

Reviews. Digitalization accelerates sports industry in last decade: systematic literature review and bibliometric analysis. Vol. 12, n. ° 1; p. 1-23. January 2026.
<https://doi.org/10.17979/sportis.2026.12.1.12302>

Digitalization accelerates sport industry in last decade: systematic literature review and bibliometric analysis

La digitalización acelera la industria del deporte en la última década: revisión sistemática de la literatura y análisis bibliométrico

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Editorial schedule: Article received 06/06/2025 Accepted: 10/09/2025 Published: 01/01/2026

<https://doi.org/10.17979/sportis.2026.12.1.12302>

To cite this article, use the following reference:

Prabowo, S.A.; Marsudi, I.; Siantoro, G.; Yuhantini, E.F.; Ristiawan, B.; Khuddus, L.A.; Afandi, A.; Rizki, A.Z.; Ayubi, N. (2026). Digitalization accelerates sport industry in last decade: systematic literature review and bibliometric analysis. Sportis Sci J, 12 (1), 1-23
<https://doi.org/10.17979/sportis.2026.12.1.12302>

Author contribution: All authors contributed equally to the work.

Funding: There was no funding for this project.

Conflict of interest: The authors do not point out any conflict of interest.

Ethical aspects: There was no ethical aspects for this project.

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Abstract

Digital transformation has been a major force redefining the sport industry over the last decade, driven by fast-paced technological advancements and shifting consumer behaviors. Since 2015, the incorporation of digital tools such as artificial intelligence (AI), wearable technology, data analytics, and immersive broadcasting have transformed the way sports organizations function, interact with fans, and enhance athlete performance. This revolution does not merely spur new business models but also creates even more personalized and interactive experiences for viewers around the world, representing a sector-wide movement toward digitalization in the sports and media realms. Development of the sport's industry on the digital front is characterized by an increasing dominance of data-driven approaches to inform training, match planning, and fan engagement. The growth of eSports and networked stadiums also illustrates the growing penetration of digitalization in sports. With the acceleration of digital adoption, there is an urgent need for systematic research to map trends, opportunities, and challenges in this field.

Keywords: digitalization; sport industry; bibliometric analysis; systematic literature review

Resumen

La transformación digital ha sido una fuerza importante que ha redefinido la industria del deporte en la última década, impulsada por los rápidos avances tecnológicos y los cambios en los comportamientos de los consumidores. Desde 2015, la incorporación de herramientas digitales como la inteligencia artificial (IA), la tecnología portátil, el análisis de datos y la transmisión inmersiva han transformado la forma en que las organizaciones deportivas funcionan, interactúan con los fanáticos y mejoran el rendimiento de los atletas. Esta revolución no solo estimula nuevos modelos de negocio, sino que también crea experiencias aún más personalizadas e interactivas para los espectadores de todo el mundo, lo que representa un movimiento en todo el sector hacia la digitalización en los ámbitos del deporte y los medios de comunicación. El desarrollo de la industria del deporte en el frente digital se caracteriza por un dominio cada vez mayor de los enfoques basados en datos para informar sobre el entrenamiento, la planificación de partidos y la participación de los aficionados. El crecimiento de los eSports y los estadios en red también ilustra la creciente penetración de la digitalización en el deporte. Con la aceleración de la adopción digital, existe una necesidad urgente de investigación sistemática para mapear tendencias, oportunidades y desafíos en este campo.

Palabras clave: digitalización; industria del deporte; análisis bibliométrico; revisión sistemática de la literatura

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Introduction

Digital transformation has emerged as a central driver transforming the sports sector in the last decade, fueled by accelerated technological innovation and shifting consumer trends (Dašić, 2023). Since 2015, the adoption of digital technologies like artificial intelligence (AI), wearable technology, data analytics, and immersive broadcasting has transformed the way sports organizations function, interact with fans, and improve athlete performance (Paul et al., 2023). This shift is not only creating new forms of business but also more customized and interactive material for international consumers, reflective of a broader trend toward digitalization in media and entertainment sectors (Kumar & Kalse, 2022).

