes caused by a change in society. These fundamental sports market forces also coincide with the PwC (2021a) research that presented refined and detailed drives (Figure 6): the transformation of media space changes the impact and rank of media offering sports content; sports fans' increased social awareness pressures the sports industry to provide high social benefits it promises, all while respecting the demand of fans; technological modification of physical sports events; advanced growth of the eSports and gaming industry and the diversification of investments and cooperation models in the sports industry. One year into the global pandemic, 58.7% of sports industry stakeholders say they are prepared well (or better) for the new critical determinants in the sports industry. In contrast, only 12% say they are below average (PwC, 2021a), confirming Research and Markets (2021) claims about the rapid recovery of the sports industry.

Figure 6: Key market forces in the sports industry influenced by the COVID-19 pandemic



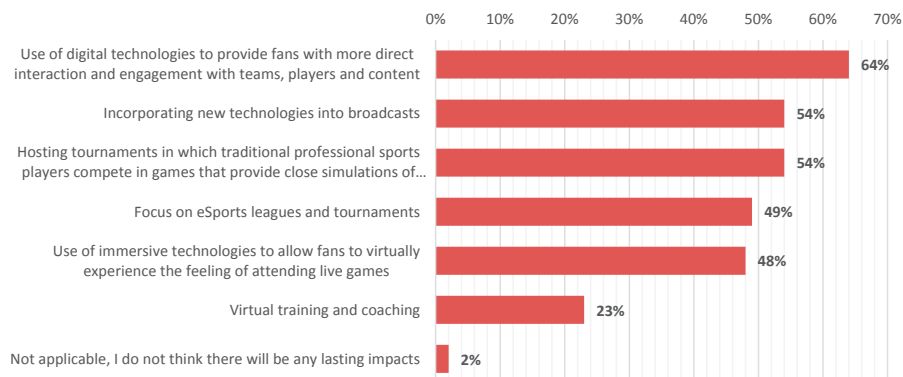
Source: adapted from PwC (2021a)

Disorders in the distribution channels have led to a significant transformation of the media landscape, primarily concerning shifts in the value and distribution of media rights for sports events content. Traditional news media (TV broadcasters, radio and print newspapers) record a decrease in the share of fans' consumption of sports news (60% in 2019 – 53% in 2021), while digital media (websites, video streaming platforms, social media, apps podcasts) attain a higher share of fans consumption of sports news (62% in 2019 – 63% in 2021) (Nielsen Sports, 2021). The development of other technologies and media creates additional pressure on traditional media, and the unfavourable trends are already highly prominent. Expected sports media

business model growth in 2020 (Statista, 2020f) barely hit double digits for traditional media sources: traditional advertising +14.7% and public service broadcast +13.1%. Changes in consumer preferences contribute to the rise of new digital media sources, as they can discover new content possibilities faster and easier than ever before. Therefore, new media sources record high levels of increase in the share of fans' sports news consumption (Statista, 2020f): freemium content +69.1%, pay-per-view content +66.6%, integrated in-line betting content +65.7%, native advertising +64.9%, unbundled subscriptions +58.1% and bundled subscriptions +56.1%. Digital media dominance can best be seen in the fact that every global region (except Australia) gathers more information about sports events using digital media sources rather than traditional ones (Nielsen Sports, 2021). With credit to the new users they attracted, new media tech giants can continue to increase the prices of premium content, threatening traditional sports media even more.

Traditional sports broadcasters should avoid using the latest technological advancements and try to evolve. The virtual addition of background music during play (Statista, 2020g), artificial or recorded crowd noise (Statista, 2020h), or realistic-looking fans in the stands (Statista, 2020i) made almost no or even worsened the broadcasted sports event experience. Fans showed more enjoyment in the sports broadcasts while hearing the naturally occurring sounds of sports (Statista, 2020j). The way forward for traditional media is to use the best-appreciated features of the eSports industry (Statista, 2020e): incorporating direct communication with and higher user involvement of end users into their business. Personal characteristics of sports fans should also be considered: attention spans are shorter, the content volume is increasing, and the use of mobile technologies to consume content only contributes to the previous two. So, due to the increase in the quality, quantity, and diversity of content, the organisers of sports events will only remain relevant with the use of new technologies to stay visible. The impact of digitisation and technological progress should not be limited to the distribution of sports news and content but also sports events. Figure 7 provides an overview of the technological solutions and impacts for which the sports industry stakeholders assess how they will continue to develop even after the end, i.e. complete adaptation to the new pandemic business conditions.

