



BIBLIOMETRIC INSIGHTS INTO FOOTBALL RESEARCH IN ASIA: GROWTH, COLLABORATION, AND INSTITUTIONAL CONTRIBUTIONS

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Abstract:

The research Article presents a Scientometric analysis of research output in Asian countries in the field of Football during the period of 1990 to 2020 as reflected in web of science Database. Collected data for a total of 4091 have been published in Asian countries in the football and it's analyzed according to objectives. The research paper reveal that the year Wise growth of literature in terms of year wise growth in the number of publications,, top 10 country wise research output in terms of total paper., the individual contribution of the top ten authors, The popularity of document wise distribution, The top ten Asian Institution with the maximum number of publications, The top 10 journal wise distribution in terms of publications, the top ten word wise distribution in the publications.

Key Words: Scientometrics Analysis, Football and Soccer, Asian Countries

1. Introduction:

This research aims to study and scrutinize the web of science database on publications in Asian countries regarding football concerning the yearly growth in the number of publications, country wise distribution, the Ranking of Individual Authors, considerate the degree of Individual Contributions by Asian Institution, journal wise distribution, word wise distribution understanding the rate of reappearance of keywords.

Sports research has witnessed a remarkable transformation over the past few decades, reflecting the growing intersection between science, technology, and athletic performance. Among various sports, football has emerged as one of the most globally popular and scientifically studied disciplines, attracting scholars from diverse academic and cultural backgrounds. In the Asian context, football has evolved not only as a competitive sport but also as a medium for social integration, economic development, and international collaboration.

Scientometric analysis, a quantitative method of evaluating scientific publications, provides valuable insights into the trends, productivity, and impact of research within a specific field. By examining publication data, citation patterns, authorship, institutional contributions, and journal performance, scientometric studies help identify emerging research fronts and leading contributors.

This study focuses on the scientometric analysis of football-related research published in Asian countries from 1990 to 2020, as indexed in the Web of Science database. A total of 4,091 records were retrieved and analyzed to understand the year-wise growth of literature, top-performing countries, prolific authors, document types, institutional and journal productivity, and keyword distribution. The findings aim to highlight the intellectual landscape of football research in Asia, providing a benchmark for future studies, policy planning, and collaborative initiatives in the field of sports science and management.

2. The Main Objectives for this Analysis:

- To study and analyze year wise research output in terms of total paper.
- To study the top 10 country wise research output in terms of total paper.
- To find out the individual contribution of the top ten authors.
- To analysed the popularity of document wise distribution.
- To find out the top ten Asian Institution with the maximum number of publications.
- To study and analyze the top 10 journal wise distribution in terms of publications
- To Study the top ten word wise distribution in the publications.

3. Methodology:

Data Source:

The data for the present study were retrieved from the Web of Science (WoS) Core Collection, an internationally recognized database known for indexing high-quality scholarly literature. The search was confined to research publications related to football published between 1990 and 2020 in Asian countries.

Search Strategy:

A comprehensive search query was designed using relevant keywords such as "Football", "Soccer", and "Sports Science", combined with country filters to include publications from Asian nations. The following search string was used in the Topic field (Title, Abstract, and Keywords):

TS = (Football OR Soccer) AND CU = (Asian countries)

The time span was set from 1990 to 2020, and the document types included articles, reviews, conference papers, and book chapters. After screening and refinement, a total of 4,091 records were considered for analysis.

Data Extraction and Cleaning:

The bibliographic data (authors, title, source, publication year, document type, keywords, institution, and citations) were exported in plain text format (.txt) from WoS. Duplicates and irrelevant records were removed manually to ensure data accuracy.

Analytical Tools and Techniques:

The data were analyzed using a combination of bibliometric and scientometric indicators. Descriptive statistics and frequency distributions were computed using Microsoft Excel, while visualization and network analyses (such as co-authorship, keyword co-occurrence, and institutional collaboration) were performed using VOS viewer and Biblioshiny (R-package).

