Bibliometric Analysis of Sports Management Research

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ABSTRACT

This study aims to conduct a bibliometric analysis of sports management research using Scopus-indexed publications. The analysis covers various aspects such as document types, publication year trends, journals, authorship collaboration, global and institutional collaboration, as well as trends and topical focuses within the field. The results demonstrate a significant growth in sports management research over time. The analysis of findings reveals important clusters representing different themes and trends, illustrating the complexity and diversity of the field. There is a notable shift in sports management research towards recognizing the social, economic, and environmental dimensions of the discipline. The findings of this research hold great value for researchers, scholars, students, universities, managers, and decision-makers in the field of sports management. They provide valuable insights for various stakeholders, enabling them to stay informed about research trends, identify collaboration opportunities, and comprehend the evolving landscape of sports management.

Introduction

The rapid transformations occurring in the contemporary world necessitate research-driven solutions for effective management. Sports management is not an exemption from this challenge. This field, which originated in 1966 at Ohio University, has provided extensive educational and research services to the sports industry. Sport management programs have grown significantly in many universities, indicating that sport management is a dynamically growing field of research leading to an accumulation of scholarly production (Lis, 2020). However, despite the quantitative and qualitative development of this academic discipline and the vast increase in the number of publications in prestigious journals over the past decades, there is little discussion about the direction and purpose of sport management research and whom it benefits (Gammelsæter, 2021).

Moreover, there are other concerns in sports management research. In this context, Chalip (2006) argues that sports management should be a distinct field with a sports-oriented model that requires expertise and advanced research in sports management domains. According to these new dynamics, the learning outcomes provided in higher education should be structured to develop the competencies related to the new challenges of the professional market (McQuaid et al., 2005). The interaction and intersection of sports and management has created a field that deals with the complexity of management activities in the sports environment (Hammerschmidt et al., 2024), which has become an attractive and exponentially growing field of research due to the increasing influence of sports (Funk, 2019). This indicates that reviewing and evaluating the research conducted in the field of sports management in recent decades can be a useful guide that shows the need for bibliometric analysis in this field.

Bibliometrics is the study of academic publications that uses statistics to describe publication trends and highlight relationships among published works (Ninkov et al., 2022). Bibliometrics includes three types of analysis: co-authorship, co-occurrence of words, and citation, which objectively depict the current state of the fields (Zhong et al., 2019). Co-authorship or scientific collaboration analysis focuses on the study of the social structure and collaboration network of authors, organizations, and countries (Kumer, 2015), while co-occurrence analysis of words focuses on the most important words and keywords used in documents and is used to draw the conceptual structure of a research field (Cheng et al., 2018). Citation analysis deals with the intellectual structure of texts and scientific relationships between them (Aksnes et al., 2019). This article focuses on the social structure and network of scientific collaboration or co-authorship of authors, organizations, and countries in sports management.

Bibliometrics is an important tool in sport management research as it provides quantitative data that helps researchers understand the current state of knowledge, evaluate research impact, map knowledge networks, assess productivity, and track research impact over time. Several studies that have been done to analyze sports management research highlight its importance. Frisby (2005) addressed the multifaceted nature of sport management, highlighting its positive aspects and the appeal it holds. The researcher argued for the need to conduct and analyze research from various paradigms to gain a comprehensive understanding of sport management. The question of whether research paradigms need to be changed and the process of changing them was also raised. Pitts and Pedersen (2005) reviewed the core knowledge in sports management and highlighted the unequal coverage of published articles in sports management journals compared to the content level in the field of sports management and organizational skills. Similarly, Shilburi (2011) conducted a bibliometric study to understand the intellectual foundations of sports management and identify the journals that publish significant articles. The study emphasized the significance of citation analysis in exploring the factors that influence citations.

Ciomaga (2013) conducted a bibliometric research study that revealed three prominent and influential trends in sports management: organizational change, consumer motivation in sports marketing, and diversity within organizations. Additionally, Miragaia and Soares (2017) conducted a systematic review of research topics and trends in higher education in sport management. They identified various research areas, including knowledge and curriculum planning, internship and experiential learning, employability, gender, technology and e-learning, globalization and internationalization, and the accreditation process and quality. Their findings suggested the need for the development of sports management education to incorporate critical thinking, internships, and new technologies. In Escher (2020) study, a bibliometric analysis was conducted to examine the research field of sustainable development in sport. The analysis identified five distinct clusters: Sustainable development, Humans, Environmental protection, Sustainability, and Sport.

In the dynamic landscape of sports management, Zelenkov and Solntsev (2023) investigated the trends over the past two decades. They found that the field encompasses both commercial and social issues, with increasing interest in topics such as social context, sport for development, and sport diversity. On the other hand, topics like sports performance and fan loyalty experienced declining popularity. dos Santos et al. (2023) employed the BERTopic approach to analyze the structure of the sports management research field. The researchers identified seven meta topics: major sports events, sports tourism and its social impact, brand management and sponsorship,

satisfaction and perceived quality in sports services and events, sports communication, gambling, and coaching behavior, sports entrepreneurship, innovation, and sports club management, as well as sports management theories or research methodologies. While the interest in major sports events and the social impact of sports tourism has experienced a decline in recent years, there has been a notable surge in research attention towards other areas, including entrepreneurship, innovation, and sports club management. In another study Hammerschmidt et al. (2024) conducted a comprehensive bibliometric analysis of published data from top sports management journals, focusing on the period from 2011 to 2020. They concluded that recently published articles in the field had yet to reach their full potential and had relatively less impact compared to established articles.

While these trends reflect the current focus areas within sports management research but are by no means exhaustive. As the industry continues to evolve rapidly due to technological advancements and changing consumer behaviors, new research areas will likely emerge in the future. In this regard Hammerschmidt et al. (2024) acknowledged the limitation of their study in focusing solely on specific databases. They suggested that research in other databases, such as Scopus, could provide valuable comparisons. Thus, the present study aimed to identify and comprehend the scientific and social structure of sport management using a bibliometric approach within the Scopus reference database.

The main aims of this study are conducting a comprehensive analysis of the field of sports management for to achieve the following objectives through the mapping, evolution, and trends of sports management in the Scopus database:

1: Identify patterns of collaboration among authors, institutions, and countries in the field of sports management.

2: Uncover distinct clusters representing different topic areas within sports management through the analysis of keyword co-occurrence in publications.

In summary, aims of this study is contribute to the existing knowledge in the field of sports management by providing valuable insights for researchers, academics, and stakeholders. The findings will facilitate a better understanding of the content, research trends, and collaboration opportunities within sports management.

