

SPORTS JOURNALISM INTO THE DIGITAL ENVIRONMENT: NEW FORMS OF REPORTING

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ABSTRACT

The focus point of this research is the digital transformation of sports journalism into the modern digital environment. Both in its traditional and digital form, the sport media industry is a cornerstone of knowledge and information about sports for all social classes, regardless income, race or gender. Sport media constitutes a major part of media industry, socialization, information and civilization. Nowadays, technology on the one hand offers to the journalists a lot of modern tools in order to upgrade their working context and on the other hand a lot of chances to save time and money to the media industry by automating an important part of their work. The use of the internet has changed everything in the field of sport communication in an impressive way; the terms of journalism have changed, a new communication landscape has been shaped and new key features are used. The digitization of information, the convergence of newsrooms, the mobile platforms, the social media and the public participation have totally changed the terms in the content of production and distribution. The Internet and mobile devices have changed the ecosystem of television, which has now moved away from its traditional form and is available everywhere and from every device (television, computer, mobile phone, tablet), the way TV content is distributed and the sale of television rights of sports events. Traditional sports must also be constantly adapted to the evolving technological changes, by the extensive use of the new media and social media and by creating new data in the coverage of sports events and television broadcasts (web streaming, social streaming). There are also new forms of journalism based on new technologies. The participatory journalism (citizen journalism) is now widely used by sports media and leads to new business models. The production of automated journalistic content, or content production by algorithms (robot journalism), is also used by sports media around the

world to fully cover sports events and Mega Events. Other modern forms of journalism are Data journalism that contains the technology of virtual and augmented reality and Drone journalism that uses drones for journalism work.

This article is an overview of the new forms of journalism that the sport media industry uses in order to be maintained in a sustainable and fruitful business environment.

Keywords: sport journalism, digital sport media, robot journalism, data journalism, drone journalism, virtual reality, augmentation reality, participatory journalism.

Introduction

Journalism is affected by rapid technological change. The Internet with its new channels, platforms and tools has created a new and rapidly changing media environment. Those changes have contributed to an ever-increasing pace of innovation. The digitalization of news media has enabled changes in news production as well as in news consumption (Klinenberg 2005; Paulussen 2012; Venkatesch and Dunkle 2013). The Internet has shaped and continues to shape a totally new communication landscape, where a new communication model has begun to emerge in the global media industry, with key features being the digitization of information, the convergence of the editorial room, mobile platforms, social media and the fragmentation of the public (Leandros, 2011).

In that new landscape, the public has a new and critical role, where it can interact and in some cases, can produce and distribute journalistic content, which means that journalists are not any more the unique producers of journalistic content (Bardoel&Deuze, 2001; Leandros, 2011). According to Daly (2012), the internet has changed the traditional way of transmitting the news from the media and the journalists to the public. Now this can be also from the public to the media and the journalists whereas the public is now intervening in the communication procedure.

It is obvious that the ecosystem of journalism is changing radically. New Media, new ways and means for distribution of information emerge, creating a completely new situation and a completely new and chaotic landscape, in which the traditional assumptions and hierarchies of information are overturned and a new situation emerges (Triantafyllou, 2020). This is a completely different landscape in journalism, a new ecosystem, in which sweeping changes have taken place, both for journalists and the media industry, as well as for citizens-consumers. In fact, according to Bell (2016), these changes can be characterized as the most important thing that has occurred in the past 500 years.

All the above can be applied by sports media, which are also adapting to technological changes. The new era in TV rights in the coverage of sports events and television broadcasts with web and social streaming and the new kinds of journalism, like the participatory journalism, robot journalism and data journalism, are creating a new landscape in sports journalism and in the news industry of sports media. Also, they create a new era in sports journalism and in the covering of sports events.

New forms of television and TV rights

All the above have created a completely new communication landscape, in which social media and mobile devices dominate (Triantafyllou, 2020). Social media now has millions of users around the world and their development has brought about significant changes in information, distribution and access to news content.

At the same time, emphasis should be placed on the use of mobile devices, which are now widely used for access to social media, news and television content. New generation mobile phones favor this new trend. The access of the users to the news through mobile phones and tablets and in general to the digital content becomes very easy and at any time through the mobile applications (apps). According to a 2021 research of the Reuters Institute for the Study of Journalism[1], across countries of the research, almost 73% of the citizens access news via a smartphone. Users can now be informed at any time, 24 hours a day, wherever they are about what is happening in the world, but also to communicate. Social media and mobile devices are now creating a new situation in the field of communication and information (Triantafyllou, 2020).

