Bibliometric Perspective of Margalla Paper : A Flagship Journal of National Defence University , Islamabad, Pakistan

Abid Hussain
Library Officer, Institute of Strategic Studies Islamabad, Email: abidmardan@gmail.com

Muhammad Haseeb
A graduate of School of Politics and International Relations at Quaid-i-Azam University Islamabad, Pakistan Email: mohammadhaseeb934@gmail.com

Muhammad Mustafa
A graduate of Leadership and Management Sciences from National Defence University Islamabad, Email: cspofficer009@gmail.com

Abstract

This paper aims to extract and scrutinize the published record of Margalla Paper, A bi-annual journal of National Defence University Islamabad, Pakistan. The bibliometric approach has been used to analyze the published work of Margalla Paper between 2011-2020. The article covers the authorship pattern, Contribution of Organizations and most geographical distribution of work. The article covers a ten-year performance of Margalla paper's between 2011-2020 only. And no other issues were brought into consideration for this paper. The result shows that the authors contributed 137 articles during 2011-2020. The study reveals that most of the articles (N=59) were contributed by single authors. The most prolific authors in terms of geographical contributions were from Pakistan. The study has identified the loophole and gap in the existing style of contributions.

Keywords

Bibliometric analysis; Margalla Paper; National Defence University; Statistical Review; Research Journal

Electronic access

The journal is available at www.jalis.in

Introduction

Margalla Paper is the biannual journal of National Defence University Islamabad which focuses on security and strategic studies. It is a Y category journal of HEC under social sciences and has a unique nature in contemporary world politics, foreign policy, globalization and strategic insights. It also covers the subject of International law, UN Peacekeeping missions and similar issues relevant to global common. It has been indexed in the Bibliography of Asian Studies (BAS), International Political Science Abstracts (IPSA) and Ebscho publishing Inc. Contributors like policymakers. Scholars, students and intelligentsia all hold the publication in high regard. All articles published in the journal are chosen after a thorough examination and blind peer review both at home and abroad to keep the flag flying high. The Higher Education Commission of Pakistan has recognized it and placed it in the "X" category.

Bibliometric analysis is a mathematical and statistical appraisal of articles, books and other publications. It covers the impact factors, geographical distribution of the subject, and other things that affect future writers and readers. Bibliometric analysis of any journal helps the authors, stakeholders, and scholars identify the scope of a journal and allow scientists to discover significant or hot subjects for research to investigate new findings in the given field.

The quantification of written communication is the subject of bibliometrics. It is a valuable tool for published knowledge since it emphasizes the evolution of literature and connects the links between various fields of information. It also addresses author productivity, degree of collaboration, and authoring pattern. Alan Pritchard coined the term "bibliometric" in 1969 and it has since become widely used (Hussain & Jan 2020). The terms' bibliometric' and' metrics' are derived from the Latin and Greek words 'biblio' and metrics,' respectively, and relate to the use of mathematics in the study of bibliography." It's been described as "the use of mathematical and statistical approaches to books and other forms of communication." Library Information Science researchers routinely use bibliometric studies to appraise and evaluate the published literature's scientific output on any given subject or area for a specific period using bibliometric and citation indicators.

Furthermore, bibliometric research has aided librarians in developing selection and weeding procedures. Bibliometric techniques can be used to assess and determine the link between one or more authors and their works. Regional research trends, as well as collaboration amongst researchers in their written assignments, can be adopted. Bibliometrics has been one of the most explored subjects in the field of library and information science in recent years (Manivannan & Sanjeevi, 2012). Bibliometric analysis may be used to evaluate the impact of a single author or a group of related works and establish linkages between two or more writers or outcomes. It is a quantitative description of literature that aids in measuring all data collected (Hussain & Arif, 2021).

A valuable method for analyzing the quality of a journal and its contents is bibliometric analysis (Thanuskodi, 2010). "Bibliometrics is a collection of mathematical and statistical tools used to analyse and quantify the number and quality of books, papers, and other types of publications," according to Durieux and Gevenois (2010). Bibliometric studies are increasingly being used to assess a specific area of research (Singh et al., 2007), a person or organization (Maharana, 2013), or a country's research output (Zhu and Willet, 2011). Bibliometric studies use a variety of measures to assess study success. "Bibliometric indicators are divided into three categories: quantity indicators, which measure a researcher's productivity; quality indicators, which measure the quality (or 'performance') of a researcher's output; and structural indicators, which measure connections between publications, authors, and research areas" (Durieux and Gevenois, 2010). Bibliometrics, according to Pritchard (1969), is the "application of mathematical and statistical approaches to the complete scientific literature, books, and other materials." In other words, it is a mathematical and statistical method of organizing, classifying, and quantitatively evaluating the publishing pattern of macro-communication and their authorship pattern.

