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Research Publication Trends in Library Management Journal: A Bibliometric Analysis (2013-2020)

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Abstract

The purpose of the study was to explore the research trends of the documents, authors, countries' share, and impacts created by studies in form of citation in a scholarly journal titled Library Management from 2013 to 2020. To meet the purpose, bibliometric analysis of 369 documents published in the Library Management was done. The findings indicate that most of the documents published in the Library Management were articles. The overall average citation per document is 3.70. The journal has been publishing 47 documents per year. Authorship patterns indicate that there were 158 documents published in the Library Management written by solo authors. The average per article author number is just below two that is 1.74 average authors per paper. Additionally, the study indicated that Library Management published the quality research from across the globe, and on diverse aspect related to the library and information management. There is no study conducted which investigated the above-mentioned aspects of Library Management during the year 2013 to 2020. Therefore, this study evaluates the research publication trends of this important journal which is put in X category (2nd best category) by Higher Education Commission of Pakistan.

Keywords: Bibliometric analysis, Library Management, Research Trends, Publication Trends,

Introduction

The use of statistics in research appeared long ago in history. However, the use of statistics in the form of literature analysis appeared first time in a paper by Cole and Nellie (1917). Their paper titled as "Statistical analysis of literature of history of comparative anatomy" served as a model for applying the counting technique in the evaluation of international activities. However, the literature review conducted for the study indicated that the term bibliometrics was coined by Pritchard (1969). Its originator defined it as application of mathematical and statistical techniques for the evaluation of books, journal, and other means of communication. Comprehensively defining, "bibliometrics is the use of mathematical and statistical methods to study and identify patterns in the usage of materials and services within a library, or to analyze the historical development of specific body of literature, especially its authorship, publication and use" ("Online dictionary for library and information science," 2021). This method comprises set of principles and laws, and it is helpful in establishing the theoretical foundation and implications (Guedes & Borschiver, 2005). The theoretical foundations/ implications range from measuring the impacts created by the literature to furnishing suggestions for research related improvements (Ellegaard & Wallin, 2015; López-Muñoz, Alamo, Quintero-Gutiérrez, & García-García, 2008). Overall, the bibliometrics studies meet three types of investigative purposes - quantity measurement, quality measurements, and performance measurements (Awan, Ameen, & Soroya, 2021).

The literature review being done for the study indicated that previously researchers performed quantity, quality, and performance metrics on the Scopus based data. The researchers conducted bibliometric studies on the literature published either related to some phenomena (Li & Eichmann-Kalwara, 2019; Maia et al., 2019; Pham-Duc, Nguyen, Le Minh, Khanh, & Trung, 2020); production of the university organizations (Akanmu & Boshoff, 2017; Maharana, 2013); production

of countries (Cooper, Aharony, & Bar-Ilan, 2021; Sahu & Parabhoi, 2020; SeyyedHosseini & BasirianJahromi, 2021); or journals (Donthu, Kumar, Pandey, & Gupta, 2021; Haq & Al Fouzan, 2019; Mokhtari, Barkhan, Haseli, & Saberi, 2021; Sahu & Parabhoi, 2020; Warraich & Ahmad, 2011). However, the quantity, quality, and performance indicators of published documents in *Library Management* journal between 2013 to 2020 in a journal named as Library Management had never been investigated. Therefore, to fill this literature gap, and provide the across the world readership of the *Library Management* with a literature-based analysis, the study is designed in a comprehensive way to quantitatively measure the quantity, quality, and performance of the documents published in Library Management.

Library Management is a United Kingdom based online international journal published by Emerald Publishing. It is being merged from Librarian Career Development. The journal is of hybrid nature and provides the opportunity to publish both open access and subscription-based articles. The scope of the journal covers vast array of library related areas e.g. marketing, management, human resource management, finances, automation, performance measurement, and cultural diversities etc. It is indexed in may reputed indexing services across globe e.g. LISTAA, LISA, Scopus, and Emerging Sources Citation Index etc. (Emeraldpublishing.com). Singh and Chander (2014) reported that it is a reputed journal, and it has been publishing the documents which keep library and information management professionals aware of knowledge inventions and the developments in their field since 1979. Keeping the worth of the journal, and the research gap found (no bibliometric analysis done during 2013 to 2020) in view, following research questions related to the *Library Management* journal were devised:

RQ1: What are the frequencies of documents (types), top authors, and citations per document?

RQ2: What is the number of publications and citations per year?

RQ3: Who are the productivity and citations wise most prolific authors?

RQ4: What are the most cited articles?

RQ5: What are the year-wise authors' dynamics?

RQ6: What are the author supplied keywords/ associated research trends?

RQ7: Which countries, and how much did they publish?

RQ8: How many nodes of how many collaborations clusters did author have?

RQ9: What is the complex system of citation network which transferred knowledge from one scientist to another?

RQ10: Which countries collaborated and published the papers written in cross country collaborations?

RQ11: Which prominent authors from which countries have published focusing on which area?

Methodology

A comprehensive search query was devised to ensure the research gap. The query was put in the search bar specifying the "Library Management" as a source title in the Scopus database to identify the gap. The query put in the Scopus database to search the bibliometric papers was as follows:

bibliometric* OR Scientometric* OR "Research Productivity" OR "Research output" OR "Scientific Research output" OR "Scholarly output*" OR altimetric*

OR "Scientific collaboration" OR "Scientific output" OR informetric* OR "co-authorship Pattern*" OR "co-author pattern*" OR webometric* OR "Author Pattern*" OR "Publication output" OR "Publication Productivity" OR "Publication pattern" OR "Publications output" OR "Publications Productivity" OR "Publications pattern" OR "Authorship Pattern*" OR "Research trend*" OR "Academic output"

The search query retrieved an article. The article contained bibliometric analysis of the documents published in the Library management authored by Singh and Chander (2014). The study had analysed the documents published from 2006 to 2012. Therefore, finding a research gap, a comprehensive search query was devised to extract data from Scopus database. The details of the search conducted are as follows:

Search Strategy

The Scopus database was searched on 24-01-2021, specifying the Library Management in the "source titles". Initially 1565 results retrieved. A careful observation of the data revealed that there were some irrelevant source titles retrieved also (containing the library management in the source titles but were not our specified journal). The search was specified to our concerned journal i.e. *Library Management*. This practice reduced the documents to 1471. Based on knowledge of previously published article, which covered the analysis of the documents published in *Library Management* from 2006 to 2012, the present search was delimited from 2013 to 2020 (excluding 2021). This again reduced the number of records to 385. The query being used to conduct the search is as follows:

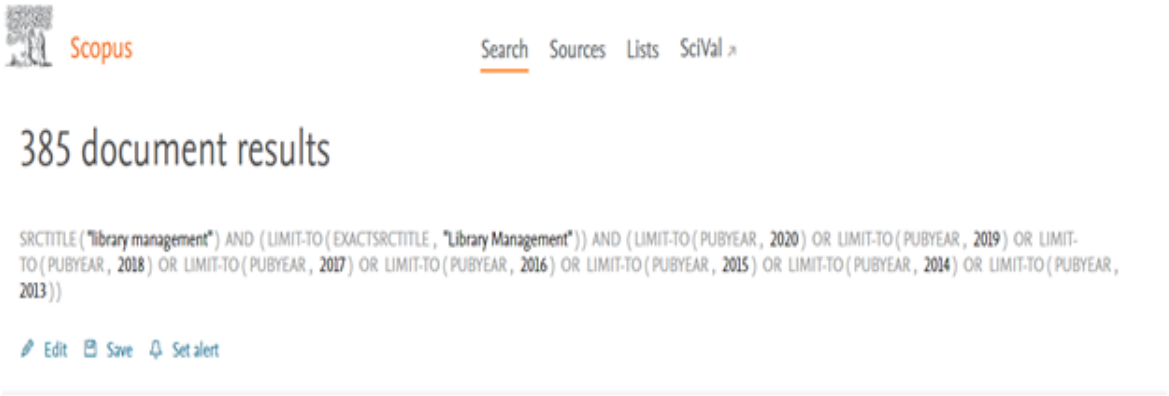

Figure 1 Search Query and Results

Data Cleaning

Among these 385 articles, there were 15 articles in press, which were yet to assign the volume and number. Excluding these 15 reduced the number to 370. These 370 documents were downloaded in the Bibtex, CSV and RIS format. The reasons behind downloading the data in these three formats was that the CSV file was used for the visual inspection to verify the total number of records downloaded. The data in RIS format were downloaded for the purpose to check the duplication in the items. The RIS format file was imported in the Endnote X9. The duplication checking was made in the built-in option of the same software. One duplicate item was found through this technique and removed. The duplicate record was then deleted from the CSV file. This CSV file was supposed to be used for the final analysis. The deletion of duplicate record further reduced the number of records to 369. The number was sufficient for the analysis because Singh and Chander (2014) previously analysed 336 records.

Data Analysis

The downloaded data were analysed using R Studio and VosViewer applications. The R Studio is very common among the researchers working on the bibliometric analysis has been widely

used e.g. (Moral-Muñoz, Herrera-Viedma, Santisteban-Espejo, & Cobo, 2020; Rai, Singh, & Varma, 2020; Shonhe, 2020); and VosViewer (Jiang & Yanbin, 2018; Kwanya, 2020; Liu, Yu, & Song, 2020; Mokhtari et al., 2021; Wang, 2018). The same two softwares were used for the analysis of the present study. The results are as follows:

Table 1

Main Information About the Data

Description	**Results**
Timespan	2013:2020
Documents	369
Average citations per documents	3.707
Average citations per year per doc	0.5851
References	10611
Document Types	
Article	339
Editorial	4
Review	26
Document Contents	
Author's Keywords (DE)	1336
Authors	
Authors	641
Author Appearances	735
Authors of single-authored documents	144
Authors of multi-authored documents	497
Authors Collaboration	
Single-authored documents	158
Documents per Author	0.576
Authors per Document	1.74
Co-Authors per Documents	1.99
Collaboration Index	2.36

Table 1 indicates the main information about the data. In total 369 documents were relevant to the study and retrieved between the time span of 2013 to 2020. These 369 documents comprised 339 articles, 4 editorials, and 25 review papers. Each paper secured average 3.70 citations; which is a

huge number. In total, authors1336 keywords were supplied by 641 authors. There were 158 documents produced in single authorship, while 497 authors were multi-authored.

The year wise production and their citations secured by the Library Management were calculated. The calculations are as follows:

Table 2

Year wise production and impact statistics

Sr. No	Year	Articles	Mean of Total Citations per Article	Mean of Total Citations per Year	Citable Years
1	2013	53	8.132	1.016	8
2	2014	38	5.105	0.729	7
3	2015	49	5.591	0.931	6
4	2016	41	3.463	0.692	5
5	2017	43	3.395	0.848	4
6	2018	49	2.306	0.768	3
7	2019	49	1.285	0.642	2
8	2020	47	0.106	0.106	1

Table 2 shows the frequency of publishing articles in Library Management in between 2013 to 2020. The number of the published articles remained 38 (minimum) during the year 2014 and 53 (maximum) in 2014. Scopus citations calculations indicate that mean for total citations per year is in quite logical sequence. The number of citations increase with the increase of citable years. The articles published in 2013 gained the most citations those are 8.13 (eight citable years), and year 2020 having .106 citations (one citable year). This overall makes .58 citations per year per document.

Table 3

Most Cited Articles

Paper	Title	Total Citations	TC per Year
Saw G, 2013,	Social media for international students – it's not all about Facebook	57	6.333
Chang CC, 2013,	Exploring the determinants of e-learning systems continuance intention in academic libraries	48	5.333
Gede Mahatma Yuda Bakti I, 2013,	An analysis of library customer loyalty: The role of service quality and customer satisfaction, a case study in Indonesia	37	4.111
Yoo-Lee Ey, 2013,	Planning library spaces and services for Millennials: an evidence-based approach	35	3.889
Kennan MA, 2014,	"Making space" in practice and education: research support services in academic libraries	25	3.125
Zhang Y, 2015,	Convergence of digital humanities and digital libraries	22	3.143
Le BP, 2015,	Academic library leadership in the digital age	21	3
Islam MA, 2015,	Knowledge management for service innovation in academic libraries: a qualitative study	21	3
Polger MA, 2013,	Who's spinning the library? Responsibilities of academic librarians who promote	20	2.222
Corcoran M, 2014,	Keeping ahead of the curve: Academic librarians and continuing professional development in Ireland	19	2.375
Choy FC, 2016,	A framework for planning academic library spaces	18	3
Billingham L, 2014,	Improving academic library website accessibility for people with disabilities	16	2
Feldmann LM, 2013,	Leadership training and development: an academic library's findings	16	1.778
Seal RA, 2015,	Library spaces in the 21st century: Meeting the challenges of user needs for information, technology, and expertise	15	2.143
O'Connor S, 2014,	Leadership for future libraries	15	1.875
Graybill JO, 2013,	Employee onboarding: identification of best practices in ACRL libraries	15	1.667
Farooq MU, 2016,	Current and required competencies of university librarians in Pakistan	14	2.333
Farida I, 2015,	A conceptual model of Open Access Institutional Repository in Indonesia academic libraries: Viewed from knowledge management perspective	14	2
Yi Z, 2013,	Australian academic librarians' perceptions of marketing services and resources	14	1.556
Mamtora J, 2013,	Transforming library research services: towards a collaborative partnership	14	1.556

Table 3 shows the top 20 cited articles. The most cited article is the oldest one, and was published in 2013. The theme of the article was related to social media usage among the foreign students. The article secured 57 citations. This makes 6.33 citations per year. The articles indicated that the scope of the top 20 papers is vast ranging from social media, e-learning, marketing, library spaces, digital libraries, knowledge management, and continuing professional developments etc.