The described changes and the new communication landscape that is being shaped have also brought significant changes in the field of television. According to Papathanasopoulos (2018), the television ecosystem is changing rapidly and television is becoming a media with new possibilities for consuming audiovisual content and converging with other media, offering new possibilities for public participation. Papathanasopoulos (2018) adds, that analysts and experts in the field of communication agree that the current dividing lines between media soon will become obsolete. These dividing lines between the media have been removed by the internet which has led to the convergence of the media. The Internet and social media are tending to remove the dividing lines in television, which is something that significantly changes the way television content is distributed and creates new data in media companies.

Citizens watch less and less TV in the traditional way or watch less and less traditional TV. This happens in almost all age groups, but especially in younger ages. In recent years, with the rise of

the internet, live streaming broadcasts have developed. With the development and evolution of Web2, this type of broadcasting has expanded through social media and in this case we are talking about social streaming broadcasting. It is now common for an event to be broadcast on television in the classic way and at the same time broadcast live through the internet (live streaming) and even through social media (social streaming) or only live through the internet or social media (Triantafyllou, 2020).

These kinds of broadcasts, web and social streaming, are very famous in the field of sports broadcasts, in which television played and continues to play a very important role. According to Antonopoulou (2008), television and sports develop a bidirectional relationship, on the one hand television plays sports as a spectacle for consumption and evaluates it in terms of commercialism, and on the other hand sport claims to become more commercial to attract the interest of the media. There are many sports events and especially Mega Events that support their commercialization and increase their revenue from television viewing. Antonopoulou (2008) also says that TV stations invest huge amounts for television rights of sports events and on the other hand, sports are one of the most important financial blood donors for television. Now, developments are leading big brands in the field of communication and technology to invest huge amounts for TV rights. For example, NBC has paid to the International Olympic Committee for the television rights of the Olympic Games from 1998 to 2032, 12 billion dollars. The Olympic Games have been transformed into a television spectacle. The main revenue for the host cities of the Olympic Games comes from the television rights, no longer done only in the traditional way, but also online, through web and social streaming.

From London 2012, the Olympic Games have also been transformed into a social media event, especially in TV rights and TV broadcasting. Some of the most important social media like Facebook, Twitter and Snapchat have started to broadcast and produce TV content and to make agreements for that, not only in Olympic Games, but in many other sports events. Twitter started from 2016 to produce TV content and broadcast games from the main sport championships of the USA like National Football League (NFL), National Basketball Association (NBA) and Major League of Baseball (MLB) and made agreements with sports TV networks like ESPN and Fox Sports to broadcast sport content (Owen, 2016; Stetler, 2016; Triantafyllou, 2016 & 2020;).

Emphasis on sports broadcasting is also given by Facebook. The social media giant started to broadcast sports events in 2016 following Twitter movements. It made agreements with ESPN and Fox Sports to broadcast sport content on Facebook Watch. One of the most important agreements for Facebook was the one with Fox Sports in 2017-18 to broadcast the European Champions League in the USA. Also, Facebook has made an agreement with La Liga in order to

broadcast the Spanish soccer championship in India and the Indochina Peninsula also with leagues like NFL (Triantafyllou, 2016 & 2020).

Facebook also started cooperation with famous ex swimmer and Olympian athlete Michel Phelps in the Olympic Games of Rio 2016. Phelps announced during the Games -he won five gold and one silver medals in Rio 2016- the last race of his career firstly on Facebook Live and then on the traditional media. That was a video with almost 4 million views and for that announcement Phelps signed a 200.000 dollars contract with Facebook (Triantafyllou, 2016).

Snapchat also turned to TV content distribution in agreement with TV networks. The social media, which has great access to young people and the United States, had entered into a major sports broadcast deal with NBC for the Summer Olympic Games of 2016 in Rio de Janeiro and the Winter Olympic Games of 2018 in Pyongyang. It was the first time in its history that NBC, rights holder for the Olympic Games until 2032, agreed to share television footage of the Olympic Games and did so through social media. With this agreement, among other things, NBC made a very significant opening to young people. Also it had more revenues than the Olympic Games in London 2012, even though the ratings it recorded in Rio in 2016 were lower than those of the London Olympics in 2012 with the classic (cable) way of broadcasting. The ratings were lower, but the advertising increased due to live or social streaming (Battaglio, 2016; Crupi, 2016a & 2016b; Patel, 2016a & 2016b; Triantafyllou, 2016 & 2020).

One of the latest developments in the field we described above is the entrance of a new player like Amazon. The tech giant has already paid for the television rights of Premier League games (first division of the English Football League) for the 2019/20 season. Amazon's entry into the English football league came because of the special platforms created by the English for social media broadcasts (Burrows, 2018; Triantafyllou, 2020).