According to the literature, several bibliometric studies have been done to measure research output in specific topic areas. Other studies are conducted to do bibliometric analysis on certain publications. More study is being done to assess the research output of universities. Researchers' research productivity is measured using bio-bibliometrics. Some academics have concentrated on evaluating nations' and regions' research performance. Humanitarian concerns are also addressed in several bibliometric research.

Various bibliometric studies, for example, have been carried out in Pakistan.

Objectives of the Study

The following objectives concerning to the published work of Margalla Paper were brought into use:
1. To evaluate the yearly-wise distribution of articles
2. To study modus operandi of Authorship
3. To examine the distribution of authors geographically
4. To find out the most dynamic authors, organizations and countries

Methodology

Margalla paper is the bi-annual journal of National Defence University Islamabad, Pakistan, publishes in 2011. The journal presents a complete archive on its website. The articles in this journal published during 2011-2020 have been taken into consideration for this paper. The articles were extracted and analyzed by using visualization software. The excel sheet was used for the most dynamic authors, institutions and degrees of collaboration. Cite-space was also used to demonstrate the published work of Margalla Paper. The result shows that total of 137 articles was published in this journal during 2011-2020. Efforts have been made to analyze the year-wise distribution of articles, degree of collaborations, authorship pattern, etc. An endeavor has been made to showcase the published research for scholars, academia, and stakeholders at the National Defence University Islamabad for future research. The paper is limited to a ten-year plan from 2011-2020, and no other issues have been covered.

Literature Review

Bibliometrics is a branch of the library and information science that uses quantitative approaches to study bibliographic content (Broadus, 1987; Pritchard, 1969). Bibliometrics is a popular method for aggregating the most representative findings from a collection of bibliographic documents. Bibliometrics is concerned with the measurement of written communication and aids scholars in the acquisition of published information. It elucidates the pattern of academic growth, interrelationships among various fields of knowledge, productivity, authorship patterns, degree of collaboration, collection building patterns, and their application. Alan Pritchard invented the word "bibliometrics" in 1969 to describe

an interdisciplinary academic subject (Hussain, 2020).

Bibliometrics is a branch of mathematics and statistics that focuses on books and other forms of communication in order to conduct research. Bibliometric assessment methods are used by researchers to determine a single author's effect or to explain the link between two or more authors or works. Regional research patterns, the amount of collaboration between research groups, and national research profiles may all be studied using bibliometric studies. Bibliometrics in library and information science is a highly applicable method to appraise and evaluate the scientific output of the published literature on any subject over a defined period using citation indicators, and it is beneficial. Bibliometrics plays a significant part in the most widely used quantitative method in Library and Information Science (Laengle et al., 2017).

The bibliometric study is an important focus area for Library and Information Science (Manivannan & Sanjeevi, 2012). Bibliometric approaches have been used to assess several publications in a variety of areas, including Journal of Documentation (Roy, & Basak, 2013), Journal of Information Literacy (Panda et al., 2013), Journal of Informetrics (Das, 2013), Journal of School Health (Zhang et al., 2017), and Journal of Religion and Health (Senel & Demir, 2018) are some of the journals that have been published recently. A scientometric study of papers published in Science between 2006 and 2015 was conducted (Kalita, 2016). The average authorship of research publications has been growing in recent years, according to this survey. The research published in Science is highly collaborative (degree of cooperation is usually more than 0.96). It was also discovered that each year, according to the mentioned sources study. Through its research publications, Science produces an average of 10% self-citations from the citations it receives. The paper (Sangam and Arali, 2016) investigated the relative growth rate of research publications versus the Genetics' cooperation and authorship pattern of the globe and India using data gathered from papers posted in Web of Science between 1993 and 2012. According to the study, the more the expansion of literature, and the greater the scientific collaboration.