Figure 7: Use of new technology in professional sports



Source: Statista (2020e)

Stakeholders of the sports industry (Statista, 2020e) estimate that of all the possibilities of digital technologies in sports events, those with the ability to provide sports fans with more direct interaction with sports teams, athletes, and sports content will be the most used.

The growth of eSports leagues and tournaments is expected to continue, and companies aware of the trend are already shaping their business around the customers. Although the association between the sports and eSports industry is more visible, the capitalisation of that synergy is still at the very beginning. It is necessary to go one step further and work on integrating real-life and virtual sports events. Virtualisation of professional sports events by creating hybrid, mixed-reality events during conditions of uncertainty caused by the COVID-19 pandemic allows professional athletes to practice and engage in physical activity in safe conditions provided by the eSport virtual rendering of events. In addition to physical benefits, this way of work also ensures financial benefits to the athletes and the event organisers, sponsors, and other connected entities. Aiming to include the casual fan/participant, the conventional sport will take over the innovative accompaniment models from its digital counterpart and offer users additional live content and experiences. Holding eSports simulation game tournaments where professional athletes will also participate should be a stepping stone for both branches, bringing fans of actual sports events closer to eSports events and vice versa. Statista's data (2022c) shows that from 2019 to 2021, more than half of all eSports viewers were occasional viewers rather than eSports enthusiasts. Because of that fact, the eSports industry is targeting certain benefits from such cooperation, as they will try to transfer the revenue generation models from traditional sports to their own, in which they are very successful. Looking at the global revenue market of eSports by segment in 2021 (Statista, 2022d), from the 1.084 billion US dollars of revenue, 59.13% stem from sponsorships, 17.77% from media rights and only 2.32% from streaming services. Given that the global revenue of the eSports industry (Statista, 2022a, 2022b) is predicted to increase by 49.22% in 2024 compared to 2021 (for comparison,

the difference between revenue in 2021 compared to 2019 is +13.22%), it can be assumed that the eSports industry will continue in its intention to copy of the financing model of traditional sports branches succeeded.

Although more demanding, the further development of interactive technologies can lead to the creation of immersive technological solutions that will allow sports fans the feeling of participating in a live sports event, something that is restricted to many. Such actions can introduce the gamification process to real-life sports events if the event organisers create hybrid disciplines that include the physical activity of fans/participants while using virtual reality. The potential of such events is excellent, primarily in attracting groups of younger participants. Still, they also offer the possibility of creating social benefits by increasing the accessibility and inclusiveness of different groups of fans who would not usually participate in an actual sports event. Sport event organisers must be careful in their decision-making: the goal is to perform the substantial physical activity while using virtual environment potentials rather than turn a sports activity into an e-simulation. The goal is to bring gaming to sports, not sports to gaming.

The digitisation of sports content brings additional opportunities to collect data on sports service users. Only sports businesses that can analyse their fans will be at an advantage in the sports industry market. Sports businesses can realise benefits from both sides of the chain. Sports fans get opportunities to create products and services directly aimed at them. Organisers of sports events who know their fans well gain the upper hand when optimising the distribution of media rights and concluding sponsorship contracts. Knowing your fans well allows you to accurately characterise target groups, which opens the door to arranging short-term marketing campaigns with more favourable results. Such cooperation between sponsors and sports event organisers often leads to long-term partnerships.