Another trend in sports broadcasting is the OTT (Over The Top) and especially via mobile device. The Sports OTT market is on a huge upward trajectory. The industry is set to reach \$85 billion by 2024 and is rapidly becoming fans' go-to method of accessing their favorite sports teams and live fixtures. In addition to the lucrative linear TV deals that have changed the face of sport over the past few decades, forward-thinking sports brands are now equally focused on going direct-to-consumer with their own OTT products – be it the NBA's League Pass, the NFL's Game Pass or Formula 1's F1TV. This shift in dynamic offers a big opportunity for mobile - as more fans stream live events from these devices, and for many consumers in emerging markets, mobile is their gateway to accessing live and on-demand top-flight sports for the first time. Live sport is also being redefined as a viewing experience thanks to digital

streaming, with both major broadcasters and rights holders opting to post highlights on their social media channels and apps in real time (Purdie, 2021).

Robot journalism

Another very important development in journalism, is the production of news content without human mediation, that we call robot journalism or automated journalistic content, or algorithmic journalism. This kind of journalism is based on an artificial intelligence software (IA) and an advanced natural language generation (Advanced NLG), which automatically generate articles in near real time and in human readable ways (Antonopoulou&Kyriazis,2018). Robot journalism was born for the needs of sport reporting, by automating Little League articles. After that FORBES magazine used artificial intelligence to create automatically legible and understandable articles on the Internet in order to publish reliable forecasts of the financial results of large companies on the eve of their announcement.

It has now expanded to a wide range of reporting and is used by many media organizations creating a very big change in the journalism ecosystem (Clerwall, 2014; Gunter, 2003; Lecompte, 2015). The use of an automated system can give extremely high speeds in the coverage and publication of events, and this is an area where machines do it better than humans, offering a cost reduction (Anderson & Bell & Shirky, 2014).

Many media around the world have used these systems, especially in covering sports events. For example, the Associated Press in collaboration with Automated Insights uses the news platform Wordsmith to produce automated news and to cover events. The AP makes extensive use of this system and can cover a wide range of events validly and quickly. In the field of sport events, AP covers with this platform all US baseball tournaments, with 142 teams in 13 categories and 10,000 games per year. Due to the coverage of baseball with automated journalistic content, the AP also announced the hiring of the first automation editor in 2016 (Holmes, 2016; Mullin, 2016; Sawers, 2016; Triantafyllou, 2020).

One of the pioneers in the use of robotic journalism is the Washington Post, which makes extensive use of algorithms in its online edition, especially in covering important events, as the Olympic Games of Rio in August 2016 and the presidential elections of the USA in November 2016. The Washington Post covered these two events with its own algorithm named Heliograf. The model, which followed the Washington Post in the Olympic Games in Rio, was that the results and graphics were made by the Heliograf and the journalists had more time at their disposal to engage in reporting, research, interviews and to cover in depth the Games, offering high quality content. The data (results, times, medals, etc.) were obtained from the International

Olympic Committee website and the statistics website stats.com and within 45 seconds the algorithm had uploaded them to the website, as well as to its accounts on Facebook and Twitter. This coverage included three areas, results, schedule (with alerts for upcoming events) and medals (Albeanu, 2016a; Hare, 2016). The Washington Post used robot journalism (Heliograf) in the same way as in the Winter Olympic Games in Sochi 2018 and in the Summer Olympic Games in Tokyo 2021.

Another very good example of high speed production and publication journalist content by the algorithm is the Norwegian News Agency. Since 2016, the Norwegian News Agency has started to cover a lot of football games. The full text of the game is published on the website 30 seconds after the end of the match, 10 seconds are required for the text to be written and 20 to be corrected. In this way, the number of matches covered is increasing, while the texts are well written, accurate and with rare errors, the system never makes the same mistake twice and all this happens by the algorithm and without human mediation (Albeanu 2016b).

Another remarkable case is Yahoo Sports, which uses an algorithm to produce stories for athletes, teams, events (game summaries) which are called Daily Fantasy. Yahoo Sports uses the platform Wordsmith, which creates millions of stories each week, giving details not found on any other sports website, creating a huge amount of material, which also helps Yahoo Sports to achieve a big increase of its revenues (Underwood,2019).