Methodology

Data Source and Search Method

This paper is a descriptive study that used the bibliometric method and extracted published documents in the field of sports management from the Scopus database. Researchers can use various authoritative databases to conduct bibliometric and visualization studies, such as Web of Science, Scopus, Google Scholar, PubMed, etc. In this regard, the Scopus database provided by the Elsevier Foundation is one of the databases that is used in bibliometric studies because it covers a significant part of the world's prestigious publications (Chapman & Ellinger, 2019).

Two data collection strategies were employed to gather documents in the field of sports management. Firstly, publications were obtained from 11 specialized journals dedicated to sport management. These journals included: *Sport Management Review*; *European Sport Management Quarterly*; *Journal of Sport Management*; *International Journal of Sport Management and Marketing*; *International Journal of Sport Policy and Politics*; *International Journal of Sport Policy*; *International Journal of Sports Marketing and Sponsorship*; *Sport Management Education Journal*; *Sport, Business and Management: An International Journal*; *Journal of Global Sport Management*; and *Managing Sport and Leisure*. Secondly, documents related to sport management published in other journals were included. Publications from the specialized journals were collected by conducting a search in the Scopus database using the titles of the 11 journals in the source title field. Additionally, specific terms containing "sport management", "sport marketing", "sport policy", "sport governance", and "sport strategy" (including both singular and plural forms) were utilized in the title and keywords fields. The selection of these terms was based on consultations with sports management researchers from various universities. Each term was searched separately in Scopus, and the search results were carefully examined to identify and remove any unrelated

terms. Furthermore, the appropriateness of these terms was validated by assessing the coherence of the co-occurrence network of the selected keywords.

Data Extraction

A total of 7285 scientific documents were retrieved from 1975 to 2022. The search was conducted on June, 2023, to allow sufficient time to complete the journal issues in 2022. Complete bibliographic information of documents was extracted in CSV file format. The data was prepared by checking and correcting the variations in the names of institutions, authors, and keywords, such as different spellings, singular and plural forms. Data in Excel format were used to extract information related to the type of documents, year of publications, and journals.

Bibliometric Indicators and Visualization Techniques

To evaluate the quality of documents, the indicators of the number of citations, the average citations, the average normalized citations, and the H index was reported. the average normalized citations, which is a refined indicator that adjusts for the variations in citation patterns across fields and publication years. The H-index is a metric that measures both the productivity and citation impact of a researcher's publications. It is calculated by finding the largest number of publications that have been cited at least that many times. Using the CSV file and visualization techniques, the collaboration map of authors, institutions, and countries/regions in the field of sports management was drawn. The data related to the document types, citations, and H-index was extracted from Excel format. The bibliographic data, such as the document counts, citation counts, average citations, average normalized citations, and Total link strength for actors, was obtained from the output of Bibliometric software. The Total link strength reflects the importance of actors in a collaboration network, indicating that a larger number signifies more cooperation among actors.

Visualization techniques were employed to generate a co-authorship map including authors, institutions, and countries/regions, as well as a co-occurrence map of keywords to sports management. The analysis of co-authorship aims to examine the social structure and collaboration network among authors, institutions, and countries/regions Kumar (2015). On the other hand, the co-occurrence analysis focuses on identifying the most significant keywords utilized in the documents, thus facilitating the visualization of the conceptual structure within the research field (Cheng et al., 2018).

Bibliometric Software

Data visualization was done using Vosviewer bibliometric software. VOSviewer is a free Java software that can map the networks and structures of a collection of documents. It was used to draw citation networks (authors, documents, institutions, countries, and journals); co-authorship networks (authors, institutions, and countries); co-citation networks (documents, authors, and journals); co-occurrence networks of keywords; and bibliographic coupling networks as well as their clustering (Mongeon & Paul-Hus, 2016; van Eck & Waltman, 2017). The collaboration network of countries, institutions, and authors, as well as the co-occurrence network of keywords, were drawn using VOSviewer software and a CSV file.

Results

The findings of this research are based on the analysis of 7285 scientific documents, with average citation of 13.39 and H index of 104 for all documents. The findings are categorized and described in the following sections.
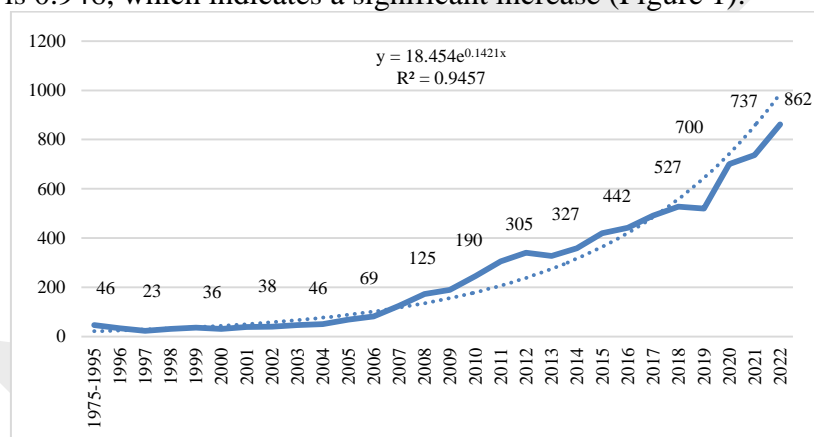
Types of Documents

The most common document type in the field of sports management is research articles (80.73%). Other document types include book chapters, review articles, books, conference articles, and editorials. Review articles, books, and research articles have the highest average citations per document (Table 1).

Table 1. Type of sport management documents

Type of documents	Frequency	Percent	Avg. Citations
Article	5881	80.73	13.97
Book Chapter	418	5.74	1.42
Review	317	4.35	27.83
Book	209	2.87	15.88
Conference Paper	201	2.76	2.28
Editorial	155	2.13	4.78
Note	63	0.86	9.43
Erratum	15	0.21	0.13
Short Survey	5	0.07	0.00
Conference Review	4	0.05	0.74
Retracted	3	0.04	5.94
Letter	2	0.03	2.47
Data Paper	1	0.01	0.00

Publication Year of Documents

The number of sports management documents increased from one in 1975 to 862 in 2022. Moreover, the publication growth trend was determined through the calculation of an equation. The slope of the trend is 0.946, which indicates a significant increase (Figure 1).

$$y = 18.454e^{0.1421x}$$
$$R^2 = 0.9457$$

Figure 1. Documents in the field of sports management by year

Top Journals

Table 2 lists the main sports management journals. JSM and SMR have the highest performance in terms of document number, citation number, citation per document, and H index. ESMQ and IJSMS rank second in document number, while IJSP and ESMQ rank second in citation per document.