The sport industry is controlled by increasing use of evidence-based approaches for optimizing training, match strategy, and fan engagement (Welch et al., 2014). Emerging technologies like GPS tracking, electronic performance and tracking systems (EPTS), and biometric sensors provide teams and players with real-time feedback, enhance performance, and reduce the likelihood of injury (Linke et al., 2018). While this, all the time, online websites allow the audience to enjoy real-time statistics, rich media, and interactive content, all of which more engage them in sporting action. Such technologies have also revealed new sources of revenue and transformed traditional sport business models, and technology adoption becomes a necessary requirement for competitiveness (Smith et al., 2021).

Globalization and technological innovation have accelerated the digitalization of sport, and big brands such as Liverpool FC, ESPN, and the NBA have established the template for successful adoption of digital approaches (Skare & Riberio Soriano, 2021). However, the transformation is accompanied by challenges such as cultural transformation in organizations, investment, and also skills gaps, particularly in data management and AI. (Fiedler et al., 2023) These issues need to be addressed if sporting organizations are to fully leverage the use of digital technology and keep up with the play in a rapidly changing market (Hedenborg et al., 2022).

The popularity of network stadiums and eSports also indicate towards the expanding field of digitalization of sports (Caulfield & Jha, 2022). The establishment of

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professional gaming leagues and the implementation of Internet of Things (IoT) sensors in sport stadiums verify how technology is redefining the margins of sports as much as it is automating efficiency (Parker & Bach, 2020). This diversification underscores the value of interdisciplinary inquiry and cooperation in understanding the intricate impacts of digital transformation on sporting ecosystems, from athlete welfare to fan engagement and economic sustainability (Ke, 2023).

With the rapid process of digital absorption, systematic studies are needed in order to map trends, potentials, and disappointments in the field. This bibliometric analysis and systematic literature review aims to conduct an in-depth analysis and provide recommendations for further research as well as practitioners in the sport industry.

Methodology

This research was a Bibliometric Analysis and Systemtematic Review. The article search used a comprehensive strategy in the Scopus journal database, with the keyword Abs tit key: sport AND industry AND digital. Furthermore, the exclusion criteria were journals published in the last decade. The type of publication was article, the stage of final publication, and the type of source in the journal. A total of 720 articles from Scopus were screened on April 15, 2025. Therefore, 264 articles that had citations were selected for further analysis using VOS viewer computer software.

VOS viewer is an application for bibliometric analysis, mapping research results based on keywords, titles, authors, and others. Analysis using this application requires files in RIS format. RIS files were checked through the export results from the Scopus website after filtering. Furthermore, the file is entered into the VOS viewer application for the bibliometric analysis process. This study maps the results of bibliometric analysis based on the keywords of the research that has been conducted.

The literature review method was carried out on the 10 most cited articles, by selecting relevance and the most cited article in each year. In this study, only 10 publications from the last decades were found. For operationalization standards, this study follows the Preferred Reporting Items for Systematic Review and Meta-Analyst.