A bibliometric study of 783 publications published in the Defense Science Journal between 2005 and 2014 was given by Muthumari and Raja (2016). This study looked at many elements such as communication, growth patterns, authorship patterns, prolific contributors, collaboration trends, etc. Larivière,

Sugimoto, and Cronin (2012) used different conventional bibliometric approaches to offer a century-long examination of the Library and Information Science (LIS) discipline. This research covers aggregate statistics on academic publishing, authorship, and citation trends in the social sciences and humanities in general, as well as field-specific measures of scholarly production and influence. Cobo et al. (2015) conducted a bibliometric study of the scientific content of the journal Knowledge-Based Systems (KnoSys) by examining papers published between 1991 and 2014. KnoSys has piqued the scientific community's curiosity during the last 25 years, according to the research. KnoSys' impact factor has risen. KnoSys' publications focus on eight major subject areas (classification, data mining, rough systems, agent systems, information retrieval, groupsets, decision-making assistance, and semantic— strategic studies' web). Several bibliometric studies have been conducted to evaluate research output in specific subject areas (Garousi & Mäntylä, 2016; Tang et al., 2020; Ramirez et al., 2019; Beydoun et al. 2019), according to the literature (Garousi & Mäntylä, 2016; Tang et al., 2020; Ramirez et al., 2019; Beydoun et al., 2019 Other studies are conducted in order to do bibliometric analysis on certain periodicals (Khan et al., 2016; Alvarez et al., 1996; Chuang et al., 2012; Donthu et al., 2020). Further research is being done to assess the research output of universities (Ezema et al., 2016; Xu et al., 2019; Darmadji et al.., 2018; Gumpenberger et al., 2016).

Researchers' research output is measured using bio-bibliometrics (Garca et al., 2012; Javed et al., 2020). Some academics have concentrated on assessing nations' and regions' research performance (Qayyum et al., 2013; Kousar et al., 2013; Hou et al., 2020). Humanitarian concerns are also addressed in bibliometric research (Mahbuba et al., 2010; Srivastav et al., 2019). Bibliometric studies have also been done in Pakistan (Mehar et al, 2019; Sweileh et al, 2018; Baladi et al, 2017; Jan et al, 2017). Only a few attempts have been made to assess university research performance, i.e. (Anwar et al., 2019).However, to the best of the authors' knowledge and based on the literature reviewed, no research has been done to assess the University of Punjab's research performance using the bibliometric technique. As a result, this article provides empirical data for decision-making in research incentives and funding allocation. Pakistani universities' research productivity was slow during the country's first 50 years of independence. Still, it has accelerated in the

last two decades due to the country's increased use of information and communication technologies (ICTs) and universities' desire to improve their local, regional, and international rankings (Naseer et al., 2009).

At the University of Punjab, a study was conducted to see how ICT affects research and development. According to the findings, research grants, research incentives, and travel awards resulted in a substantial increase in the University's research output in Pakistan. It has also been noted that the Higher Education Commission's consortium-based subscriptions to electronic databases for its National Digital Library project, Pakistan Research Repository, and other initiatives have positively influenced the research landscape of Pakistan's higher education institutions (Warraich et al., 2011; Mushtaq et al., 2012). Hussain & Jan (2020) published research titled " Mapping the Research Output of the Journal' Islamabad: A Statistical Review" in a social science journal. The study found that 317 articles were published between 2008 and 2018, with an average of 7.2 articles for each issue. According to the research, the majority of the articles, 132 (73.74 percent), are written by a single author. The author attempted to cover the social science publications published by Islamabad's Institute of Strategic Studies.

Findings of the study

Table 1 shows the quantitative progress of articles in the Margalla Paper. The journal was initially launched in 2011 with seven articles. So far, total (N=137) articles were contributed between 2011-2020). In the year 2019, the highest contributions were made (N=35). The lowest contribution was made in the year 2012 (N=6). Overall, the journal has reasonable markup in its published record. Further improvement can be made while sustaining the quality of this journal.