Table 2. The top sports management journals

Rank*	Journal	Documents	Citations	Avg. Citations	H Index
1	Journal of Sport Management (JSM)	852	25722	**30.19**	**76**
2	Sport Management Review (SMR)	741	21491	**29.00**	**69**
3	European Sport Management Quarterly (ESMQ)	526	8260	**15.70**	**44**
4	International Journal of Sports Marketing and Sponsorship (IJSMS)	463	4035	8.71	28
	International Journal of Sport Management and Marketing	463	3446	7.44	28
5	Managing Sport and Leisure	364	2144	5.89	17
6	Sport, Business and Management: An International Journal	331	2317	7.00	22
7	International Journal of Sport Policy and Politics	257	1847	7.19	21
8	International Journal of Sport Policy (IJSP)	235	4324	**18.40**	**32**
9	Journal of Global Sport Management	226	868	3.84	13
10	Sport Management Education Journal	107	351	3.28	9

Bold values were used to highlight those with noteworthy performance.
*Rank Based on Publications count and the tie publications has same rank.

Top Authors

Table 3 shows the top 20 authors in the field of sports management based on their number of documents. Michel Desbordes, Daniel C. Funk, and James J. Zhang have the most documents. Jeffrey D. James, Daniel C. Funk, David Shilbury, and Alison Doherty have the highest average citations per document. Among the 20 authors, nine are from universities in the USA, three are from Germany, two are from Canada, Belgium, and Australia each, and one is from France and the United UKm each.

Table 3. The top 20 authors in the field of sports management

Rank*	Author	Institution (country/region)	Documents	Citations	Avg. Citation	H Index
1	Michel Desbordes	University of Paris-Saclay (France)	66	381	5.77	12
2	Daniel C. Funk	Temple University (USA)	59	**3359**	**56.93**	**33**
3	James J. Zhang	University of Georgia (USA)	56	1110	19.82	21
4	Christoph Breuer	German Sport University (Germany)	54	1193	22.09	21
5	Pamela Wicker	Bielefeld University (Germany)	53	1355	25.56	21
6	Barrie Houlihan	Loughborough University (UK)	52	1227	23.60	17
7	George B. Cunningham	University of Florida (USA)	51	1241	24.33	**23**
8	Milena M. Parent	University of Ottawa (Canada)	50	1082	21.64	20
	Veerle De Bosscher	Vrije Universiteit Brussel (Belgium)	50	821	16.42	17
	Geoff Dickson	La Trobe University (Australia)	50	527	10.54	14
9	Alison Doherty	Western University	49	**1512**	**30.86**	**22**

		(Canada)				
10	David Shilbury	Deakin University (Australia)	48	**1516**	**31.58**	**25**
11	Yong Jae Ko	University of Florida (USA)	43	1068	24.84	19
12	Kirstin Hallmann	German Sport University Cologne (Germany)	41	525	12.80	15
13	Norm O'Reilly	University of Maine (USA)	38	552	14.53	12
14	Marlene A. Dixon	Texas A&M University (USA)	37	866	23.41	16
15	Bob Heere	University of North Texas (USA)	36	1111	**30.86**	17
	Jeffrey D. James	Florida State University (USA)	36	**2292**	**66.67**	21
	Jeroen Scheerder	University of Leuven (Belgium)	36	419	11.64	11
16	Kevin K. Byon	Indiana University (USA)	34	408	12.00	11

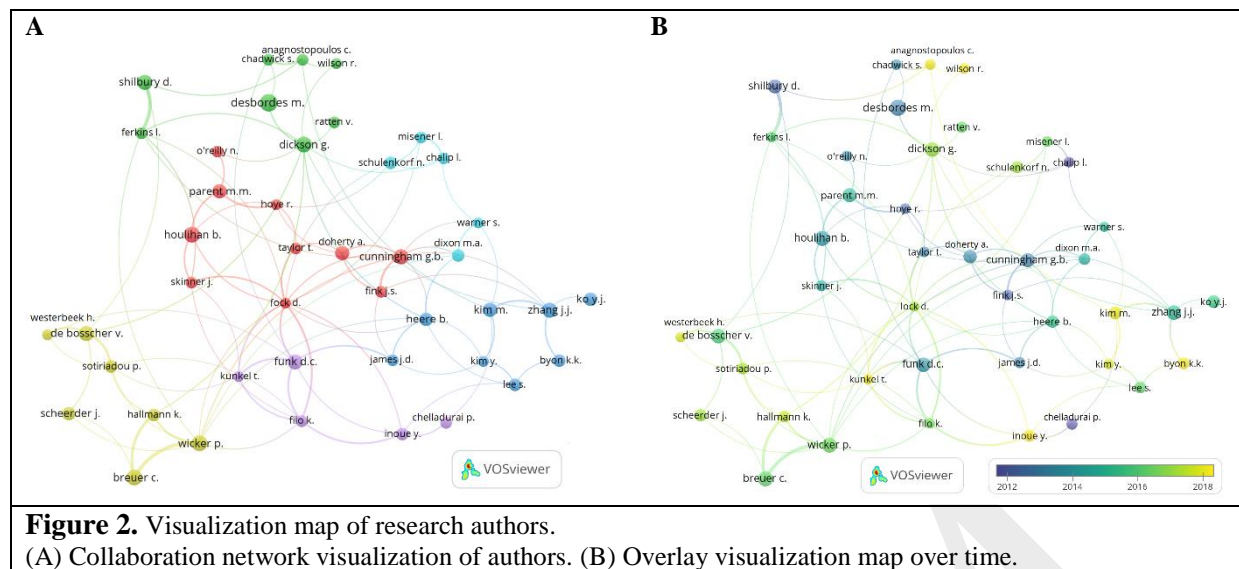Bold values were used to highlight those with noteworthy performance.
*Authors with the same number of documents have the same rank.
**The last affiliation of the authors is considered.