During the COVID-19 crisis, new business cooperation models in the sports industry are being realised (Pwc, 2021a, 2021b; Nielson Sports, 2022). Private equity has become a significant source of financing, caused primarily by the insufficient financing resources of sports event organisers and athletes affected by the constraints of the crisis. Joint projects in which providers of sports products and services and sponsors interact, thus creating additional common values in the form of innovative sports products and services, are increasingly popular. Joint ventures with sports marketing agencies with the knowledge and resources to collect and analyse data on sports fans are also realised. With their expertise, they direct sports content owners towards creating sports products and services better adapted to their fans and users. Conditions of uncertainty have pushed sports teams, leagues or federations to share organised, available assets and resources with each other, thus creating new forms of business associations. Various associations were open to more than teams or leagues from the same sports branches. Still, unrelated sports branches came together, for example, conventional forms of sports with eSports events, thus creating cross-sports event formats. Certain providers of sports products and services have decided to operate under the management of corporate owners and thus overcome unfavourable

business conditions through a change in the management model. Given that the benefits of sports events are significant to the public sector, especially the social ones, there has been more pronounced synergistic cooperation between the public and corporate sectors within the sports industry.

The greater incorporation of processes and features of digitisation into the everyday practices of the sports industry's stakeholders has led to numerous opportunities that need to be taken advantage of. When creating digital assets, stakeholders in the sports industry should be aware of all the pitfalls it brings (PwC, 2021a). The first essential element is assessing and analysing the capabilities and assets the sports industry stakeholder controls. They include people, technology, and processes, which are critical to realising the desired positive business results. Sports industry decision-makers should tailor the application of technology according to their already established strategies, and it is technological and human capital will ultimately determine the level and scope of digitisation of individual parts of the business. When selecting a commercial plan and the use of digital assets, decision-makers in the sports industry should aim for the digital assets they have and manage in the future to be a multi-purpose platform that will be able to reach more different end users but also be able to attract more different sponsors and partners. Finally, it is essential to realise that the management of digital assets in general, including in the sports industry, is an operational process that lasts, consists of several stages, and is not a unique product that can be created all at once.

5. Discussion and conclusion

The sports industry (especially sports events) was highly affected by the new and unforeseen uncertainty brought about by the global COVID-19 pandemic. This was most evident in the high drop in the number of sports events held and, consequently, in the decline in the total global revenue of the sports industry in 2020 (Statista, 2022a, 2022b). As the sports industry creates numerous economic and social benefits for societies, global umbrella organisations act quickly to protect the industry (European Parliament, 2020; UN DESA, 2020a, 2020b), offering many mechanisms of assistance, including the redistribution of dedicated funding to aid in the recovery of sports. Industry. Scientific research also indicates the need for the rehabilitation and promotion of the sports industry as soon as possible. They reveal the need to share new knowledge about strategic and operational action (Parnell et al., 2020; Keshkar et al., 2021) and the need to learn from current conditions of high uncertainty. The need for crisis management in the sports industry is more evident than ever. Furthermore, the authors point to the possibility of digitising the content of the sports industry as a step forward (Hayes, 2020; Westmattelman et al., 2020; Martins et al., 2021). The reasons for using digital opportunities and knowledge from the eSports branch of the industry are found by Westmattelman et al. (2020), Thimbaut et al. (2021), and Helsen et al. (2021). They prove that individuals who previously had experience with eSports and other digital sports content better adapt to the restrictions set and, regardless of them, succeed at least to a certain level in satisfying

the need for physical activity. Furthermore, using the example of amateur and professional sports competitions, they determine that combining the natural and virtual aspects of sports is a winning combination. People retain the possibility of exercising because their activity is still genuinely physical. Still, at the same time, they are protected from the harmful environmental influences caused by the global pandemic precisely because of the possibility of using virtual reality. In addition to the opportunity to exercise and maintain physical fitness, professional athletes can also ensure financial security and the goals of the organisers of sports events and other related entities that have multiple interests in the development of sports events, in whatever form they appear.

Commercial research (Statista, PwC, Nielsen Sports, Research and Market) conducted on sports industry stakeholders also explores the impact of the global pandemic and how it has modified the industry's operations. Key trends within the sports industry that began to emerge before the global COVID-19 pandemic only accelerated and strengthened in the new conditions. The most significant impact on the industry was the digitisation process, which included everything from individual smaller parts of the work process to the digital transformation of the entire way of doing business.