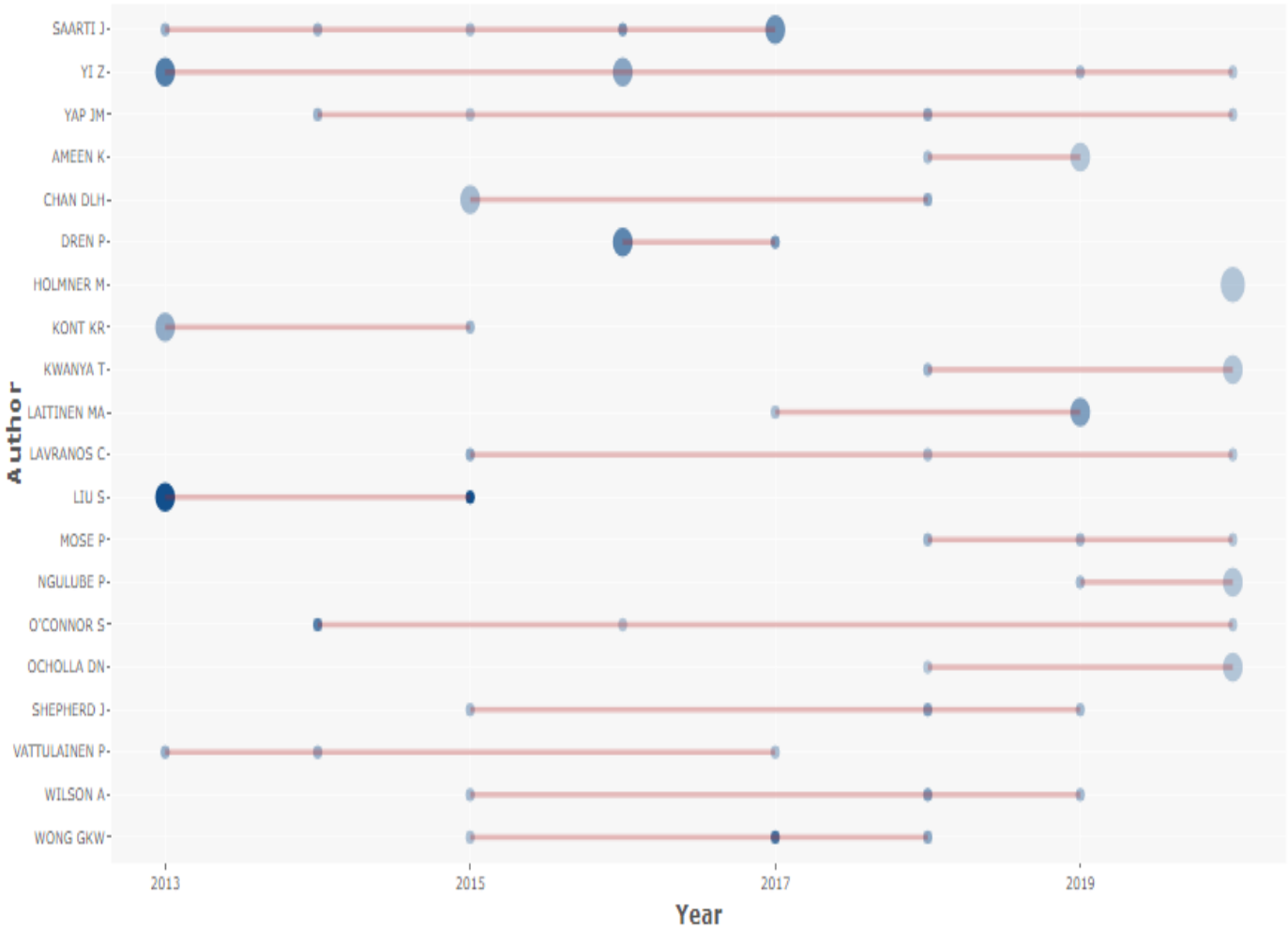

Figure 2 Top Authors Production Over Time

The Figure 2 may be interpreted in three ways. The most productive authors, most cited authors, and years they have published in. Lavranos published largest number (three papers) during from 2013 to 20; first in 2015, second in 2018, and third in 2020. The researcher has secured six

citation in total. The most cited article of the researcher was which had most citable years i.e. published in 2015. It had five citations during the five years of time.

Though not the most productive, yet most cited author was Liu. The researcher published two papers in Library Management, and he secured the largest number of citations on an article published in 2013 (N = 28). The researcher published his second article in 2015. This remained the second most cited article, and secured 22 citations during the five citable years. The same second most cited article gained the largest number of total citations per year among all the articles (N = 3.14).

Author supplied keywords work as meta data for information retrieval systems. They also indicate the research trends in the specific field and journals. In the present study, the author supplied keywords heat map indicates the research trends published in the Library Management. Following figure indicates the research trends in *Library Management*.