Authors' Collaboration Network

Figure 2A shows the collaboration network of 43 authors with 25 or more documents in six clusters. The numbers in parentheses indicate the total link strength of each authors. The nodes size or font size indicate the frequency of documents for the authors. The thickness of the curves between two authors indicates the strength of collaboration between them. The shorter the distance between two nodes, the more collaboration between the two authors. Cluster 1 (red) consists of 10 authors, with Daniel Lock (33) from Griffith University, George B. Cunningham (21) from the University of Florida, and Milena M. Parent (14) from the University of Ottawa, as the most influential authors in this cluster. This cluster includes three authors from Australia and the USA each, two authors from Canada and the UK each. Cluster 2 (green) has eight authors, and Lesley Ferkins (28) from Auckland University of Technology, David Shilbury (24) from Deakin University, and Geoff Dickson (16) from La Trobe University, are the most influential authors in this cluster. This cluster comprises three authors from Australia, two authors from the UK and one author from New Zealand, Qatar and France each. Cluster 3 (blue) consists of six authors, including James J. Zhang (13) from the University of Georgia, Bob Heere (12) from the University of North Texas, and Minjung Kim (11) from Texas A&M University. This cluster contains six authors from the USA and one author from South Korea. The South Korean author has a history of studying in the USA.
Cluster 4 (yellow) is composed of seven authors, with Pamela Wicker (39) from Bielefeld University, Christoph Breuer (35) and Kirstin Hallmann (23) from German Sport University Cologne being the prominent authors in this cluster. Two authors from Belgium and two authors from Australia also collaborate in this cluster. Cluster 5 (purple) consists of five authors, with Kevin Filo (28) from Griffith University, Daniel C. Funk (27) and Thilo Kunkel (16) from Temple University, as the three prominent authors of this cluster. This cluster also includes one author from the UK and another author from the USA. Cluster 6 (turquoise) has six authors, with Marlene A. Dixon (8) from Texas A&M University, Laura Misener (7) from Western University, and Laurence Chalip (7) from George Mason University, as the three prominent authors of this cluster. This cluster also contains one author from the USA and one author from Australia.

Figure 2B shows the overlay visualization of authors' documents over time by gradient colors (the closer to yellow means the nearer time of publication). Kevin K. Byon from Indiana University, Rob Wilson from Sheffield Hallam University, Yuhei Inoue form Manchester Metropolitan University, Thilo Kunkel from Temple University, and Christos Anagnostopoulos form Hamad Bin Khalifa University have been the five most active authors in publishing documents in the field of sports management in recent years.

Figure 2. Visualization map of research authors.
(A) Collaboration network visualization of authors. (B) Overlay visualization map over time.

High Productivity Institutions

Table 4 presents the 20 most prolific institutions in the field of sports management, ranked by their number of documents. The top five are Loughborough University, Griffith University, Texas A&M University, University of Florida, and Temple University. Among these, Griffith University, University of Texas at Austin, and Florida State University have the highest average citations per documents, while Griffith University, University of Florida, Deakin University, and Florida State University have the highest H-index values. Of the 20 institutions, eight are located in the USA, four in Australia, three in Canada, two in the United UKm, and one each in Germany, Norway, and Belgium.

Table 4. The 20 top institutions

Rank	Institution (country/region)	Documents	Citations	Avg. Citations	H index
1	Loughborough University (UK)	231	**3833**	16.59	**33**
2	Griffith University (Australia)	196	**6879**	**35.10**	**48**
3	Texas A&M University (USA)	174	2686	15.44	27
4	University of Florida (USA)	154	**4700**	**30.52**	**37**
5	Temple University (USA)	143	2967	20.75	31
6	German sport university in cologne (Germany)	142	2551	17.96	30
7	Deacon University (Australia)	137	3564	26.01	**35**
8	University of Ottawa (Canada)	129	2218	17.19	27
9	Brock University (Canada)	121	1923	15.89	27
10	La Trobe University (Australia)	117	2061	17.62	25
11	Florida State University (USA)	114	3592	**31.51**	**35**
12	Victoria University (Australia)	112	1811	16.17	24
13	University of Massachusetts (USA)	108	2439	22.58	25
14	Indiana University (USA)	106	1592	15.02	22
15	Norwegian School of Sport Sciences (Norway)	96	1271	13.24	22
16	University of Georgia (USA)	92	902	9.80	15
17	University of Alberta (Canada)	88	1985	22.56	26
18	Sheffield Hallam University (UK)	87	1358	15.61	21

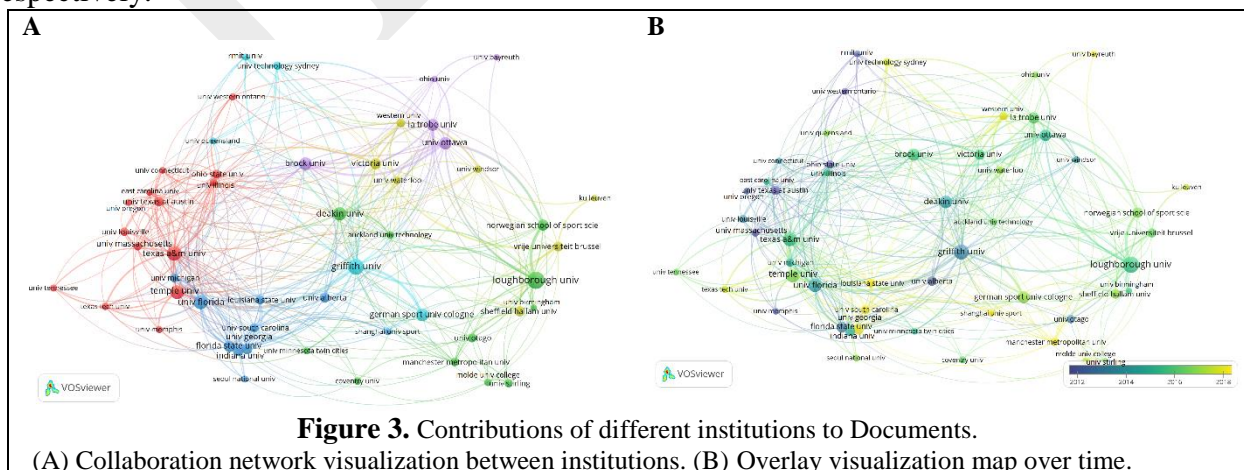|					
19	Vrije Universiteit Brussel (Belgium)	81	1122	13.85	20
20	University of Texas at Austin (USA)	78	3220	**41.28**	**33**

Bold values were used to highlight those with noteworthy performance.

Institutions' Collaboration Network

Figure 3A shows the collaboration network of 42 institutions that published 40 or more documents in the field of sports management. The numbers in parentheses indicate the total link strength of each institution. The node size and font size reflect the number of documents produced by each institution. The edge thickness between two institutions represents the intensity of their collaboration. The proximity of two nodes indicates the frequency of their collaboration. Six clusters were identified based on the network analysis. Cluster 1 (red) comprises 14 universities from the USA. Temple University (97), Texas A&M University (76), University of Illinois (47), and Ohio State University are the most influential nodes in this cluster. Cluster 2 (green) consists of 11 universities, mainly from the UK. Loughborough University (71), Norwegian School of Sport Sciences (58), and Deakin University (56) are the most influential nodes in this cluster. This cluster includes five universities from the UK, two universities each from Norway and New Zealand, and one university each from Australia and the USA. Cluster 3 (blue) includes 10 universities, mostly from the USA. University of Florida (74), Florida State University (47), University of Georgia (62), and Louisiana State University (41) are the four major nodes in this cluster. This cluster also contains one university each from Canada, China, and South Korea.