There are several significant changes that have taken place due to the mentioned conditions. First, the possibility of using virtual reality in professional sports was beneficial for maintaining health, the level of physical fitness required for competition, financial and social security and stability (Nielsen Sports, 2021; PwC, 2021a; Nielsen Sports, 2022). Although the growth predictions foresaw dire consequences for all sports industry stakeholders for the 2020-2023 period (PwC, 2020), the growth predictions were much more favourable merely one year later. Still, sports teams and clubs were amongst the most negatively affected but were overtaken by broadcasters and media companies regarding value loss. Brands, sponsors, and investment companies were also facing lower growth rates than previously, but sports marketing agencies, league and event organisers, sports federations and the public sector expected growth compared to the previous year (PwC, 2021). Second, the digital possibilities from the eSports and gaming world can be applied to sports events so that sports fans are supported by their wishes and needs (PwC, 2021; Nielsen Sports, 2022; Statista, 2022a-d). Moreover, the gamification of sporting events can offer a better experience of the sporting events themselves and also creates opportunities to involve a wider circle of fans who might not usually have that opportunity. It should be noted that the gaming process is applied to the sports activity, not that the sports activity is copied into the gaming world. Third, due to the changing habits and needs of users of sports services, the ways of consuming sports content are also changing (Statista, 2020e-i; PwC, 2021b). This fact is particularly well used by technological giants who very quickly and successfully diversify their services offer and simultaneously manage to gain high levels of users of their services. Traditional media are lagging and stagnating at best, but they are using new digital technologies to keep up with the latest market leaders. Fourth, the digitisation of content and increased digital involvement of sports fans has led to the more accessible collection and the possibility of analysing

data on users of products and services offered by stakeholders in the sports industry. This creates an exceptional competitive advantage in the market because it increases the possibility of concluding media and sponsorship contracts, and often such agreements develop into business partnerships (Research and Markets, 2022b; Nielsen Sports, 2021; PwC, 2021b). Fifth, business cooperation in the sports market has also diversified (Research and Markets, 2022b; Nielsen Sports, 2021; PwC, 2021b). Private investors and prominent corporate players took advantage of the shock. They entered into partnerships with numerous stakeholders in the sports industry who, due to the sudden rigorous restrictions, were left without a source of financing for their business. In the scarcity of funds needed for work, sports clubs and leagues have also decided on a kind of association to use the funds at their disposal better. Joint projects and ventures of organisers of sports events are realised in two directions – the creation of new projects in cooperation with sponsors or marketing agencies. As the sports industry is vital for the public sector, it is not uncommon for the public sector to step up the organisation of sports events in close cooperation with the corporate sector.

Although the creation of digital assets has been identified as extremely important for the future operation of the sports industry, stakeholders must rigorously evaluate their capabilities and the assets they already possess. It is necessary to be guided by already set goals, including the possibility of multiple uses of the created assets. At the same time, we must remember that the creation of digital assets is a process, not a production.

This research was limited exclusively to the impacts of the COVID-19 global pandemic and the effects of the forced accelerated digitisation of sports content as current trends in the sports industry. The research was also limited to secondary data found in institutional and commercial reports regarding the sports industry, combined with findings from relevant scientific research work published. Future research could explore a more in-depth impact of the virtualisation and gamification of sports events and the benefits and specific risks such processes carry to sports activity and events. Since, as seen by recent events, the sports event industry takes comfort in its standardised frames but can quickly respond to new challenges, closely monitoring consumer behaviour is obligatory. Therefore, future research possibilities can be found in research on generational differences as an influence on the sports industry's way of doing business, changes in the behaviour and preferences of sports fans and other users of sports products and services, and the budding need for a sustainable way of doing business in general, specifically in the sports industry.

In conclusion, it should be pointed out that the sports industry was highly affected by unforeseen business conditions and recorded high losses in a brief period, indicating exceptional rigidity in adapting to extraordinary changes. Although the initial shock was great, the first signs of recovery were visible relatively quickly. The spread of new management knowledge across the industry and digitisation has led to rapid advances. The combination of appropriate digital, virtual and eSports segments with actual sports events provides additional benefits to all parties involved in sports events.

At the same time, there should still be physical sports activity in the centre, complementing digital content. Stakeholders in the sports industry should carefully create multidimensional digital assets that will support their business strategies while respecting their internal capacities. Diversification of partners within the sports industry brings new opportunities and capabilities to create content that reaches end users more efficiently. All the mentioned changes led to a strong resilience building of the sports industry, which proved to be a particular problem when operating in conditions of uncertainty.