Table 1: Quantitative Progress of Articles

S. No	Year	No. of Articles	Percentage
1	2011	7	5.1%
2	2012	6	4.3%
3	2013	9	6.5%
4	2014	7	5.1%
5	2015	8	5.8%
6	2016	13	9.4%
7	2017	20	14.5%
8	2018	20	14.5%
9	2019	35	25.5%
10	2020	12	8.7%
Total	10 years	137	100%

Table II represents the pattern of authorship in the journal. It has been recorded that more contributions were made by single authors (N=59 with 43.06%). The two authors contributed (N=50 with 36.49%). The contributions of three authors were recorded (N=28 with 20.43%). Among single authors in the Year 2017 (N=11), articles were recorded. However, the contribution of the two authors was satisfactory (N=17) in 2019. The Three authors have contributed a handsome amount of articles in the year 2019 (N=12). Overall, single authors have contributed more articles as compared to multiple authors.

Table 2: Authorship Patterns in Margalla Papers

Year	No of Authors			Total Articles
	Single Author Articles	2- Authors Articles	3- Authors Articles	
2011	7	-	-	7
2012	6	-	-	6
2013	6	3	-	9
2014	4	2	1	7
2015	2	5	1	8
2016	8	5	-	13
2017	11	7	2	20
2018	6	7	7	20
2019	6	17	12	35
2020	3	4	5	12
Total	59 (43.06%)	50 (36.49%)	28 (20.43%)	137 (100%)

Chart 3, Represents the most dynamic authors who contributed more articles in this journal. Dr. Raja Muhammad Khan of National Defence University has contributed (N=10) articles followed by Dr.Zulfiqar Khan with (N=5) Articles, followed by Dr.Saif-ur-Rahman who contributed (N=4) Articles, other most dynamic authors are Dr. Mansoor Umar Khan, Dr. Qaim Raza Jaffry and Dr. Adnan Adil, who contributed 4 and 3 articles consecutively. All

authors were from National Defence University and no chance has been given to the external authors other than NDU.
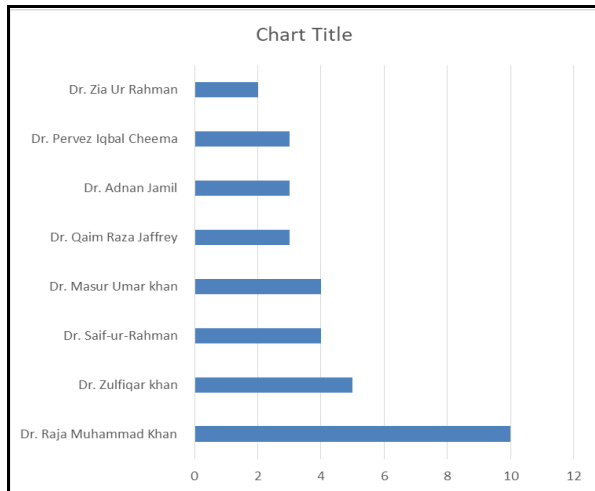
Chart 3: Most Dynamic Authors

Table 4: shows the ratio of most productive institutions within this journal. It seems that National Defence University has contributed (N=132 Articles in all issues of Margalla paper. The other university which has an impact in terms of publication was Quaid-i-Azam university which has contributed (N=19), followed by Islamic International University Islamabad with (N=13) Articles. The fourth university in most dynamic university was the University of Punjab which has (N=7) Articles. Abdul Wali Khan University Mardan also has a good impact in contribution with (N=7). Other Universities like the National University of Science and Technology Islamabad and Comsats University Islamabad were also in the most dynamic Institutions who contributed many articles in the Margalla Paper. Those universities which have fewer contributions should be encouraged to contribute more articles in the future.

Table 4: Most Productive Institutions Rank List

S.No	Institution Name	Authors Contribution
01	National Defense University Islamabad	132
02	Quaid-i-Azam University Islamabad	19
03	Islamic International University Islamabad	13
04	University of Punjab	07

05	Abdul Wali Khan University Mardan	07
06	National University of Science and Technology Islamabad	06
07	National university of Modern Languages	05
08	COMSATS Islamabad	04
09	Fatima Jinnah Women University Rawalpindi	03
10	Bahria University Islamabad	03
11	Fatima Jinnah Women University Rawalpindi	03
12	GHRDC Rawalpindi	03
13	PU Beijing China	03
14	University of Gujrat	02
15	Bahawuddin Zakarya University Multan	02
16	Islamia University Bahawalpur	02
17	Lahore College for Women	02
18	Karakoram International University	02
19	UET Khuzdar Quetta	02
20	HEC Pakistan	01
21	Lahore School of Economics	01
22	Shah A. Latif University Khairpur Sindh	01
23	Suffa University Karachi	01
24	University of Hamburg	01
25	Allama Iqbal Open University Islamabad	01
26	Brass Tacks Rawalpindi	01
27	Independent Research Writers	05
28	Minhaj University Lahore	01
29	Govt Viqar Un Nissa Post Graduate College Rawalpindi	01
	Total	**234**