The following indicators were employed:

- Year-wise growth of publications
- Top 10 productive countries
- Leading authors and their contributions
- Document type distribution
- Top 10 journals and institutions
- Keyword and subject area mapping

Scope and Limitations:

The study covers only documents indexed in the Web of Science database and limited to football research within Asian countries. Publications from other databases (e.g., Scopus, PubMed, or Google Scholar) were excluded to maintain consistency in data quality and indexing standards

5. Results and Discussions:

5.1 Year Wise Growth in Publications:

Table 1 show that the top 31 years and start with the first time of publications. This study analyses the publications published for a time frame of 31 years starting from 1990 to 2020. This duration resulted in the publication of 4091 publications. This analysis showed that the most number of publications were published in the year 2020 with 573 (14.01%) and followed by 2019 with 386 (9.44) and in 2018 with 385 (9.41), 2017 with 310 (7.58), 2016 with 323 (7.90%) and least year 1990 only one publications being published. (Table 1 and Figure 1 show 31 years publications).

Table 1

S.No	Publication Year	Recs	Percentage	Cumulative	Cum %
1	1990	1	0.02	1	0.02
2	1991	6	0.15	7	0.17
3	1992	3	0.07	10	0.24
4	1993	13	0.32	23	0.56
5	1994	7	0.17	30	0.73
6	1995	12	0.29	42	1.03
7	1996	14	0.34	56	1.37
8	1997	19	0.46	75	1.83
9	1998	21	0.51	96	2.35
10	1999	32	0.78	128	3.13
11	2000	56	1.37	184	4.50
12	2001	29	0.71	213	5.21
13	2002	18	0.44	231	5.65
14	2003	55	1.34	286	6.99
15	2004	99	2.42	385	9.41
16	2005	78	1.91	463	11.32
17	2006	82	2.00	545	13.32
18	2007	85	2.08	630	15.40
19	2008	113	2.76	743	18.16
20	2009	144	3.52	887	21.68
21	2010	135	3.30	1022	24.98
22	2011	172	4.20	1194	29.19
23	2012	210	5.13	1404	34.32
24	2013	220	5.38	1624	39.70
25	2014	220	5.38	1844	45.07
26	2015	270	6.60	2114	51.67
27	2016	323	7.90	2437	59.57
28	2017	310	7.58	2747	67.15
29	2018	385	9.41	3132	76.56
30	2019	386	9.44	3518	85.99
31	2020	573	14.01	4091	100.00
	Total	4091	100		

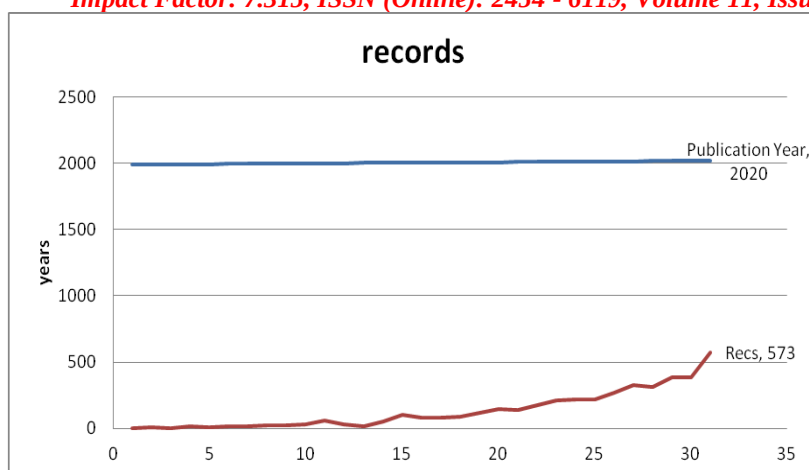


Figure 1

5.2 Top 10 Asian Countries With Publications:

Table 2 shows that the top 10 countries publications. This study analyses the country wise publications published for a time frame of 31 years starting from 1990 to 2020. This duration resulted in the publication of 4091 publications. This analysis showed that the most number of publications were published in the country Japan with 611 (14.9%) and followed by China with 603 (14.7) and in Qatar with 418 (10.2), Turkey with 393 (9.6), and in 10 position India with 76(1.9) publications being published. (Table 2 and Figure 2 show top 10 countries wise publications).