References

1. Council of Europe (2020), Impact of COVID-19 in Sport, available at: <https://www.coe.int/en/web/sport/covid-19-response#>
2. European Parliament (2021), The impact of Covid-19 on youth and on sport, available at: https://www.europarl.europa.eu/doceo/document/TA-9-2021-0045_EN.html
3. Hayes, M. (2020). Social media and inspiring physical activity during COVID-19 and beyond. *Managing Sport and Leisure*, 27(1-2), pp.1–8. doi:10.1080/23750472.2020.1794939.
4. Helsen, K., Derom, I., Corthouts, J., Bosscher, V.D., Willem, A. and Scheerder, J. (2021). Participatory sport events in times of COVID-19: analysing the (virtual) sport behaviour of event participants. *European Sport Management Quarterly*, 22(1), pp.1–20. doi:10.1080/16184742.2021.1956560.
5. Keshkar, S., Dickson, G., Ahonen, A., Swart, K., Adeasa, F., Epstein, A., Dodds, M., Schwarz, E.C., Spittle, S., Wright, R., Seyfried, M., Ghasemi, H., Lawrence, I. and Murray, D. (2021). The Effects of Coronavirus Pandemic on the Sports Industry: an Update. *Annals of Applied Sport Science*, [online] 9(1). doi:10.29252/aassjournal.964.
6. Martins, D.J. de Q., Moraes, L.C.L. and Marchi Júnior, W. (2021). COVID-19 impacts on school sports events: an alternative through E-sports. *Managing Sport and Leisure*, 27(1-2), pp.1–5. doi:10.1080/23750472.2021.1928537.
7. Nielsen Sports (2018), Top 5 global sports industry trends, Nielsen, available at: <https://www.nielsen.com/wp-content/uploads/sites/3/2019/04/top-5-commercial-trends-in-sports-2018.pdf>
8. Nielsen Sports (2021), How the world's biggest sports properties engaged fans in 2020, Nielsen, available at: <https://niensports.com/wp-content/uploads/2021/05/Nielsen-How-the-Worlds-Biggest-Sports-Properties-Engaged-Fans-in-2020.pdf>
9. Nielsen Sports (2022), Fans are changing the game, Nielsen, available at: <https://niensports.com/wp-content/uploads/2022/02/Nielsen-Sports-Fans-are-changing-the-game-1.pdf>

10. Parnell, D., Widdop, P., Bond, A. and Wilson, R. (2020). COVID-19, networks and sport. *Managing Sport and Leisure*, 27(1-2), pp.1–7. doi:10.1080/23750472.2020.1750100.
11. PwC (2020) Sports industry: system rebooting. PwC's Sports survey 2020, available at: <https://www.pwc.ch/en/publications/2020/PwCs-Sports-Survey-2020.pdf>
12. PwC (2021a) Sports industry: ready for recovery?. PwC's Sports survey 2021, available at: <https://www.pwc.ch/en/publications/2021/pwc-sports-survey-2021.pdf>
13. PwC (2021b) Sports transformed. Winning strategies against COVID-19 challenges to survive in the new world, PwC Singapore, available at: <https://www.pwc.com/sg/en/publications/assets/page/sports-transformed.pdf>
14. Research and Markets (2020), Sports Global Market Report 2020-30: COVID-19 Impact and Recovery, available at: <https://www.researchandmarkets.com/reports/5022446/sports-global-market-report-2020-30-covid-19>
15. Research and Markets (2021), Sports Global Market Report 2021: COVID-19 Impact and Recovery to 2030, available at: <https://www.researchandmarkets.com/reports/5240315/sports-global-market-report-2021-covid-19-impact>
16. Research and Markets (2022a), Sports Global Market Report 2022, By Type, Revenue Source, Ownership, available at: <https://www.researchandmarkets.com/reports/5550013/sports-global-market-report-2022-by-type>
17. Research and Markets (2022b), Spectator Sports Global Market Report 2022, By Type, Revenue Source, Type of Sport, available at: <https://www.researchandmarkets.com/reports/5550024/spectator-sports-global-market-report-2022-by>
18. Statista (2020a), *Effect of the coronavirus (COVID-19) pandemic on the number of sporting events worldwide in 2020*, by month, Statista, available at: <https://www.statista.com/statistics/1129901/corona-number-sports-events-month/>
19. Statista (2020b), *Effect of the coronavirus (COVID-19) pandemic on sports industry revenue worldwide in 2020*, Statista, available at: <https://www.statista.com/statistics/269797/worldwide-revenue-from-sports-merchandising/>
20. Statista (2020c), *Loss of revenue in the sports industry due to the coronavirus (COVID-19) pandemic as of May 2020*, by segment, Statista, available at: <https://www.statista.com/statistics/1114808/coronavirus-sports-revenue-loss/>