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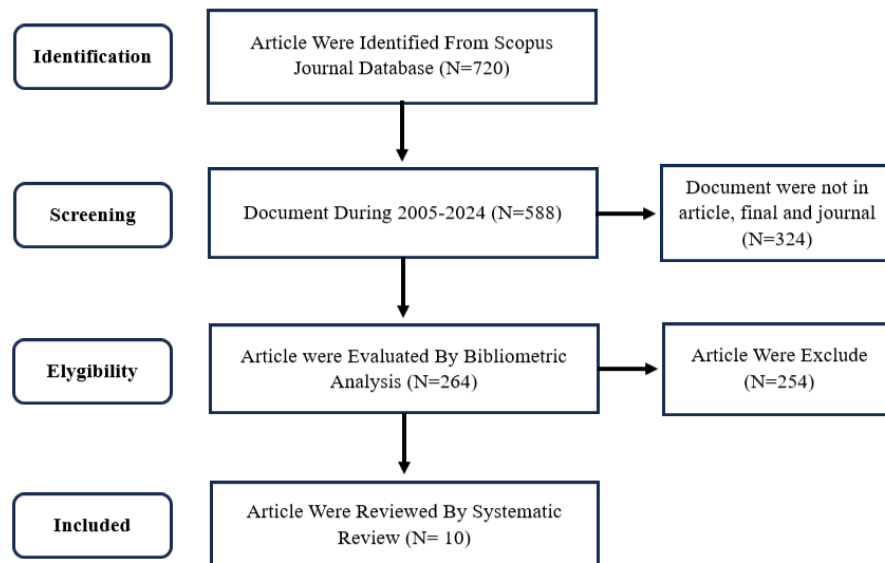


Figure 1. Prisma follow chart

Results

The research results are divided into four variables: research trends, country, field of study, and 10 articles with the most citations. The purpose of selecting these variables is to determine trends from the research carried out to date. The dominance of the country must be known to provide knowledge and information to readers. The best subject areas and articles offer a visualization of the research focus that has occurred so far.

Table 1. Digitalization accelerates sport industry publications in the last 10 years

Year	F	Cited Documents	Total cited	Average Cited
2015	9	9	140	15,555556
2016	7	7	108	15,428571
2017	11	11	173	15,727273
2018	7	7	124	17,714286
2019	13	13	331	25,461538
2020	25	25	510	20,4
2021	34	31	501	16,16129
2022	47	44	533	12,113636
2023	45	40	329	8,225
2024	66	29	136	4,6896552
Total	264	216	2885	151,4768

Based on the data in Table 1, there has been a great increase in the number of publications on digitalization that have accelerated the sport industry over the past decade. In 2015, the number of publications recorded was 9 documents with a total of 140

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citations and an average citation per document of 15.56. The number of publications tends to increase annually, and this has experienced a relatively sharp increase from 2020 to 2024. The year 2024 had the highest publications at 66 documents, with however the average citations per document decreasing to 4.69. This shows that although the number of publications continues to increase, the number of citations per document tends to decrease in recent years. Overall, during the past decade there have been 264 papers that include a total of 2,885 citations and an average of 15.15 citations per paper. This indicates that digitalization as a topic has become more common and studied in the sport industry, but it is also becoming an increasing competition among papers for citations as more papers are being published.

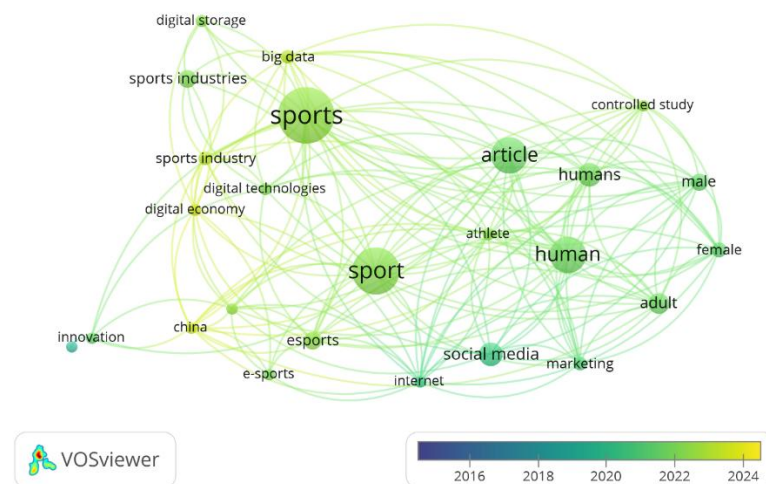


Figure 2. Development of digitalization accelerates sport industry Research

VOSviewer is a significant tool in digitalization studies in the sport industry because it enables researchers to visualize the evolution and relationships among topics of digital technologies in sports over time, say from 2015 to 2024. Figure 2 in such studies, for example, typically illustrates how digitalization is transforming the sports world, including trends like the application of apps, social media, data analytics, and online streaming that enhance the performance of athletes, fan experience, and event management. By mapping these developments, VOSviewer identifies research patterns and clusters, providing insights for stakeholders into how digitalization induces change and innovation in the sport domain. VOSviewer is an effective analysis tool that allows the interpretation of complex bibliometric data, making it possible for researchers to