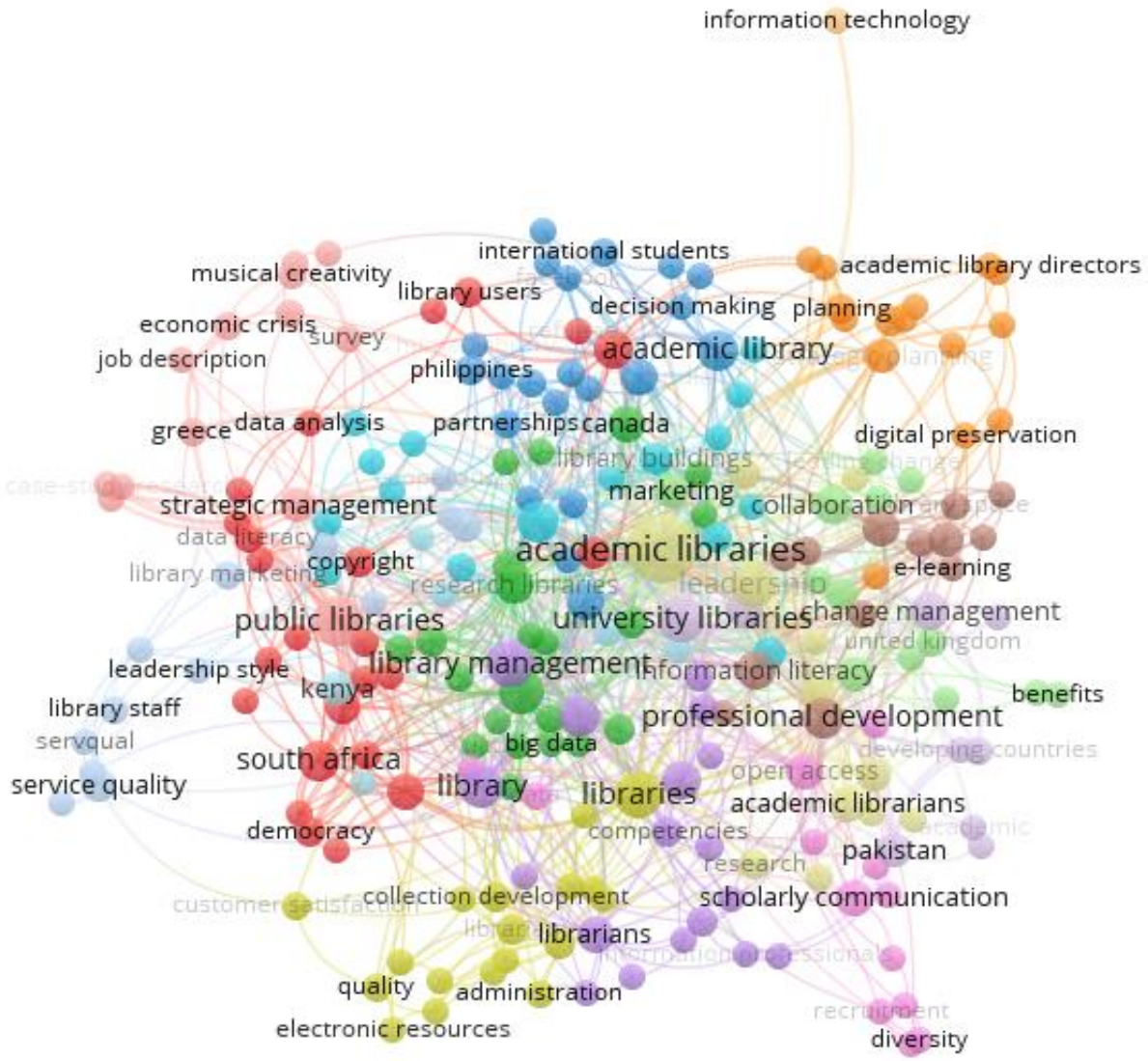

Figure 3 Author Supplied Keywords/ Associated Research Trends in the Library Management

Figure 3 shows that the journal have published highest number of papers related to academic libraries (keywords repetition 90 times); public libraries (keywords repetition 26 times); library management (keywords repetition 19 times); leadership (keywords repetition 16 times); library services (keywords repetition 12 times); and professional development (keywords repetition 15 times). The scope of the journal is vast and it includes in it the papers related to an array of library and information management related fields.

Countries' research productivity published in the Library Management was also investigated, which is as follows:

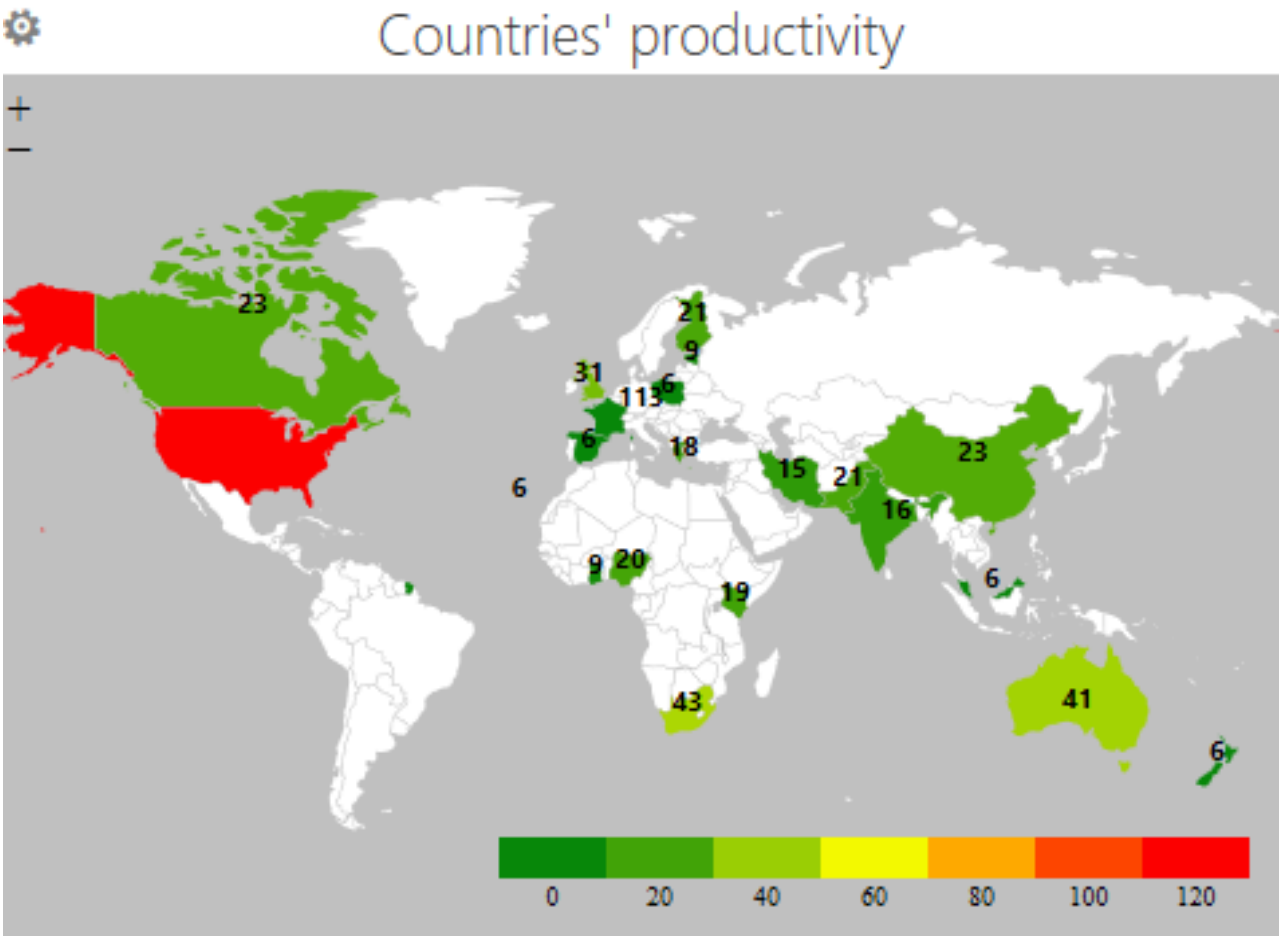

Figure 4 Countries Productivity

Figure 4 indicates that the Library Management published the documents produced in all the continents. The USA rules the productivity and 113 documents have been published in the *Library Management* originated in it. However, this is noteworthy the second largest number of papers published in the *Library Management* originated in the South Africa. In the rest of the world, Australia produced 41 documents in the *Library Management*, United Kingdom 31, Canada 23, Finland 21,