Additionally, there are many other media which use or sometimes have used robot journalism. In this category belong media like Fox Sports, Telegraph, London Times, Le Figaro, Swedish Media Group Mittmediae.t.c. In any case, robot journalism is a reality and journalists will have to adapt to this reality, which can improve working conditions in the media industry and provide new opportunities, but it can also cause job losses and raise ethical issues. The media that use robot journalism have so far not fired, algorithms are doing a job that frees journalists up and allows them to do in-depth research and produce quality news content. As we have seen, algorithms can produce reliable content in big quantities and at very high speeds that cannot be produced by humans. Forecasts, of course, for the use of robots in the labor market are generally not auspicious for employees and jobs. In any case, journalists will need to be trained in these systems in the future. We must notice that in most cases human intervention is required for the algorithm to make the right decisions. For example, in sports reporting the algorithm cannot predict the cancellation or interruption of a match and in this case there should be human intervention and perhaps reprogramming (Crespo, 2018). We are still at the beginning and nothing is clear about the future. The proper use of these systems can help the media industry

and the journalists themselves and this is what the experts suggest, reconciling with them and using them properly.

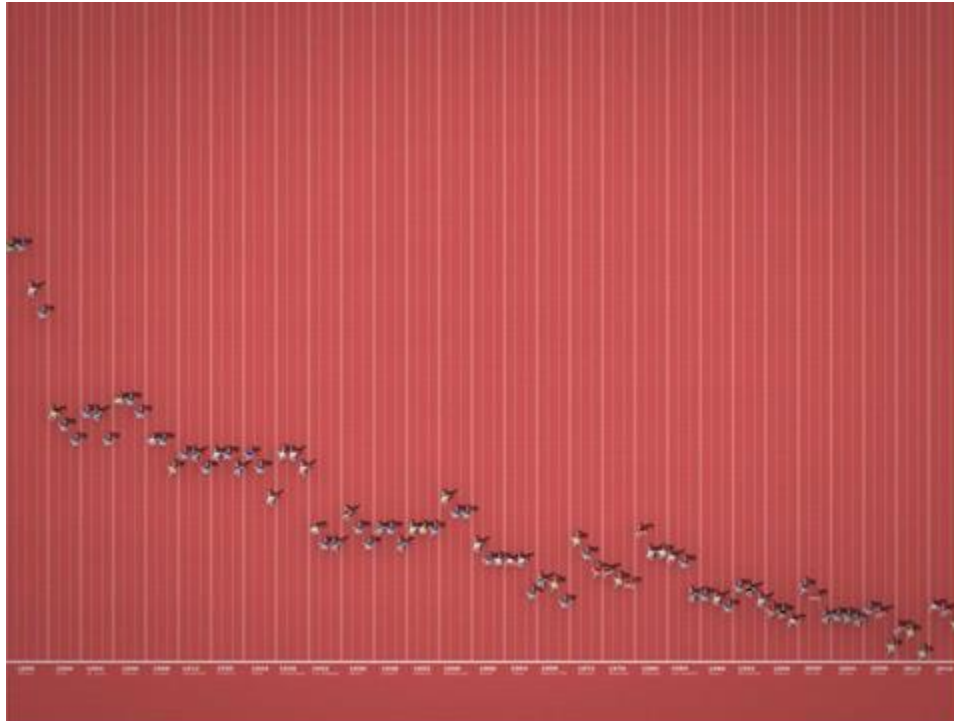
Data Journalism

The use of data to present the news is what we call data journalism or data-driven journalism or computational journalism. It started in 1952 when the CBS network in the United States tried to use experts with a mainframe computer to predict the outcome of the presidential election but has been explored in the last years with the wide use of the internet. The use of data by journalists and the digital tools journalists use has vastly expanded since 2015. (The history of data journalism, 2021).

The use of data by journalists has now become so prevalent that it is easier to keep track of the progress and new directions by major categories. Among them, the collaborations of journalists, sometimes with universities, which use huge datasets, including leaks of data, the achievements allowed by free software that breaks the income barriers to entry into the field, the exploration of using Artificial Intelligence or Machine Learning, something which is very close to robot journalism, the melding and analysis of satellite imagery, open-source video and photographs, social media, crowd sourcing and data for what are sometimes called visual or forensic investigations that are done by groups and surveys through emails or mobile phones (The history of data journalism, 2021).

Many media now use data to present the news. One of them is the New York Times, which made wide use of data in sports news. Also, the New York Times covers Mega Events like the Olympic Games using data and applies many innovations, which were implemented for the first time in 2014 for the Winter Olympic Games in Sochi. Then, graphics were created with real athlete simulations and created a mosaic of interactive corridors, embedded videos, 3D graphics, interviews and explanatory captions. This is something that was implemented for the first time and which also contained the technology of virtual and augmented reality (Rodrigues, 2016). In the Olympic Games of Rio 2016, the New York Times also used very innovative graphics. The most impressive was the one which showed all the relays of 100 meters in athletics in all the history of the Olympic Games, from 1896 until 2016, a graphic which was created by using data (figure 1) (Grothjan&Quealy& Roberts, 2016).