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follow and visualize the rapid development and impact of digital technologies in sports and, by doing so, inform decision-making and strategic planning within this evolving landscape.

Table 2. The country Contributed to Digitalization accelerates sport industry over the last 10 years

Country	F	Cited Documents	Total cited	Average Cited
China	68	50	434	8,68
United States	44	39	776	19,89744
United Kingdom	32	31	681	21,96774
Spain	28	23	348	15,13043
Germany	16	15	226	15,06667
Australia	15	13	383	29,46154
South Korea	9	7	108	15,42857
Russian Federation	9	9	43	4,777778
France	9	9	126	14
Canada	9	8	125	15,625
Total	239	204	3250	160,0352

In the past decade, most countries have played a part in the acceleration of digitalization in the sporting industry, to varying degrees. China led the way with 68 quoted documents, totaling 434 quotations and an average of 8.68 quotations per document. The United States followed with 44 documents that were most cited, which was 776 citations, and an average of 19.89 citations per document. The United Kingdom is very efficient with the highest average citation of 21.97 from 32 cited documents. Spain and Germany also scored extremely well with 15.13 and 15.07 mean citation per document, respectively. Australia recorded a very high 29.46 mean citation out of only 15 cited documents, an indicator of the excellence of its contribution towards the digitalization of the sport. South Korea, Canada and France have identical averages of citations between 14 to 15, while Russia has a minimum average citation of 4.77 off the same number of documents as Canada and France. The countries altogether made a contribution of 239 documents consisting of 3,250 citations and an overall mean of 16.00 per document. The figure demonstrates the pioneering role that digitalization has taken in revolutionizing the sport industry across countries.

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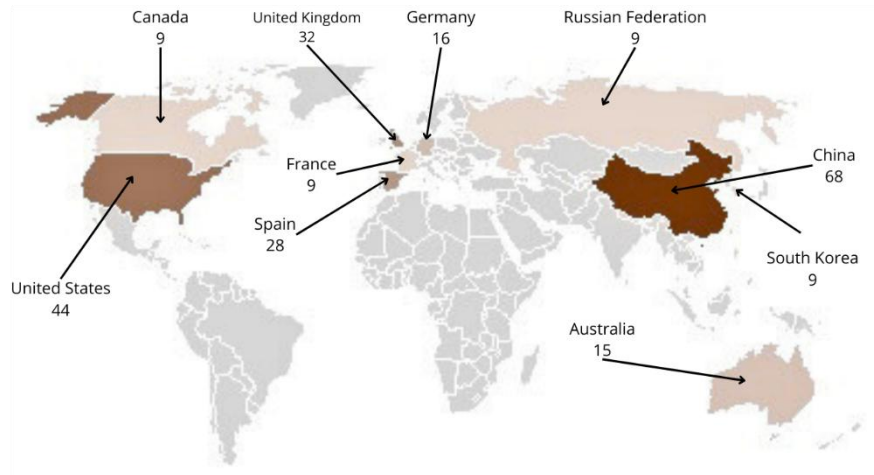


Figure 3. Country contribution Digitalization accelerates sport industry research

Figure 3 is a graphical representation (i.e., graph or chart) of how countries are contributing towards research on digitalization in sport. These are numbers that show what countries are leading in this area of research and to what degree compared to other countries.