Table 2

S.No	Countries	Records	% of Records
1	Japan	611	14.9
2	China	603	14.7
3	Qatar	418	10.2
4	Turkey	393	9.6
5	South Korea	204	5.0
6	Iran	177	4.3
7	Israel	173	4.2
8	Singapore	132	3.2
9	Taiwan	106	2.6
10	India	76	1.9

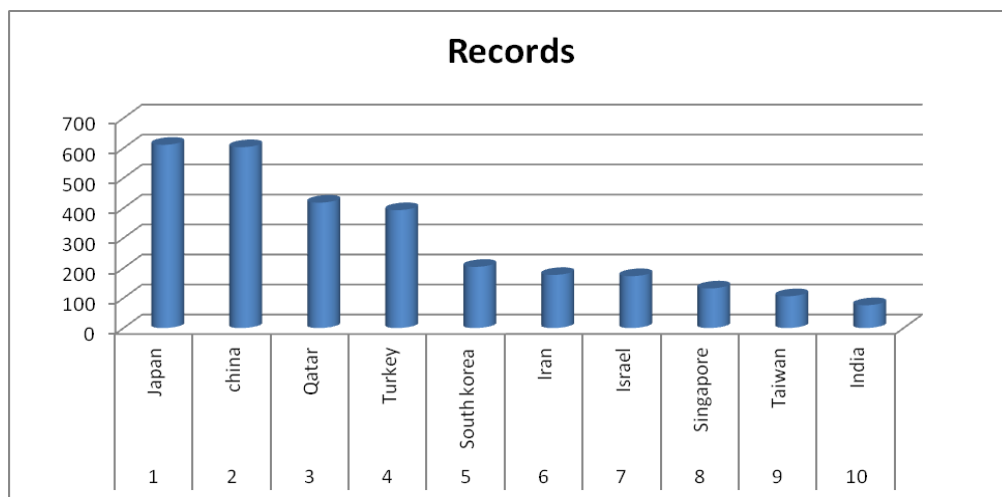


Figure 2

5.3 Ranking of Individual Authors:

Table 3 shows the top ten authors who have contributed the most publications. Totally 160 are responsible for the papers published in the field of football in Asian countries, with Chamari. K. making the highest number of contributions with 105 (2.6%) followed by Mendez-Villanueva A with 63 (1.5%), Buchheit. M with 61 (1.5%), Tol J. L with 48(1.2) publications. (Table 3 and Figure 3 show the Ranking of Individual Authors).

Table 3

S.No	Author	Recs	%
1	Chamari K	105	2.6
2	Mendez-Villanueva A	63	1.5
3	Buchheit M	61	1.5
4	Tol JL	48	1.2
5	Whiteley R	47	1.1