Cluster 4 (yellow) comprises seven universities, mainly from Canada. Western University (43), Victoria University (43), and Vrije Universiteit Brussel (42) are the most influential nodes in this cluster. This cluster includes there are three universities from Canada, two universities from Belgium, and one university each from Australia and the UK. Cluster 5 (purple) consists of five universities, mostly from Canada. Ottawa University (85), Brock University (67), and La Trobe University (63) are the most influential nodes in this cluster. This cluster also contains one university each from Australia, the USA, and Germany. Cluster 6 (purple) includes five universities, predominantly from Australia. Griffith University (120), University of Technology Sydney (36), and German Sport University Cologne (31) are the most influential nodes in this cluster. This cluster has one university from Germany.

Figure 3B depicts the temporal distribution of documents by institutions using gradient colors (the closer to yellow, the more recent the document). The five institutions that have published the most recent documents in the field of sports management are Manchester Metropolitan University, University of Bayreuth, Shanghai Sports University, Louisiana State University, and the University of Georgia, respectively. The five institutions that have the longest publication history in the field of sports management are Western University, Ohio State University, University of Texas at Austin, University of Massachusetts, and RMIT University, respectively.

Figure 3. Contributions of different institutions to Documents.
(A) Collaboration network visualization between institutions. (B) Overlay visualization map over time.

Top Countries/Regions

Table 5 presents the 20 top countries/regions in the field of sports management, ranked by their number of documents. The USA is the most productive country in publishing documents in the field of sports management, with a significant gap between it and other countries/regions. The UK, Australia, Canada, and Germany rank second to fifth, respectively. These five countries/regions are also among the ones with the highest average citation per document and the highest H-index. In addition to these five countries/regions, the Netherlands and New Zealand have high citation averages, indicating their scientific impact.

Table 5. The 20 top countries/regions

Rank	Countries/regions	Documents	Citations	Avg. Citations	H index
1	USA	2360	**38805**	16.44	**80**
2	UK	1165	**17369**	14.91	**57**
3	Australia	823	**18248**	**22.17**	**65**
4	Canada	671	12370	**18.44**	55
5	Germany	399	5394	13.52	40
6	Spain	320	2381	7.44	23
7	China	273	1496	5.48	19
8	Norway	238	3070	12.9	29
9	South Korea	212	2123	10.01	23
10	France	210	1709	8.14	24
11	New Zealand	201	3376	16.8	32
12	Belgium	189	2442	12.92	26
13	Portugal	114	1446	12.68	20
14	Japan	113	1464	12.96	19
15	Netherlands	108	1886	**17.46**	25
16	Brazil	107	459	4.29	12
17	Iran	103	256	2.49	8
18	Sweden	102	1139	11.17	18
19	Switzerland	101	1020	10.1	20
20	Greece	94	1177	12.52	19

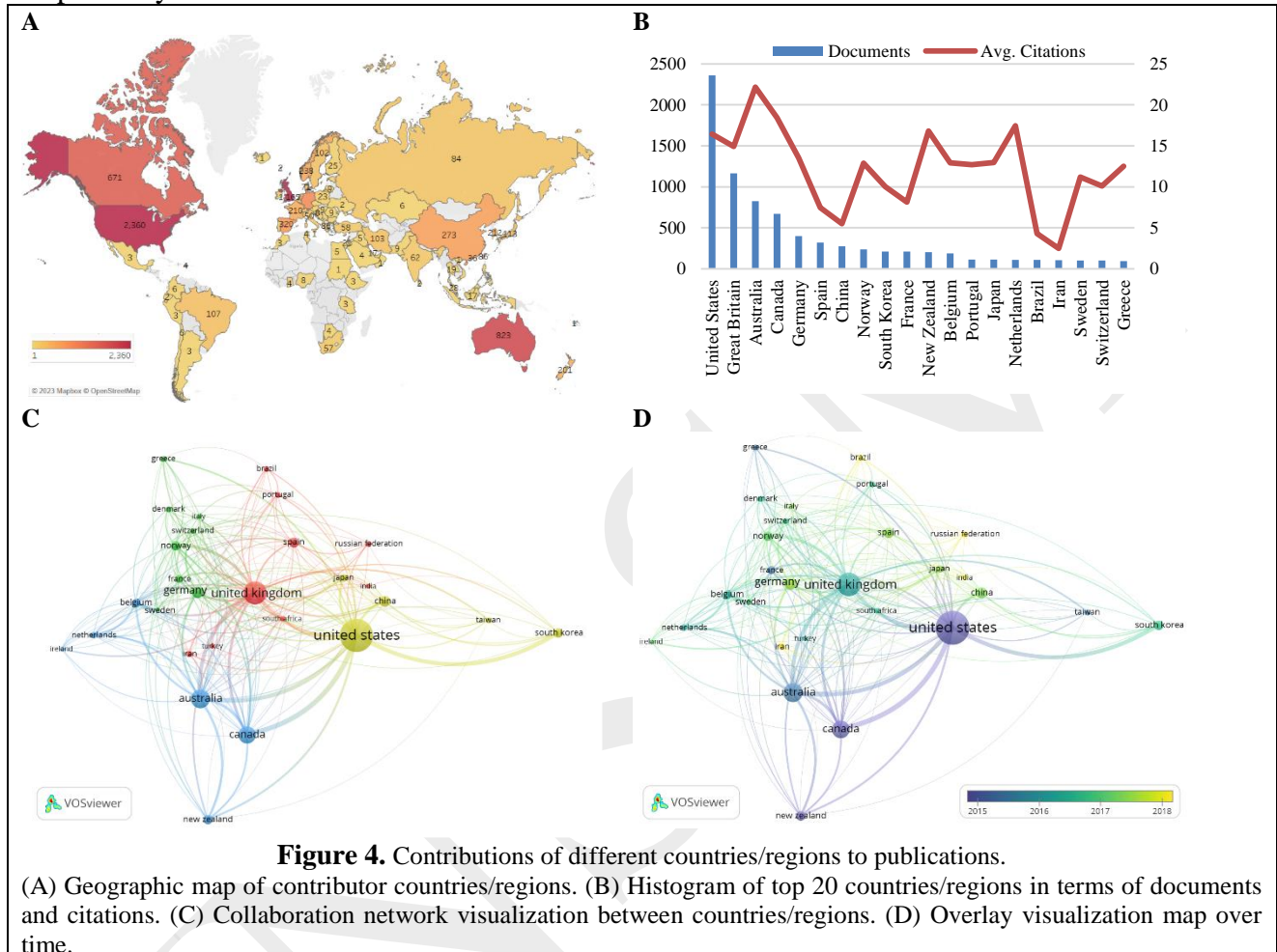Bold values were used to highlight those with noteworthy performance.