Table 3. Top 10 Subject Areas Contributed to Digitalization accelerates sport industry research

Subject area	F	Cited Documents	Total cited	Average Cited
Social sciences	116	96	1261	13,13542
Computer Science	64	50	564	11,28
Business, management and Accounting	61	54	1096	20,2963
Engineering	38	30	322	10,73333
Medicine	33	29	378	13,03448
Health Professions	25	20	179	8,95
Economics, Econometrics and Finance	23	16	66	4,125
Mathematics	20	11	45	4,090909
Environmental Science	19	18	213	11,83333
Psychology	15	12	211	17,58333
Total	414	336	4335	115,0621

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The table highlights the 10 major subject categories to which studies of how digitalization accelerates the sport industry fall under. The social sciences are on top with 116 publications, 96 cited papers, and a sum of 1,261 citations and a mean of 13.14 citations per paper. The second position goes to computer science with 64 publications, 50 cited papers, and a sum of 564 citations and a mean of 11.28 citations per paper. Accounting, management, and business rank third with 61 publications and a high rate of average citation of 20.30 in 54 cited papers and a total of 1,096 citations. Engineering has 38 publications and an average of 10.73 citations, and medicine has 33 publications and an average of 13.03 citations per paper. Professions of health (25 papers) and economics, econometrics, and finance (23 papers) have medium yields with average rates of citation being 8.95 and 4.13, respectively. Mathematics (20 papers) and environmental science (19 papers) have lesser outputs but still dignified averages of 4.09 and 11.83 citations per publication. Psychology fills out the ranking with only a paltry 15 publications but an elevated mean rate of citation at 17.58. Asumingly, altogether these themes add up to a total of 414 publications for which 336 cited papers amounted to a citation count of a total of 4,335 and an entire average citation frequency of approximately 11.51 per paper. This data showcases the interdisciplinary nature of digital change in the sporting industry studies whereby social sciences alongside technical fields such as computer sciences and engineering take center stage as contributors.

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Table 4. Digitalization accelerates sport industry Top 10 Cited Publications in the last 10 years

No	Title, Author (Year)	Cited	Research Purposes	Methods	Results
1	Emerging technologies and sports events: Innovative information and communication solutions (Petrović et al., 2015)	20	Review the development and potential applications of emerging information and communication technologies (ICTs) in sports. implementation of <i>digital</i> technologies in the future, such as goalline technology	Exploratory, Case Studies	Found that there is a nascent market to enhance the range of digital technologies specifically designed for the sporting industry and sports events. More and more developers are moving into and taking advantage of the huge potential of ICT to create value in the field of sporting events. New technologies are providing new opportunities that necessitate the sport industry to continue developing a variety of innovative solutions to decision-making that will be tried and adopted over the coming period. To establish complete research results in the future, there is more information after the relinquishment of the testing process that is being used presently. Practical implications – It goes without saying that digital video processing has found many uses in sports content analysis and competitive sport TV broadcasting. Regulators must be mindful of their roles to enable successful innovations that require collective action on the part of all stakeholders with very different functions in their commercialization process.

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2	Consumer Interest in Major League Baseball: An Analytical Modeling of Twitter (Watanabe et al., 2016)	38	Understanding how consumers interact with sports brands <i>on digital platforms</i> is increasingly important for <i>the sport industry</i>	Quantitative, Regression Analysis	The study's findings show mixed results from short-term and long-term consumer interest in teams on Twitter. Important theoretical and practical understanding is gained by considering consumer behavior in the automated "like economy" of social media. In particular, the two smallest squared regression models are commonly used that consider a variety of factors, including market characteristics, scheduling, and social media use and management. It must be realized the importance of differentiating content strategies between consumers with temporary engagement and long-term consumer community building
3	Interactive Steaming of Panoramas and VR Worlds (Schafer et al., 2017)		Develop an omnidirectional camera-based interactive streaming system capable of displaying high-quality 360° panoramas with maximum resolution and overcoming data transmission challenges so that users can navigate interactively in the virtual world	Research and Development	The development of an interactive streaming system with an omnidirectional camera produces a high-resolution 360° panorama (10,000 x 1,920 pixels), providing three data transmission solutions to overcome extremely high video data rates, allowing users to navigate interactively in the virtual world with the best image quality without resolution limitations on the production or end device side. This system has succeeded in providing an immersive and interactive VR experience in various locations such as stadiums, theaters, and exhibitions