Pakistan 21, Nigeria 20, Kenya 19, Greece 18, India 16, Iran 15, Estonai 9, Ghana 9, France 6, Malaysia 6, New Zealand 6, Poland 6, and Spain 6.

Co-citations networks are investigation of the frequencies in which documents cited by other researchers in other documents (Small, 1973). The co-citation network graph was generated keeping the number of nodes to 50. The results are as follows:

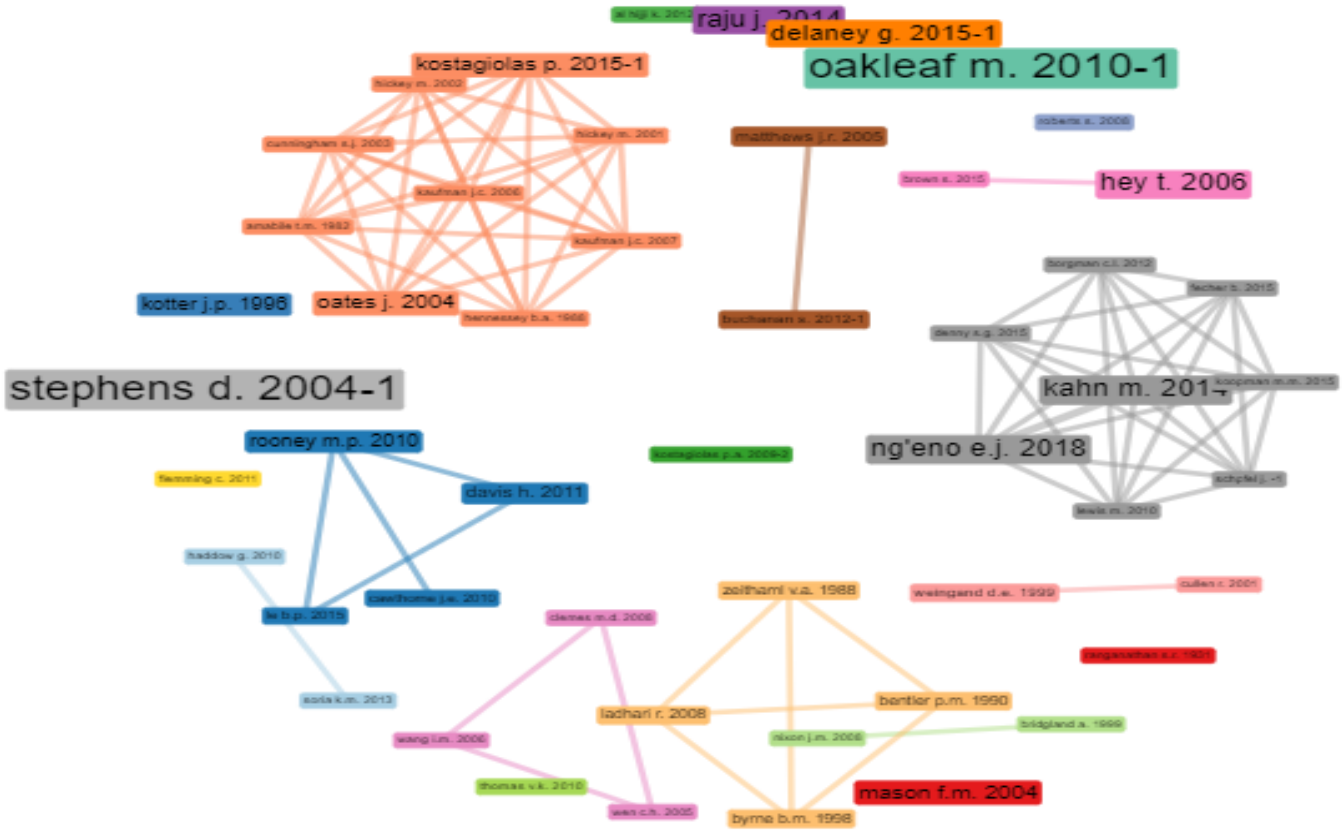

Figure 4 Co-citation analysis

Figure 4 indicates that participants for largest clusters of citations (cluster nodes = 22) included Bentler (1990), Byrne (1998), Ladhari (2008), Zeithaml (1988). Ranganathan (1931) comprised 21 citations nodes. The closest clusters were however of Amabile (1982), Cunningham

(2003), Hennessey (1988), Hickey (2002), Hickey (2001), Kaufman (2006), and Kaufman (2007) (Cluster = 10; Closeness = .00048 for each).

Historical direct citation network was created for 20 nodes keeping the document title as node label. This network is a complex system of transferring knowledge from one researcher to another. It simplifies to identify the starting point in the research history which created impact in later studies.

Yu and Pan (2021) marked that the citation network is used to identify the indicators of contributions of papers, researchers, and institutions. In the present investigation, the knowledge transfer system of papers is investigated, and presented below:

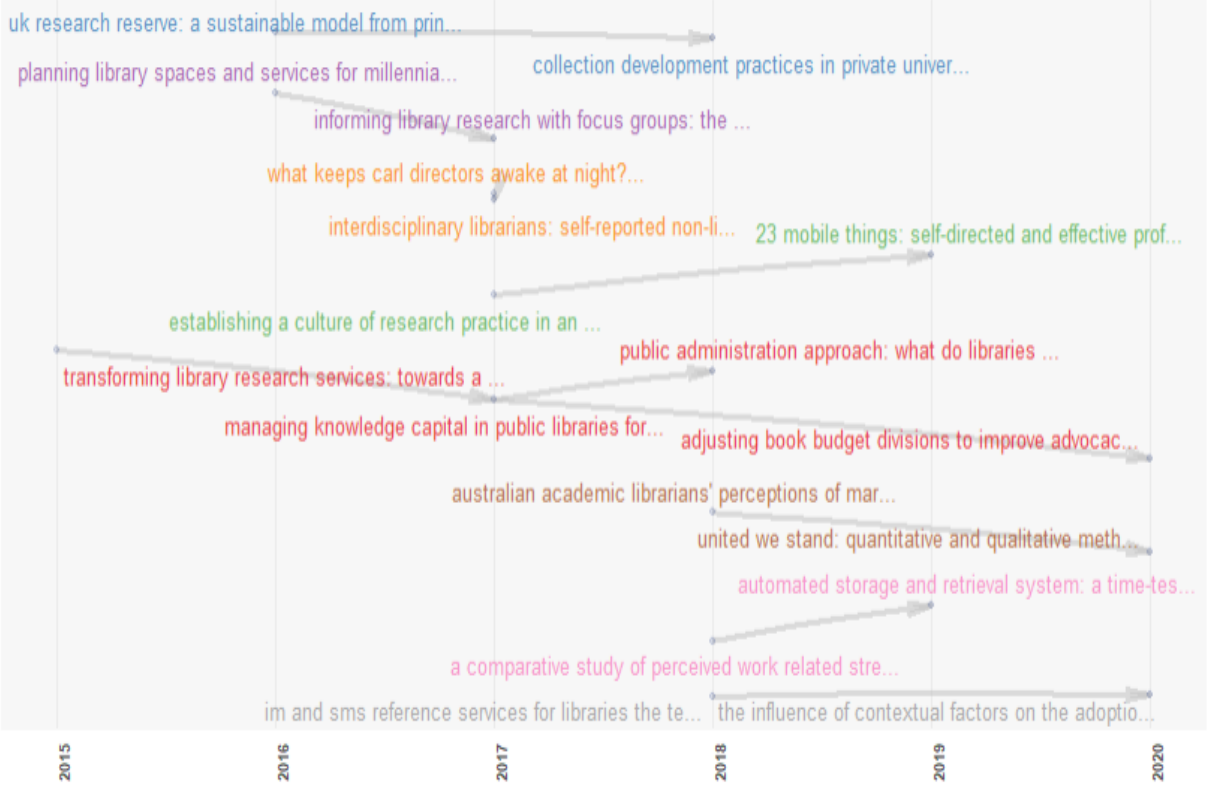

Figure 5 Citation Network Analysis

Figure 5 indicates the historical origin of the impactful paper, connected with the scientific literature citing them. The distance in the network represents that the literature was cited by which

paper in which year (Yu & Pan, 2021). The analysis indicates that the most important document in the Library Management journal during the period from 2013 to 2020 was authored by Mamtora (2013) and titled "Transforming library research services: towards a collaborative partnership". The article published in 2015 and has been providing the roots for the research up to 2020. Then in the course of different years, three articles provided the roots for research to the other articles:

Yang (2013), "UK Research Reserve: a sustainable model from print to E?"

McBain, Culshaw, and Walkley Hall (2013), "Establishing a culture of research practice in an academic library: An Australian case study",

Yi, Lodge, and McCausland (2013), "Australian academic librarians' perceptions of marketing services and resources"

Gidney (2013), "IM and SMS Reference Services for Libraries – The Tech Set 19"

To know the countries collaboration in the research published in the Library Management, a graph was generated. The following figure indicates that there were three cross county research collaboration networks:

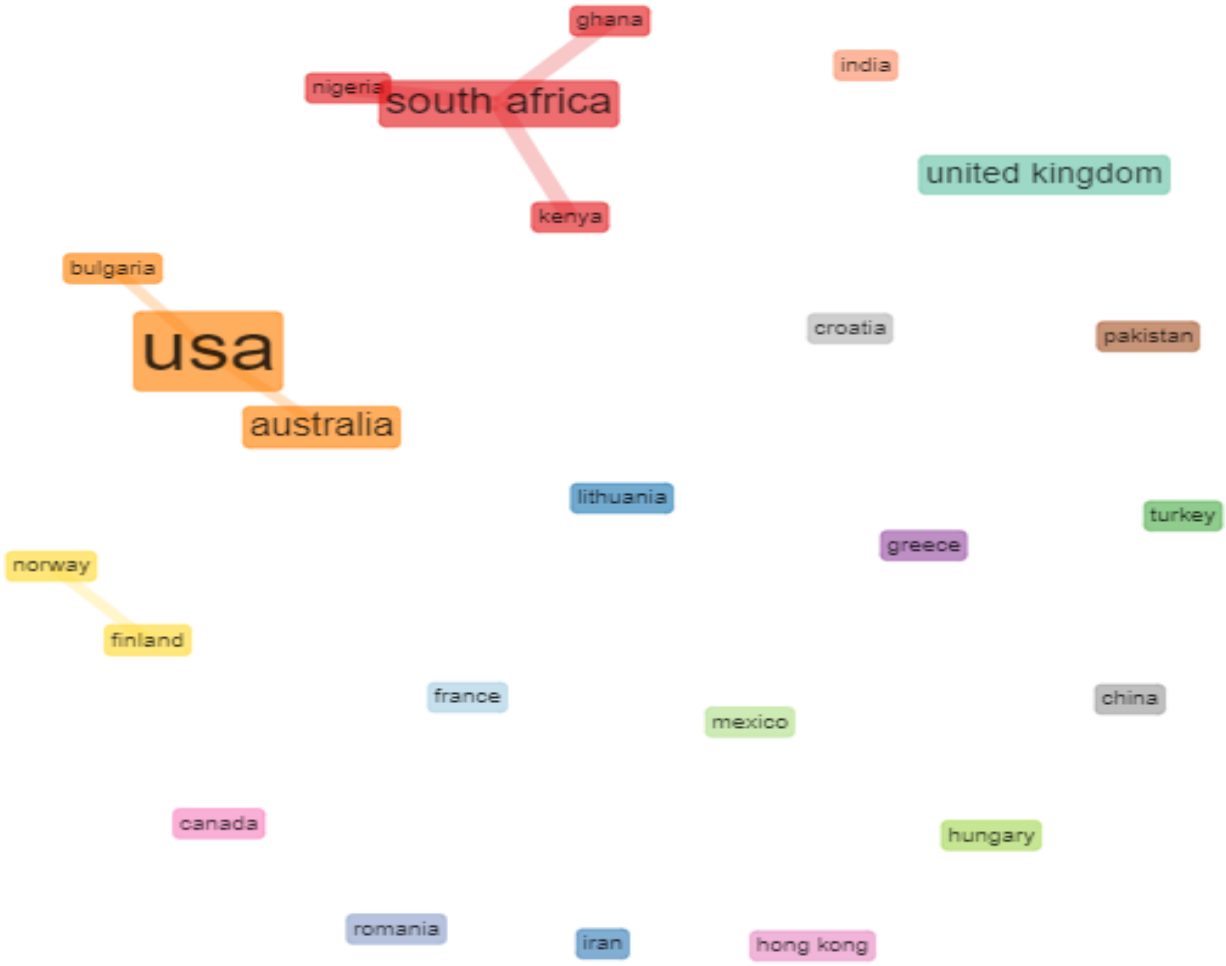

Figure 6 Countries' Collaboration Network

Collaboration network of countries indicated only three major cross-country networks i.e. of South Africa with Ghana, Kenya, and Nigeria; of the USA with Australia and Bulgaria; and of equal weight between Norway and Finland. Rest of the countries were found to have inter-country collaborations.