6	Weir A	43	1.1
7	Bahr R	42	1.0
8	Wong DP	42	1.0
9	Asada M	41	1.0
10	Chaouachi A	41	1.0

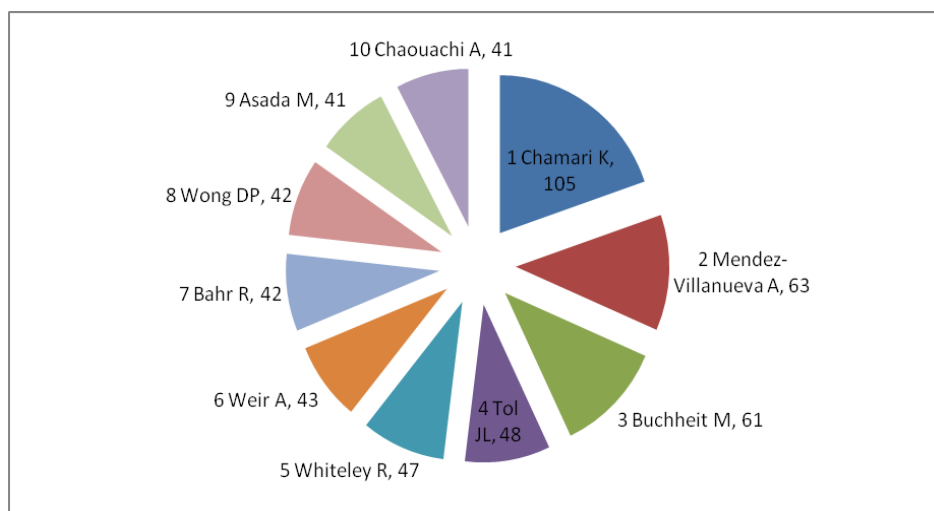


Figure 3

5.4 Document Wise Distribution:

Table 3 shows the different document types published in Asian countries on the topic of football or soccer. The investigation points out that the most number of documents are of the type article total to 2566 (62.72%) publications with unknown occupying the second position with 1000 (24.44%) publications. Book the least number of documents with 3 (0.07%) publications. (Table 4 and Figure 4 show that Document Wise Distribution)

Table 4

S.No	Document Type	Records	% Records
1	Article	2566	62.72
2	Unknown	1000	24.44
3	Article; Proceedings Paper	186	4.55
4	Review	153	3.74
5	Meeting Abstract	88	2.15
6	Editorial Material	42	1.03
7	Article; Early Access	23	0.56
8	Letter	17	0.42
9	Correction	6	0.15
10	Review; Book Chapter	3	0.07

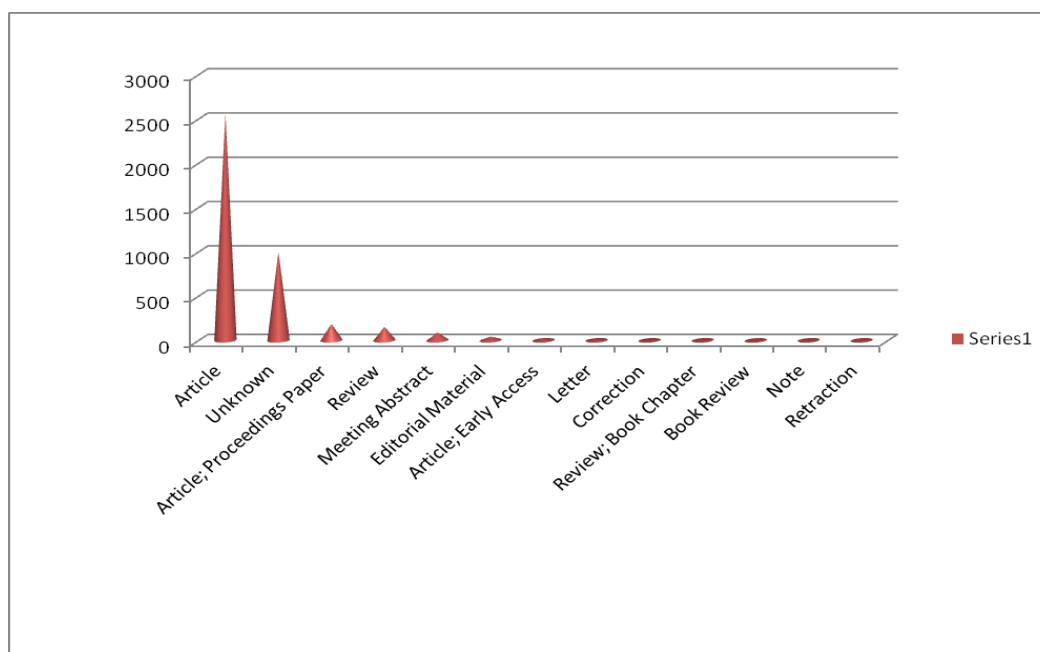


Figure 4

5.5 Individual Contributions by Asian Institution:

Institutions in the Asian level have contributed publications on the term of football or soccer. Table 4 shows the top 10 institutions with the highest number of contributions. The unknown Institute has made the maximum number of publications at 1000 (24.44%) publications, followed by Aspetar Orthopaed & Sports Med Hosp with 104 (2.54%) publications. Qatar Orthopaed & Sports Med Hosp is the 3rd Position with 62 (1.52%) publications. Nanyang Technol Univ in 4th position with 60 (1.47) publications, and in the 10 position Hacettepe University with 43 (1.05). Table 5 and figure 5 are as follows,