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4	Understanding the convergence of markets in online sports betting (Lopez-Gonzalez & Griffiths, 2018)	9	Explore the integration of <i>online</i> sports betting within the <i>digital</i> , sports, and gambling sectors, by examining how data markets, eSports, <i>virtual sports</i> , social games, immersive reality devices, sports media, <i>sports sponsorships</i> , <i>fantasy sports</i> , on-site and in-stadium betting, poker, and commerce all converge in betting activities	Qualitative, Exploratory Case Studies	The attention paid to understanding the characteristics of the online <i>sports</i> betting market and its intersection with products from <i>adjacent industries</i> is still very lacking. Through the process of convergence, it can be said that internet-based sports gambling is colonizing various forms of entertainment, by expanding marketing opportunities, risking increasing psychosocial concerns about the influence of the integration process
5	The esports ecosystem: Stakeholders and trends in a new show business (Vera & Terrón, 2019)	5	In an effort to present an integrative vision of the e-Sports phenomenon from the analysis of socioeconomic contexts, players and the dynamic relationship between new business models, as well as challenges for the conventional gaming industry in the context of a digital society	Qualitative, Phenomenology	The study reveals that e-Sports has an important significance as a profession and talent outlet for gamers, to deal with health and regulatory issues, supported by opportunities for industry expansion, and can be analyzed through successful communication and technology models that can predict matches

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6	Digital marketing and social media: The growth of sport industry in India (Singh & Nimkar, 2020)		Identify areas of information deficit that hinder youth participation in professional sports, and the function of social media as a cyber marketplace that enables the growth of the sports market	Qualitative, Simple Random Sampling	Social media provides a platform for fans and players to connect with their favorite sports, Sport industry companies today rely on social media and <i>digital</i> marketing for their continued growth and success
7	Corporate growth strategies in an era of digitalization: A network analysis of the national basketball association's 2K league sponsors (Lopez et al., 2021)	5	Using network analysis to consider three sponsorship portfolios: the NBA, the 2K League, and the current esports league, League of Legends Championship Series, to achieve the digitalization of the sport industry	Qualitative Analysis, Network Analysis	The findings show that the NBA used an innovative hybrid corporate growth strategy, with a diverse portfolio of sponsorships for 2K League, a pioneer in the esports industry by partnering with video game publisher Take-Two Interactive, to create a virtual sports simulation league, NBA 2K League. The NBA's entrepreneurial activities create smart innovations on how to position digital products <i>that cross boundaries by combining elements from traditional sports</i> and e-sports. This strategy works very well to mitigate the challenges of digitalization by legitimizing the 2K League across both the physical and virtual domains
8	New Media, Digitalization, and the Evolution of the Professional Sport Industry (Zheng & Mason, 2022a)	3	Examine how a professional sports business grows and changes amid constant	Qualitative Systematic Literature Review	This research shows that digital transformation and the use of new media technologies are very influential in developing the professional sport industry, increasing the popularity of sports, the