A three-field plot was generated to know the prominent authors, their countries of origin and given keywords.

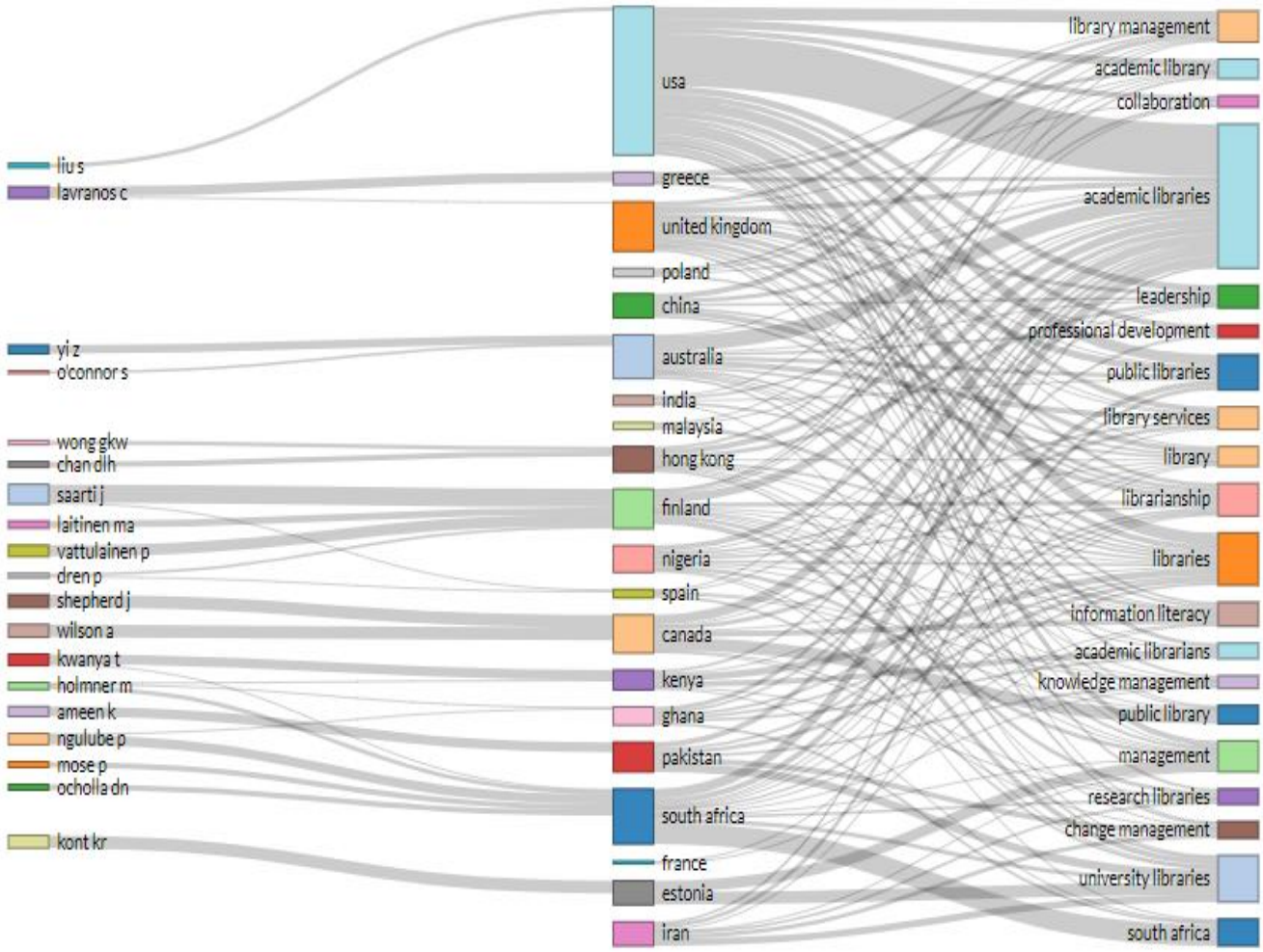

Figure 7 Three Field Plot of Prominent Authors, their Countries of Affiliation, and the Keywords

The analysis shows that the journal has published the articles on a variety of themes ranging from academic, public, and special libraries; management, marketing, library space planning, and continuous professional development. In the journal under consideration, the largest number of documents have been published in the realm of academic/ university libraries. Research/ special libraries and public libraries showed lesser, however a sufficient, representation.

Figure indicates that the Liu from the USA has produced highest number of articles ranging from the area of library management, academic libraries, leadership, information literacy, knowledge management, public libraries, and change management.

Previous studies indicated that the in the Asia, China ruled the knowledge world (Ahmad, Ming, & Rafi, 2018; Awan et al., 2021). However, this is worth mentioning that Ameen, an author from Pakistan made Pakistan proud and remained in the top 20 prominent authors despite of the fact that authors of Chinese origin have published 23 and Pakistanis have published 21 papers.

Results and Discussion

Library management is originally published from United Kingdom by Emerald publishing in the subject area of Social Sciences and in the sub-category of Library and Information Sciences. It is Higher Education Commission of Pakistan recognized journal. Articles published in it are considered for hiring on both the basic pay scale and tenure track system. It is Scopus and Web of Science Indexed journal of X category (Medallion Honourable Mention) according to the Higher Education Commission of Pakistan Journal Recognition System.

The journal publishes a blend of topics related to academic, special, and public libraries. It publishes the knowledge discoveries ranging a broad array, and of diverse nature (369 articles having 1336 keywords). This vast range represents the knowledge from different geographical corners of the world. There are solo as well as joint ventures published in the Library Management. The documents published in the journal are scrutinized based on the scope and the quality of the paper. The scope of the submitted paper and initial screening is done at editorial office, and then the document is sent for double-blind review.