21. Statista (2020d), *Timeframe for the sports industry to recover from the COVID-19 crisis according to sports industry leaders worldwide as of August 2020*, Statista, available at: <https://www.statista.com/statistics/1192693/sports-industry-timeframe-covid/>
22. Statista (2020e), *Most common uses of digital technologies by the traditional professional sports industry as a result of the coronavirus (COVID-19) pandemic according to eSports industry professionals worldwide as of October 2020*, Statista, available at: <https://www.statista.com/statistics/1247907/new-technology-pro-sport/>
23. Statista (2020f), *Expected growth of sports media business models according to sports industry leaders worldwide as of August 2020, by type*, Statista, available at: <https://www.statista.com/statistics/1192758/sports-industry-business-models/>
24. Statista (2020g), *Impact of playing background music on watching sports TV during the coronavirus 2020*, Statista, available at: <https://www.statista.com/statistics/1123200/background-music-sport-tv/>
25. Statista (2020h), *Importance of recorded crowd noise to watching sport on TV in the U.S. 2020*, Statista, available at: <https://www.statista.com/statistics/1192758/sports-industry-business-models/>
26. Statista (2020i), *Impact of realistic-looking fans on watching sport on TV during coronavirus 2020*, Statista, available at: <https://www.statista.com/statistics/1123193/realistic-looking-fans-sport-tv/>
27. Statista (2020j), *Impact of hearing natural sounds on sports TV during coronavirus crisis in 2020*, Statista, available at: <https://www.statista.com/statistics/1123205/natural-sounds-sports-tv/>
28. Statista (2022a), *eSports market revenue worldwide from 2019 to 2024*, Statista, available at: <https://www.statista.com/statistics/490522/global-esports-market-revenue/>
29. Statista (2022b), *eSports market revenue worldwide in 2021, by region*, Statista, available at: <https://www.statista.com/statistics/443147/estimate-of-global-market-revenue-of-esports-by-region/>
30. Statista (2022c), *eSports audience size worldwide from 2019 to 2024, by type of viewers*, Statista, available at: <https://www.statista.com/statistics/490480/global-esports-audience-size-viewer-type/>
31. Statista (2022d), *eSports market revenue worldwide in 2021, by segment*, Statista, available at: <https://www.statista.com/statistics/490358/esports-revenue-worldwide-by-segment/>
32. Thibaut, E., Constandt, B., De Bosscher, V., Willem, A., Ricour, M. and Scheerder, J. (2021). Sports participation during a lockdown. How COVID-19 changed the sports frequency and motivation of participants in club, event, and online sports. *Leisure Studies*, pp.1–14. doi:10.1080/02614367.2021.2014941.

33. United Nations Department of Economic and Social Affairs (2020a), COVID-19, available at: <https://www.un.org/en/desa/covid-19>
34. United Nations Department of Economic and Social Affairs (2020b), UN/DESA Policy Brief #73: The impact of COVID-19 on sport, physical activity and well-being and its effects on social development, available at: <https://www.un.org/development/desa/dpad/publication/un-desa-policy-brief-73-the-impact-of-covid-19-on-sport-physical-activity-and-well-being-and-its-effects-on-social-development/>
35. Westmattmann, D., Grotenhermen, J.-G., Sprenger, M. and Schewe, G. (2020). The show must go on - virtualisation of sport events during the COVID-19 pandemic. *European Journal of Information Systems*, 30(2), pp.1–18.