Table 5

S.No	Institutions	Records	% of Records
1	Aspetar Orthopaed & Sports Med Hosp	104	2.54
2	Qatar Orthopaed & Sports Med Hosp	62	1.52
3	Nanyang Technol University	60	1.47
4	University Tsukuba	58	1.42
5	Waseda University	54	1.32
6	Osaka University	52	1.27
7	University Hong Kong	49	1.20
8	Tel Aviv University	48	1.17
9	Hacettepe University	43	1.05
10	Shanghai University Sport	39	1.00

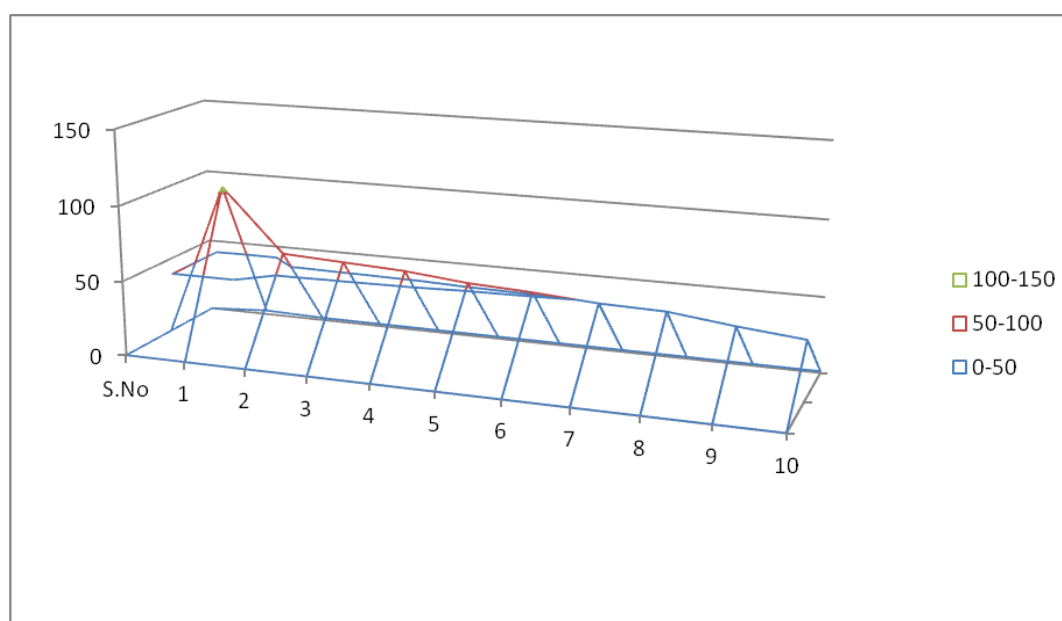


Figure 5

5.6 Journal Wise Distributions of Asian Countries:

Table 6 shows the top 10 journals with the highest number of contributions. The British journal of sports medicine has made the maximum number of publications at 146 (3.6%) publications, followed by Journal of strength and conditioning research with 135 (3.3%) publications. Journal of sports sciences is the 3rd position with 111 (2.7%) publications. Journal of sports medicine and Physical fitness 4th position with 81 (2.0) publications, and in the 10 position International journal of sports physiology and performance with 50 (1.2). Table 4 and figure 4 are as follows,

Table 6

S.No	Journal	Records	%
1	British Journal of Sports Medicine	146	3.6
2	Journal of Strength and Conditioning Research	135	3.3
3	Journal of Sports Sciences	111	2.7
4	Journal of Sports Medicine and Physical Fitness	81	2.0
5	Medicine and Science in Sports and Exercise	78	1.9
6	International Journal of Sports Medicine	63	1.5
7	Journal of Human Kinetics	56	1.4
8	Plos One	55	1.3
9	American Journal of Sports Medicine	51	1.2
10	International Journal of Sports Physiology and Performance	50	1.2