The journal has played its integral role in the scholarship by publishing documents from around the globe, and by creating impact through citations across the globe. This is noteworthy that

Sir Ranganathan who gave five laws of library and information sciences 1930 still makes the second largest cluster of citations (N = 21). Other most cited articles in the Library Management are a blend of different aspects of the Library and Information Management e.g. social media, marketing (customers' loyalty), planning of library spaces, digital libraries, knowledge management, continuing professional development, leadership, librarians' competencies, and the prospects related to the open access.

The Library Management has kept increasing its impact through citations as the citable years increase (2013 = maximum citations; 2020 = minimum citations). During the time span from 2013 to 2020, the average citations per document remained 3.70, which is good average citation rate.

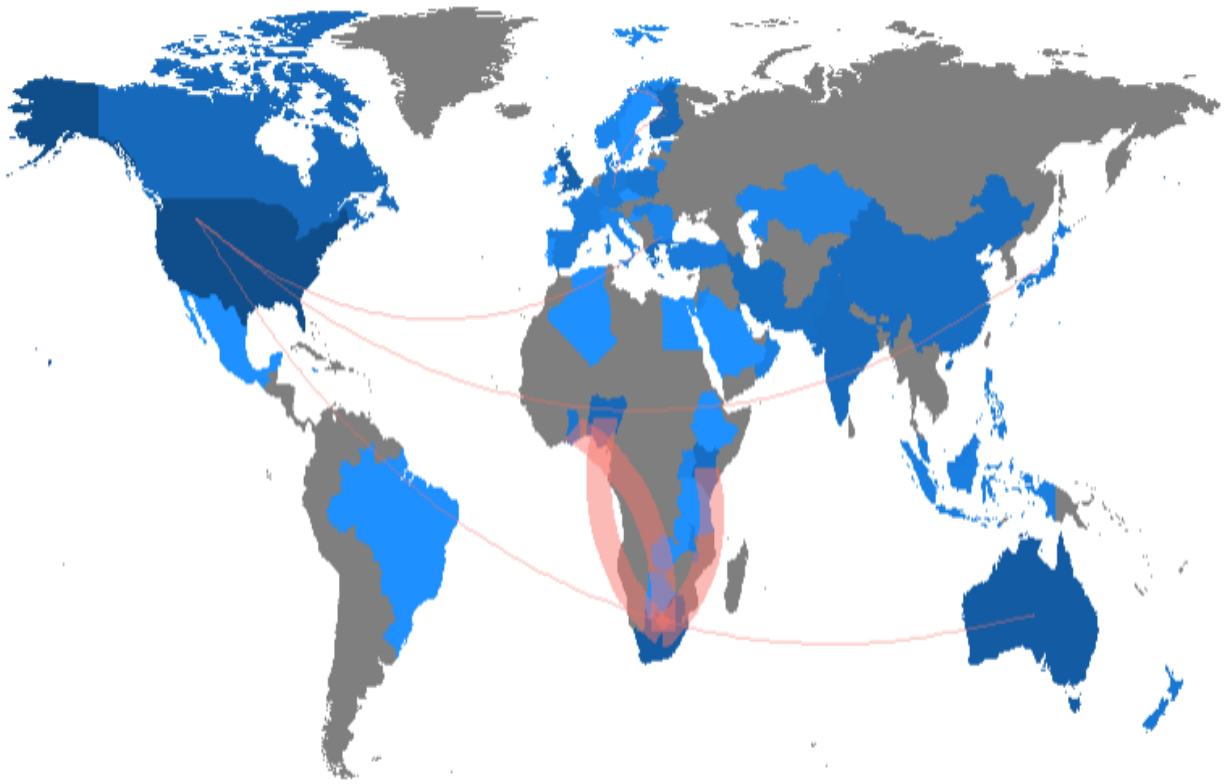

Figure 8 Countries Collaborations

Figure 8 indicates the countries collaboration map. This is noteworthy that unlike the previous studies suggesting African researchers to increase the research pace e.g. (Ahmad et al., 2018; Awan et

al., 2021) etc. the present study found a comparatively different scenario. The largest collaboration showed to be there among African countries. It is worth sharing the library management have published a significant number of quality research that has originated in Africa, (South Africa = 43; Nigeria = 20; Kenya = 19; and Ghana = 9).

The Figure 9 shows the number of articles produced form the four African countries. The reason for not finding African representation in the previous bibliometric studies might be that Africans researchers had not worked in the phenomenon of information encountering, unlike other developing continent i.e. Asia where (Awan, Ameen, & Soroya, 2019, 2020; Awan et al., 2021) worked on it. Ahmad et al. (2018) had indicated that African authors are not in top 20 productive authors. The reason, in the light of present investigation showing many articles produced by the African authors, may be identified that Library and Information Management research is at its infancy stage in Africa.

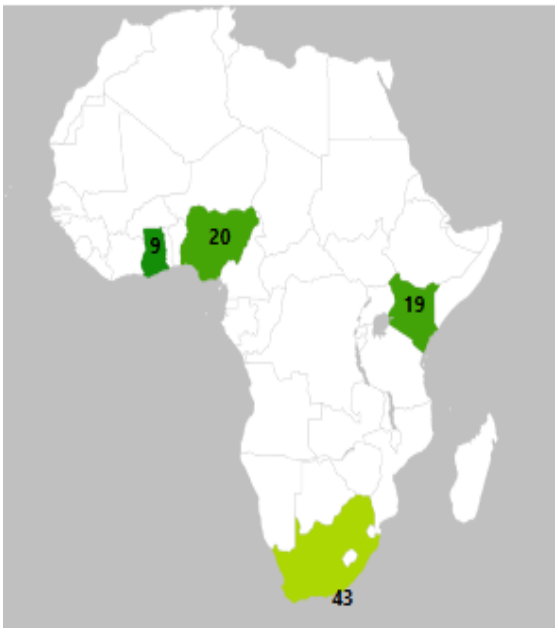

Figure 9 African Productivity

Only three research networks of countries were found to be there. The largest among these was of African countries comprising South Africa, Kenya, Ghana, and Nigeria. The second largest was a research network of the USA, Australia, and Bulgaria. The third was of Norway and Finland.

Recommendations

Library Management equally facilitates the quality research irrespective of its country of origin and authors. Therefore, the researchers must submit their quality research related to the public, special and academic libraries to the Library Management.

Countries must work in collaboration to identify and explore the cross-cultural phenomena.

The researchers from African countries other than South Africa, Kenya, Ghana, and Nigeria must work on producing quality research and publish in the Library Management.

The research policy makers in the other African countries must make policies for increasing research productivity and gain their representation in the Library Management.

There is no Russian research representation in the Library Management. The Russian researchers must also submit their quality Library and Information Management related research to the Library Management.

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