Table 5 represents provincial-wise contributions of authors in the Margalla Paper. Among them, the contribution of Federal capital Islamabad was more as compared to others (N=184) followed by Punjab province with (N=27) followed by Khyber Pakhtoonkhwa with (N=10). The other provinces, like Balochistan and Sindh, have significantly fewer contributions of the two articles. It seems that these provinces were not given preferences for contributions. NDU should also encourage the authors of other provinces to make a balance.

Table 5: Contribution of Provincial Institutions in Pakistan

S.No	Province	Contribution
01	Islamabad	184
02	Punjab	27
03	KPK	10
04	Baluchistan	02
05	Sindh	02

Table 6 represents country-wise contributions in the Margalla paper. It shows that Pakistan was on top (N=133) among all countries. China remained in the second position with (N=2), followed by the US and UK with one article. It seems that other countries should also be given chances to contribute as per HEC rules designed recently. With such contributions, Margall Paper will get more citations and high impact.

Table 6: States Contribution in Margalla Papers

S. No	Country Name	Contribution in term of Articles	Percentage
01	Pakistan	133	97.08%
02	China	02	1.45%
03	USA	01	0.72%
04	UK	01	0.72%

Conclusion and Recommendations

National Defence University Islamabad is one of the leading universities of the Islamic Republic of Pakistan that contribute scholars and scholarly works within and outside the country. The NDU Published a bi-annual journal named Margalla Paper, which first appeared in 2011. The Journal is HEC recognized and placed in the Y category, which positively impacts research. The Journal contributes articles on global perspectives pertaining to strategic and contemporary issues. Scholars from different spheres within and without countries contribute scholarly works. The Articles are keenly peer-reviewed by the editorial team from Pakistan and abroad. The purpose of this study is to highlight the different perspectives of Margalla Paper. The author endeavors to shed light on articles by subject, geographical locations, and author contributions. The paper is the first attempt on its nature and no attempt has been made earlier. The Journal covers the quantitative progress of authors, pattern of authorship, most dynamic organizations, provinces and countries. It has been identified that during 2011-2020 total of 137 articles were published in Margalla Paper. Single authors contributed 59 articles, double authors have contributed 50 articles, and more than three articles contributed 28 articles in all volumes of Margalla Papers. The most dynamic author was Dr. Raja Muhammad Khan, who contributed ten articles, followed by Dr.Zulfiqar Khan with (N=5) Articles, followed by Dr.Saif-ur-Rahman, who contributed (N=4) Articles. As far as most dynamic institutions are concerned, National Defence University contributed (N=132) followed by Quaid-i-Azam University with (N=19) articles. Among most dynamic provinces. The Authors (N=184) from the Federal Capital of Pakistan contributed a handsome amount of articles. Among countries, the position of Pakistan with (N=133) followed by China (N=2).

From the discussion mentioned above, it is evident that Margalla Paper is a peer-reviewed HEC Journal with a significant focus on social sciences. It has proved itself as one of the most important platforms for sharing vital research. In collaboration with the Higher Education Commission of Pakistan, the Journal has become a rich source of the research network of different scholars. Researchers from abroad also showed interest in being part of this Journal. Based on the conclusion following recommendation is made by the authors.

➢ The journal is a bi-annual journal with a colossal backlog; it should be converted into a quarterly journal in order to accommodate more articles.
➢ Researchers of less developed areas should be given more chances.
➢ The quality of the journal should not be compromised for the sake of bulk materials.
➢ The volume of articles may be increased to avoid a backlog.
➢ To capture the mind of international scholars, global issues should be covered.
➢ Online Journal System (Website) should be provided to the authors with complete information.
➢ The journal should be indexed in Web of Science and Scopus Databases.
➢ Peer-reviewers from the developed countries could be increased to attract foreign scholars.

References

[1.] Broadus, R.N. (1987), "Toward a definition of bibliometrics", *Scientometrics*,12(5/6), 373-379.