Figure 1



Source: (Grothjan&Quealy& Roberts, 2016)

Except from that, the New York Times used more other graphics with data in the 2016 Olympic Games in Rio. For example, graphics which were used in swimming and were available in social media accounts of the New York Times.[2]

Virtual and augmentation reality

Some media have started to use in covering sports events a new technology we have already mentioned before, the virtual reality and augmentation reality. These new techniques which were used by some media in the Winter Olympic Games in Sochi in 2014 and Summer Olympic Games in Rio in 2016 but were widely used in 2018 in the Winter Olympic Games in Pyongyang. It was used, in fact, by television stations to cover sports and competitions. NBC has aired a combination of virtual reality video in collaboration with Vox Media. In addition to NBC, virtual reality and augmentation reality were used by other TV stations to cover the 2018 Winter Olympics. One of them was Al Jazeera and another was Eurosport, which since 2018 has bought

from the IOC television rights for all European countries, an agreement that is valid until the 2024 Olympic Games in Paris.

One of the pioneers in using augmentation reality in covering sport events is the Washington Post. At the Olympic Games of Tokyo 2021, in collaboration with Lede Lab, it created an experimental video series on three sports (skateboarding, surfing and sport climb) being contested in the Tokyo Olympics. The series unveiled on Monday focuses on three young American stars which competed in the games: and the users were able to experience what they liked of the competitors in these events, thanks to augmented reality. They could scan the QR code within the stories on their phone cameras (Schultz ,2021).

Drone Journalism and other types of digital sport communication

Drone Journalism enters the race of sports and other information, not only to enrich information with visual material (videos) but also to produce news texts. If the drone is connected to intelligent software that writes text on its own, the robot journalist can fly, take photos, record videos and gather new information which he will soon turn into written text.

Generally, technology is evolving in the major events at high speed. Toyota introduced a series of seven robots called the "Tokyo 2020 Robot Project", designed specifically for the Olympics and Paralympic Games. The anthropomorphic robot T-HR3 was designed to communicate with the athletes themselves, while the T-TR1 was a remote communication robot designed to transmit footage of races to spectators around the world.

In the modern digital environment, moreover, Chat and live events on the internet form a new type of event. This form can not replace the real events and the physical presence of the public in the event space, however the specific "virtual" events expand the range of events and act as an adjunct to them (e.g. virtual opening event) and also maintain events, lectures and presentations which can be re-screened later. Moreover, a wide dialogue on e-sports has been developing. eSports or electronic sports is competitive video gaming, in which participants play offline (LAN) or online against other players. eSports also include spectator events in indoor arenas. eSports is played by both professional and amateur players or as often called gamers. International eSports revenues hit \$1.1 billion in 2019, which is up to 27% since 2018. Most of the revenue comes from advertising, sponsorship and media rights to competitive video gaming. eSports claim a large share of the money involved in sports. Also, eSports involve a large number of amateur athletes as well as live and online spectators who invest time and money in participating in eSports events (Gdonteliet.all, 2019). According to the above, eSports is a new field of sports journalism that will require high specialization in the future.

Conclusions

According to the above, an extended science discussion is already taking place about the future of these innovative types of journalism. The development of technology in this area obviously raises a lot of issues such as professional, social, legal, moral, even political because of a possible violation of human rights (Antonopoulou P.&Kyriazis, 2018). Who really knows for example, if the intelligent software for the needs of robot journalism will be used negatively in order to gather process and disclose personal information? Another question is about the possibility to replace the work of professional journalists. On the one hand, a “revolution” of robot journalists seems to be possible in the future. On the other hand, citizen journalism has already replaced a part of professional journalists’ work. The answer on these questions is not simple but the view of the authors of this article is that journalism should be used creatively without fear of the new opportunities. Technology is rapidly evolving and offers to the Media industry a lot of tools in order to automate part of their work and save time and money. These types of journalism are already used but robots can not replace the human journalists because they lack an essential feature: creativity. On the other hand, these technologies are considered in our days as an opportunity to release journalists from routine reporting, giving them more time for complex tasks. It also allows for efficiency and cost savings, relieving some financial burden on many news organizations. The digital age is the present and offers actionable insights to journalists across the enterprise and the freedom and insights to focus on creating greater value and improving the media organization.

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