Countries/regions' Collaboration Network

The geographic map of 105 countries/regions was mapped using the Tableau Public software in Figure 4A. Figure 4B displays the highest number of documents and the average citations of the top 20 countries/regions.

Figure 4C depicts the collaboration network of 28 countries/regions with 50 or more documents in four clusters. The numbers in parentheses indicate the total link strength. The node size and font size reflect the frequency of documents by countries. The curve thickness between two countries represents the strength of collaboration between them. The shorter the distance between two nodes, the higher the number of collaborations between two countries. Cluster 1 (red) consists of nine countries/regions from Europe, Asia, and Africa: UK (618), Spain (77), South Africa (51), Portugal (46), Iran (38), Brazil (29), Russia (27), Turkey (17), and India (13). Cluster 2 (green) comprises eight European countries/regions: Germany (178), Norway (176), France (80), Switzerland (71), Greece (50), Denmark (46), Italy (38), and Sweden (28). Cluster 3 (blue) includes six countries/regions from Oceania, North America, and Europe: Australia (498), Canada (400), Belgium (163), New Zealand (134), Netherlands (103), and Ireland (36). Cluster 4 (yellow)

involves authors from the USA (772) and four East Asian countries/regions: South Korea (147), China (111), Japan (93), and Taiwan (48).

Figure 4D illustrates the temporal distribution of documents by countries/regions using gradient colors (the closer to yellow, the more recent the publication). The five countries/regions that have the longest publication history in the field of sports management are Canada, New Zealand, USA, France, and Australia, and the five countries/regions that have published the most recent documents in the field of sports management are India, Iran, Russia, Brazil, and Germany, respectively.

Figure 4. Contributions of different countries/regions to publications.
(A) Geographic map of contributor countries/regions. (B) Histogram of top 20 countries/regions in terms of documents and citations. (C) Collaboration network visualization between countries/regions. (D) Overlay visualization map over time.

Common keywords

Table 6 presents the most common keywords and their citation impact. The top 10 keywords by frequency are: sports management, sports, sports marketing, sports strategy, football, sponsors, social media, consumer behaviour, sports governance, and sports participation. The last two columns indicate the average citations and average normalized citations per document for the 20 common keywords.

Table 6. The 20 common keywords

Rank	Keywords	Co-occurrence	Avg. Citations	Avg. Norm Citations
1	Sports Management	490	8.97	0.75
2	Sports	468	13.36	1.17
3	Sports Marketing	367	10.23	0.7
4	Sports Policy	245	11.28	0.89
5	Football	199	10.52	1.36
6	Sponsorship	173	13.63	0.99
7	Social Media	124	**16.02**	**1.71**

8	Consumer Behaviour	108	13.33	1.14
9	Sports Governance	104	10.03	0.91
10	Sports Participation	101	14.69	1.22
11	Management	98	6.64	0.62
12	Olympic Games	91	13.99	1.27
13	Marketing	90	15.81	1.14
14	Gender	87	14.92	1.08
15	Policy	85	15.05	1.05
16	Team Identification	84	14.4	1.15
17	Sports Events	80	**17.25**	**1.44**
18	Sports Sponsorship	74	10.32	0.88
19	Physical Activity	73	**18.26**	**1.68**
20	Elite Sports	70	9.83	1.09

Bold values were used to highlight those with noteworthy performance.

Keywords' Co-occurrence Network

Figure 5A illustrated the visualization density map of co-occurring keywords. Of the 11,012 keywords, a total of 59 keywords with 50 or more occurrences were identified. These keywords were then mapped into 5 distinct clusters, each representing a specific topic area.

Cluster 1 (Red) focuses on the intersection of sports, politics, and development. The cluster consists of 21 keywords and is titled "Sport policy and development". The keywords within this cluster shed light on the diverse range of topics covered. They include sports participation, policy-making related to sports, the impact of sports events such as the Olympic Games, sports-for-development initiatives, and the role of stakeholders in sports. Additionally, keywords related to sustainability, education, and social capital within the context of sports are present.

Cluster 2 (green) consists of 14 keywords and focuses on "Sports marketing and consumer behavior". It emphasizes topics such as sponsorship strategies, social media utilization, and consumer behavior in relation to sports. The cluster also encompasses keywords related to branding, corporate social responsibility, and the impact of COVID-19 on sports marketing.

Cluster 3 (blue) consists of 13 keywords, and it focused on "Governance at sports management". The keywords within this cluster indicate a central focus on the organizational and managerial aspects of sports. They encompass topics such as sports governance structures, management practices in sports organizations, and leadership within sports clubs. Additionally, the cluster highlights keywords related to gender, diversity, inclusion, institutional theory, intercollegiate athletics, and women's participation, suggesting a specific emphasis on these areas within sports governance.

Cluster 4 (yellow) consists of 6 keywords, and it was named "Sports and innovation". Some important keywords are satisfaction, motivation, service quality, innovation, and sporting event. The cluster acknowledges the significance of sporting events and includes studies on event management and the strategies employed to enhance the quality and experience of such events.
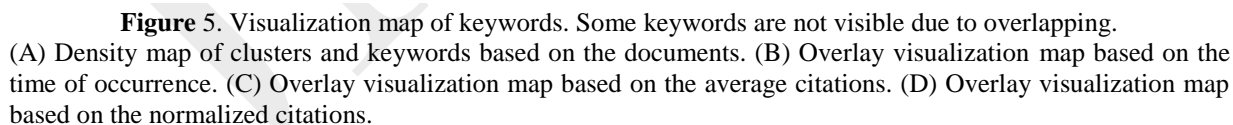
Cluster 5 (purple) consists of 5 keywords and is related to "Football researches". The research represented in this cluster explores how football is played and organized in various countries/regions, with a particular emphasis on understanding its economic and competitive aspects. It examines the dynamics of soccer leagues, including the concept of competitive balance, and specifically examines the case of China's involvement in football.