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			changes in the digital media environment to maintain and increase its prosperity and increase revenue		effectiveness of promotion and marketing, and encouraging economic growth through innovation and good management; In addition, digitalization also allows for independent sports training and participation and expands the reach of audiences through online media, including the development of e-sports as part of the modern sport industry
9	The Role of Digital Economy in Enhancing the Sport industry to Attain Sustainable Development (Wei et al., 2023)	4	Analyze the contribution of the digital economy in promoting high-quality sustainable development of China's sport industry through empirical estimation, causality testing, and identification of development strategies that enable the achievement of the Sustainable Development Goals (SDGs)	Quantitative, Data Panel	Research reveals that the digital economy directly and significantly drives the growth of the sport industry in China, and indirectly drives it with technological innovations; The impact is nonlinear with a rapid growth stage during the initial phase followed by a slowdown in growth rate and spatial spillover effects, thus underscoring the need to accelerate the development of digital infrastructure, the development of sports science and technology human resources, and sustainable and inclusive regional policies to promote the achievement of the Sustainable Development Goals (SDGs) for China's sport industry
10	Digital platform usage amongst female sport technology entrepreneurs (Ratten, 2024)		In an effort to analyze the role played by femininity and gender characteristics in making female sports technology entrepreneurs successful, especially in	Qualitative, Semi-Structured Interviews	The results of this study show that intuition, opportunity focus, and the ability to change existing circumstances are strategies used by female sports technology entrepreneurs to counter the performance expectations of digital innovation and gender imbalance in the sports

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			using digital platforms as an area of competitiveness to balance the gender gap in the industry		technology industry, so that femininity becomes a source of competitive advantage that allows them to excel through digital channels for their entrepreneurial activities. These findings also reinforce the importance of considering gender characteristics when designing digital platforms and sports entrepreneurship ideas to promote gender equality in the industry
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From the above table, information and digital communication technology has brought significant innovations in the sporting industry, from the application of goal-line technology to 360° panoramic streaming and virtual reality that enhances the viewer experience. Social media and online marketing are at the forefront of connecting fans with the sports they enjoy, while driving economic development and sports popularity, including e-Sports now a part of the sports ecosystem in contemporary times. This digital transformation also opens up new possibilities for entrepreneurship, especially for women entrepreneurs in sports tech, and demands innovative business development strategies like what the NBA has achieved with the 2K League esports league. In addition, the digital economy also plays an important role in the sustainable development of the sport industry, with growing need for the development of digital infrastructure and human capital to attain sustainable development goals in an inclusive and sustainable way.

Discussion

Digitalization accelerates sport industry publications in the last 10 years

Over the entire decade (2015-2024), a total of 264 articles were published. Each of these articles was cited a total of 2,885 times, averaging about 15.15 citations for each article. This overall summary shows that the digitization theme has been used over and over in sport research (Reis et al., 2020), but as the number of articles keeps going up, it is increasingly difficult for each article to cite. The table shows clearly: there have been considerably more papers on sport and digitalization in the past decade. Yet the average citations per paper are declining, something which can be an indicator that while a lot of researchers are studying this problem, competition for citations is increasing as increasingly more papers are published. Publication trends under the digitalization of the sport business are driven by a mixture of increasing focus, research practice, citation patterns, technological innovation, and research budget. They all contribute to influencing trends in research output for this emerging field of research.

The country Contributed to Digitalization accelerates sport industry over the last 10 years

Results can guide policymakers and entrepreneurs on where they should direct their efforts. For example, if a country is lagging behind in research, they can dedicate more resources to technology or research in sports management (Petersen, 2021). It can help researchers to know potential partners from other countries or regions where additional research ought to be undertaken (Yao, 2021). is a critical component of learning how digitalization is influencing the sport business globally (Envuladu et al., 2022). If we study the work of different countries, we can know about trends, opportunities, and challenges in sports technology and research. It is crucial to all those who have an interest in sports and technology and how they will develop.

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Subject Areas Contributed to Digitalization accelerates sport industry research

Different research domains illustrate how digitalization of sports is analyzed through different lenses, i.e., technology innovation, management, health, and society, affirming the fact that digital technologies—data analytics, IoT, and AI—change improved performance, fan experience, and sports organization efficiency. This level of academic engagement is in line with the observed trend whereby digital technologies become integrated into the sport environment (Nkomo et al., 2021), enabling innovation and new business models such as e-Sports, and emphasizing the need for cross-disciplinary collaboration to understand and leverage digital transformation in sport to its fullest (P. Chen & Kim, 2023).