Figure 6

5.7. Word wise distribution of Asian countries

Table 7 shows the top 10 words with the highest number of contributions. The word Soccer has made the maximum number of words at 1257 (30.7%) publications, followed by the word Players 925 (22.6%) publications, the word Football in 3rd position with 677 (16.5%) publications. The word Performance 4th position with 346 (8.5%) publications, and followed by in the 10 position the word Analysis with 232 (5.7%). Table 7 and figure 7 are as follows,

Table 7

S.No	Word	Records	% of Records
1	Soccer	1257	30.7
2	Players	925	22.6
3	Football	677	16.5
4	Performance	346	8.5
5	Training	300	7.3
6	Effects	294	7.2
7	Based	270	6.6
8	Professional	263	6.4
9	Athletes	261	6.5
10	Analysis	232	5.7

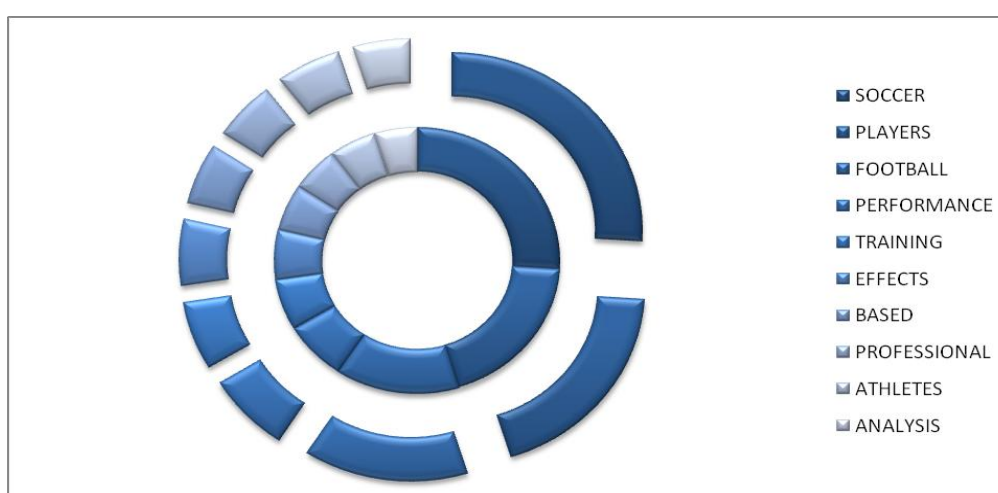


Figure 7

6. Conclusion:

The present scientometric analysis provides a comprehensive overview of football-related research in Asian countries during the period 1990-2020 as reflected in the Web of Science database. A total of 4,091 publications were analyzed to identify trends, patterns, and key contributors shaping the scholarly landscape of football studies in Asia. The findings reveal a steady growth in research productivity, particularly after 2005, indicating the increasing academic and institutional interest in football as a multidisciplinary research area encompassing sports science, medicine, management, and social studies.

Among Asian nations, a few countries have shown significant dominance in publication output and international collaboration, demonstrating their leadership in football research. Similarly, the identification of prolific authors, top institutions,

and high-impact journals highlights the growing visibility and influence of Asian scholarship in the global sports research network. The analysis of document types and keyword trends further suggests a diversification of research themes, with emerging focus areas such as performance analytics, injury prevention, psychology, and football management.

Overall, the study contributes to understanding the intellectual structure and developmental trajectory of football research in Asia. It also underscores the importance of promoting regional collaboration, improving research infrastructure, and encouraging interdisciplinary approaches to strengthen Asia's position in the global sports science domain. Future studies may integrate other databases such as Scopus or Dimensions to offer a more holistic bibliometric picture and examine the post-2020 research dynamics influenced by technological advancements and policy shifts.

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