Figure 5B depicts the overlay visualization of keywords over time using gradient colors (the closer to yellow, the more recent the documents date). The oldest 10 keywords in this field are: service quality, doping, professional sports, sponsorship, sports marketing, marketing, sports, brand, social capital, and sports sponsor, respectively. The newest 10 keywords are: Covid-19, acceptance

and inclusion, education, sports for development, social media, performance, sustainability, sports governance, leadership, social sports, respectively.

Figure 5C illustrates the overlay visualization of keywords over citations using gradient colors (the closer to yellow, the higher the average citations per documents). The most average citations 10 keywords are: participation, sport-for-development, service quality, social capital, satisfaction, sporting event, performance, legacy, physical activity, and sport club.

Figure 5D displays the overlay visualization of keywords over normalized citations using gradient colors (the closer to yellow, the higher the normalized citations per documents). The 10 keywords with the highest normalized citations in the field of sports management are: covid-19, performance, sport-for-development, social media, fans, satisfaction, participation, institutional theory, physical activity, sports fans.

Figure 5. Visualization map of keywords. Some keywords are not visible due to overlapping.
(A) Density map of clusters and keywords based on the documents. (B) Overlay visualization map based on the time of occurrence. (C) Overlay visualization map based on the average citations. (D) Overlay visualization map based on the normalized citations.

Discussion and Conclusion

In the early 21st century, driven by the management needs of sports organizations (clubs, federations, event organizers), researchers increased their focus on sports management (Lis & Tomanek, 2020). But as mentioned, there is a lack of a comprehensive review of research trends and policies in this field. Therefore, this study applied a bibliometric and visualization approach using VOSviewer to map the evolution and trends of sports management in the Scopus database from 1975 to 2022. Our aim was to provide a comprehensive overview of the development and evolution of the field of sports management, including its collaboration network and co-occurrence network. Our findings revealed that sports management is a dynamic and diverse field that engages with various stakeholders and issues in the sports industry.

The findings indicate that a large proportion of sports management documents are research articles, but review articles and books have higher average citation counts per document than research articles. This combination of the number and citation of different types of documents is common in most disciplines. Gholampour et al. (2019) also reported similar results in the bibliometrics of Sport management review journal using the data from the Web of Science database. Review articles and books typically summarize the existing knowledge on a topic, appeal to a wider audience and cover a broader scope, and add value by synthesizing, analyzing and evaluating the literature, identifying research gaps and directions, and offering new perspectives or frameworks (Miranda & Garcia-Carpintero, 2018).

The growth trend of sports management documents from 1975 to 2022 indicates that the publications in this field have increased steadily in the Scopus database, with a 95% increase rate in document volume. Similar studies by dos Santos et al. (2023) and Hammerschmidt et al. (2024), which used the Web of Science, also reported an increase in documents, but not as significant as in the present study. This may be due to the different scopes of the Scopus and Web of Science. The Scopus covers a wider range of journals than Web of Science, which leads to more journals being indexed in the database in recent years and consequently more documents being published in a field. Furthermore, the increase in interdisciplinary studies and the tendency of other journals to publish documents that are interdisciplinary in nature in this field are other factors that contribute to the substantial increase in publications in this field.

The findings show the dominance of American authors and institutions in the field of sports management, which is consistent with Hammerschmidt et al. (2024). The prolific authors identified in this study have a high overlap with the results of dos Santos et al. (2023), which used the data from the Web of Science, especially in the top ranks. Authors from the USA, Australia, Canada, UK and Germany played the most important role in forming collaboration network of sports management authors clusters. The many collaborations of authors within and between the six clusters show the cohesion of the authors' collaboration network. Also, the analysis of the nationality of the authors reports a high level of international collaboration in the field of sports management.

The findings reveal the prominent role and contribution of institutions, especially from the USA (cluster 1 and 3), Canada (cluster 4 and 5), the UK (cluster 2), and Australia (cluster 6), in the field of sports management. Institutions are influenced by the geographical and cultural proximity of their collaborators, as they tend to form clusters with institutions from the same or similar regions. The development and innovation of these institutions are illustrated, as they include both old and new actors and producers of documents in the field of sports management.

The USA's dominance and influence in sports management are showed, as well as the significant contributions of other countries/regions, such as the UK, Australia, Canada and Germany. The results also reflect the diversity and complexity of sports management, as it encompasses authors from various continents, regions and cultures, who form and participate in different clusters. The results imply that sports management is influenced by the historical and contextual factors of different countries/regions, such as their sport traditions, policies, events and markets. The results reveal the growth and evolution of sports management, as it draws new actors and producers from emerging countries/regions, such as India, Iran, Russia and Brazil.

Other findings of the present study were Identifying key research trends and Evaluating research impact (Fig.5). Findings identifies the most frequent, hot and emerging topics in this field based on the keywords and citations of the papers.

Cluster 1, which contains the most articles, is the field of "Sport policy and development". Sport has become increasingly recognized as a powerful tool for development, contributing to social, economic, and personal development in various communities and countries. On the other hands sports development is the promotion of sporting opportunities throughout a community or region. This cluster delves into various aspects, including sports policy, sport for development, sport events, sports participation, Olympic Games, policy implementation, sport tourism and sustainability. According to bibliometric studies that have been conducted on documents published in sports management journals (Ciomaga, 2013; Escher, 2020; Pitts & Pedersen, 2005; Shilbury, 2011), sport and development is one of the hot and practical areas of sports management research.

Escher (2020) conducted a study and pointed out its importance in past and future research. By analyzing this cluster, researchers can work towards creating policies and initiatives that maximize the positive impacts of sports on individuals, communities, and society as a whole.

Cluster 2 focuses on "Sports marketing". Sports marketing have a strong and mutually beneficial relationship, as sports provide an ideal platform for marketing strategies to engage fans, build brand awareness, and drive business objectives. Sport marketing research is a field that focuses on studying and analyzing various aspects of sports and their marketing strategies. Within this cluster, the dynamic relationship between sports marketing strategies and consumer behavior is examined. This cluster sheds light on various aspects such as sports marketing, sponsorship, consumer behavior, social media, team identification, corporate social responsibility, and branding. The topics of sports events, sports marketing, and customer behavior have received the attention of the scientific community (Zelenkov & Solntsev, 2023). In this context, studies show the goals of the sports marketing field are to market sports products and services to the customer and to apply new marketing techniques, which can be shown as the reasons for both the changes in customer needs and the changes in the field of science. Many psychological, sociological, and cultural elements play a role in how consumers engage with the market. Considering keywords of this cluster is crucial for sports organizations and brands seeking to optimize their marketing efforts and cultivate strong connections with their target audiences.