Digitalization accelerates sport industry Top 10 Cited Publications in the last 10 years

Consumer participation on online platforms that involve sports brands is crucial (Alves et al., 2016). Experiments on Major League Baseball franchises indicate that consumers' interests have a tendency to shift significantly within a period susceptible to market direction and social media management (M. Chen et al., 2022). This highlights the role of sports brands to adapt business operations to enable consumer participation in an ever-changing web environment (Zhang et al., 2018). This study highlights the importance of social media as a source for influencing consumer behavior in the "love economy" (He et al., 2022). This evolution is signaling that more conventional methods of marketing are less powerful today, and that brands will need to connect through social media in order to build more participatory and engaged experiences for fans (Zaikovsky, 2024). Virtual reality technology has brought dramatic change to sporting life (Frevel et al., 2022). VR allows viewers to view sports in interactive ways, providing the 360° visual experience that enhances spectators' interactivity (Kim & Ko, 2019). The technology can potentially transform the viewing and experience of sports by spectators (Glebova et al., 2023). Interactive streaming sites, such as those developed, the capability for having high-definition 360° panoramic recording which is interactively exploitable (Pereira & Gheisari, 2019). It lends a greater feeling of presence to the audience and potentially more involvement and satisfaction. In the paper, nonlinear economic impact of digitalization for sport is explained as exponential expansion and later slowing down (Lu et al., 2024). Such a character needs to formulate inclusive and sustainable models to keep up with the dynamic digital situation in sport (Zheng & Mason, 2022b). Gender equality in sports technology entrepreneurship has also been recognized by this research as a significant issue. To it, women's contributions can provide effective recommendations to correct gender imbalances in the business to make the environment more favorable.

Recommendations

From the research, future research needs to focus on longitudinal studies to track the growth of digital technology in sport in order to establish long-term trends and how these affect fan engagement and player performance. Research into the impact of new

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technologies such as artificial intelligence and machine learning in sport management and operations is also needed to optimize performance analysis, fan experience, and organizational efficiency. Consumer response to a sports brand's online campaign needs to be researched in detail to examine diverse demographic interactions and increase fan base. Additionally, one must research the interaction between digitalization and sustainability, i.e., the use of digital tools towards sustainable actions such as virtual events and resource management. Gender perspectives on sports technology need to be studied to advance diversity and inclusiveness, focusing on women's challenges as much as their ability to drive innovation. An international comparison of digital uptake across cultures and economies can unveil best practices of broad use. Finally, application of tools such as VOSviewer to display patterns of research and collaboration must be maximized in order to monitor trends in collaboration and research, identify gaps in the literature, and induce cooperation in the field of sport digitization.

Conclusion

The research on digitalization promoting the sport industry during the last decade reveals an inflated amount of publications, which grows in relation to growing scientific and practical interest in this area. Despite increased growth in the number of works, the citations per paper have decreased, which testifies to growing competition in gaining scholarly attention. The trend summarizes the expanding and shifting scale of digital technology in sport, encompassing data analysis, IoT, AI, and virtual reality immersive technologies transforming athletes' performance, spectators' experience, and business effectiveness. The lessons concluded by the concerned nations confirm the universality of the shift offering opportunities for policymakers and corporate managers to take educational and investment-in-technology choices. The inter-disciplinary heritage of the research across technology innovation, management, health, and social effects enforces the call for inter-disciplinary collaboration to better exploit the full potential of digital innovations. Major issues on the majority of top-cited items include fan activities on digital media, impacts of social media on fan cultures, technology development of immersive realities, and digitalization's social and economic influence, including gender equity and sustainability. Future research agendas require longitudinal studies, deeper investigation of AI and machine learning applications, consumer behavior analysis, incorporation of sustainability, gender equality, and comparative global research, supported by cutting-edge visualization technologies to map research agendas and enable collaboration. Collectively, these findings report that digital transformation is redefining the business models of the sports sector, enhancing the user experience, and driving innovation without undermining core sports values

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