Cluster 3 revolves around the topic of "Governance at sports management". Sports governance refers to the structures, policies, processes, and practices that govern and regulate sports organizations, including sport's governing bodies, leagues, clubs, and associations. Effective sports governance is essential for ensuring integrity, transparency, fairness, and accountability within the sports industry. Governance in sport has become a central concern to sport management academics and practitioners in recent years (Dowling et al., 2018). This cluster explores various aspects related to sports governance, management, leadership, gender, diversity, and inclusion with a specific focus on sport clubs, sport organizations, and intercollegiate athletics. Several sources agree that governance in sports is a system of rules, processes, and practices that guide the decisions and actions of a sports organization. It affects the performance, accountability and reputation of the organization and its stakeholders. Gammelsæter (2021) states that if institutions have good governance and attribute what is valuable, good, right and reasonable, why is sport often associated with doping, tax evasion, corruption, match-fixing, harassment, sexual abuse and do you face smuggling? By considering keywords such as sports governance, management, gender, sport club, and intercollegiate athletics, researchers and practitioners can gain insights into effective governance practices, leadership strategies, and the importance of promoting diversity and inclusion in sports organizations. Understanding these dynamics is essential for creating sustainable, inclusive, and well-governed sports environments that support the growth, development, and success of athletes, teams, and the broader sports community.

Cluster 4 titled "Sports and innovation" emphasizes on new aspects in sports. Sports and innovation go hand in hand, as the sports industry constantly evolves and embraces new technologies, advancements, and ideas. Innovation in sports encompasses a wide range of areas, revolutionizing the way we play, watch, and engage with sports. Advances in technologies continue to radically change the way sports are consumed (Szymanski et al., 2021). This cluster explores the intersection of sports management, customer satisfaction, service quality, motivation, sporting events, and innovation within the sports industry. The study of sport innovation has become an important area of business research, leading to an increasing number of publications on the subject in academic journals. Despite the growing interest in research on sport innovation, its background still faces a diverse set of fragmented perspectives. These keywords can gain insights into effective management practices, customer-centric approaches, and the role of innovation in enhancing sports services. Understanding these dynamics is essential for sports organizations to deliver exceptional experiences, foster customer loyalty, and stay ahead in an ever-evolving sports industry. Sports organizations, technology companies, and research institutions are continually pushing the boundaries of innovation in sports. Collaborations, partnerships, and investment in research and development are driving the creation of cutting-edge solutions, promoting performance, safety, and fan engagement.

Cluster 5, titled "Football researches", examines the economic aspects of football. The sports economy is a significant sector within the overall economy, and football is a major contributor to the sports economy globally. Therefore, a significant set of literature exists, aiming to elucidate the origins and significance of the relationship between football and the economy (Aygün et al., 2023). Football generates substantial economic activity, impacts various industries, and has a significant influence on employment, revenue generation, and tourism. Cockayne et al. (2022) stated that football is seen as a strategy to promote sports as an "educational tool and as a mechanism for social transformation". This has been able to establish a sustainable economy for football. The keywords football, soccer, China, competitive balance, and sports economics provide insights into the economic principles, challenges, and opportunities within the football industry. Analysing these keywords helps stakeholders lsuccess and competitiveness of football on a global scale. Overall, football research is important instrumental for to achieve economic and social goals.

By comparing old and new keywords, valuable insights into evolving trends and emphases within sports management can be gained. While the interest in organizational performance, marketing strategies, brand management, and social aspects of sports has experienced a decline in recent years, there has been a notable surge in research attention towards other areas, including the global pandemic, social and environmental sustainability, inclusivity, technology, and governance. This expansion encompasses areas such as social responsibility, community development, digital media, and leadership. The comparison of old and new keywords showcases a shift towards recognizing social, economic, and environmental dimensions in the discipline.

Highly cited keywords reflect the integration of commercial, managerial, and social perspectives, while normalized citations highlight the dynamic nature of the field. It signifies a dynamic and evolving field that responds to contemporary trends and societal needs, while also exploring traditional aspects of sports performance and participation. These hot topics encompass critical areas of research, theory, and practice that significantly contribute to the advancement of sports management. Looking ahead, these topics are expected to continue shaping the field's development and play a pivotal role in scholarly discourse.

Sports management research has seen an incredible growth over the past few decades, and it continues to evolve as the field expands and new challenges arise. Research management and past research evaluation serve as valuable guides for future research in this domain. In this comprehensive bibliometric study of sports management publications indexed in Scopus from 1975 to 2022, various insights and trends within the field have been uncovered. The research highlights the growth of sports management research in recent years, driven by the inclusion of more journals, interdisciplinary studies, and emerging topics. Collaborations among authors, institutions, and countries/regions indicate a rich and diverse network within the field. Though the USA remains a prominent contributor, the presence of authors and institutions from other countries/regions signifies a global interest in sports management. Keyword co-occurrence analysis reveals five main clusters representing different themes in sports management, covering areas such as sports policy, marketing, governance, service quality, innovation, and football economics. These clusters provide valuable insights into the multidimensional nature of sports management. Sports management researches shifts towards recognizing social, economic, and environmental dimensions in the discipline. The core areas of Sports management research reflect the integration of commercial, managerial, and social perspectives.

The study offers significant insights into key players, collaboration patterns, thematic areas, and trends in sports management. These findings are valuable for researchers, scholars, students, universities, managers, and decision-makers in the field. Stakeholders can leverage this information to identify prominent authors, institutions, and countries for collaboration, establish research directions, and foster international partnerships. Furthermore, they can deepen their understanding of the field's research process and concentrate on emerging areas. The study's findings can also be applied to implement effective management solutions and strategies, leading to advancements in research, comprehensive educational content, and informed decision-making in sports management. Based on the research findings presented, the following recommendations are proposed for future research in the field of sports management: Firstly, examine the impact of the global COVID-19

pandemic on various aspects of sports management, including its implications on organizational performance, marketing strategies, brand management, and the sports industry's response to the resulting social and health-related challenges. Secondly, investigate issues related to social, economic, and environmental sustainability for sport development, such as the social responsibility of sports organizations, community development, the use of digital media, and the challenges related to governance and leadership in this domain. These topics indicate an increasing focus on dimensions beyond sports performance and athlete participation. Exploring these areas can help researchers understand the evolving and progressive aspects of the sports management field.

Ethical Considerations

Compliance with ethical guidelines: Ethical points have been observed.

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Conflict of interest: There is no conflict of interest.

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