[2.] Pritchard, A. (1969), "Statistical bibliography or bibliometrics?" *Journal of Documentation*, 25, 348-349.

[3.] Hussain, A., & Jan, S. U. (2020). Mapping the Research Output of the Journal 'Strategic Studies'-Islamabad: *A Statistical Review*.

[4.] Hussain, A., & Arif, A. (2021). Bibliometric Analysis of Regional Studies–A Quarterly Journal of Institute of Regional Studies, Islamabad, Pakistan.

[5.] Ramirez, M.C.; Armando, R.; Devesa, R. A Scientometric Look on Mathematics Education from Scopus Database. *Math Enthus*. 2019, 16, 37–46.

[6.] Beydoun, G.; Abedin, B.; Merigó, J.M.; Vera, M. Twenty years of information systems frontiers. *Information Systems Frontiers*. 2019, 21, 485–494.

[7.] Khan, A.; Choudhury, N.; Uddin, S.; Hossain, L.; Baur, L.A. Longitudinal trends in global obesity research and collaboration: A review using bibliometric metadata. *Obesity Research*. 2016, 17, 377–385.

[8.] Thanuskodi, S. (2010). Journal of Social Sciences: *A bibliometric study of Journal of Social Sciences*, 24(2), 77 80

[9.] Donthu, N.; Kumar, S.; Pattnaik, D. Forty-five years of journal of business research: A bibliometric *Analysis. Journal of Business Research*. 2020, 109, 1–14.

[10.] Panda, I., B. Maharana and Chhatar, D. C. (2013), "The Journal of Information Literacy: a bibliometric study", *International Journal Scientific and Research Publication*, Vol. 3 No 3.

[11.] Durieux, V., & Gevenois, P. A. (2010). Bibliometric indicators: quality measurements of scientific publication. *Radiology*, 255(2), 342-351.

[12.] Ezema, I.J.; Onyancha, O.B. A bibliometric analysis of health and medical journals: Issues in medical scholarly communication in Africa. *Serial Review*. 2016, 42, 116–128.

[13.] Zhu, Q., & Willett, P. (2011, January). Bibliometric analysis of Chinese superconductivity research, 1986-2007. In Aslib Proceedings. Emerald Group Publishing Limited.

[14.] Darmadji, A.; Prasojo, L.D.; Kusumaningrum, F.A.; Andriansyah, Y. Research productivity and international collaboration of top Indonesian Universities. Current Science. 2018, 115, 653–658.

[15.] Gumpenberger, C.; Sorz, J.; Wieland, M.; Gorraiz, J. Humanities and social sciences in the bibliometric spotlight–Research output analysis at the University of Vienna and considerations for increasing visibility. *Research Evaluation*. 2016, 25, 271–278.

[16.] Kalita, D. (2016). Citation analysis of Science. *COLLNET Journal of Scientometrics and Information Management*. 2016;10(2):237-54.

[17.] Sangam SL, Arali U. Growth versus scientific collaboration in the field of genetics: a scientometrics analysis. *COLLNET Journal of Scientometrics and Information*

[18.] Muthumari, S., & Raja, S. (2016). Bibliometric Analysis of Defence Science Journal during 2005–2014: A study based on Scopus Database. *COLLNET Journal of Scientometrics and Information Management, 10(2), 273-287.*

[19.] García, J.A.; Rodríguez-Sánchez, R.; Fdez-Valdivia, J.; Robinson-García, N.; Torres-Salinas, D. Mapping academic institutions according to their journal publication profile: Spanish Universities as a case study. *Journal of the American Society for Information Science and Technology*. 2012, 63, 2328–2340.

[20.] Roy, S. B. and Basak, M. (2013), "Journal of Documentation: a bibliometric study", Library Philosophy and Practice .

[21.] Panda, I., B. Maharana and Chhatar, D. C. (2013), The Journal of Information Literacy: a bibliometric study, International Journal Scientific and Research Publication, 3(3)

[22.] Das, P. K. (2013), "Journal of Informetrics: A bibliometric profile", DESIDOC Journal of Library & Information Technology, 33(3), 243-252 .

[23.] Javed, Y.; Ahmad, S.; Khahro, S.H. Evaluating the research performance of islamabad-based higher rducation institutes. SAGE Open. 2020, 10, 2158244020902085.

[24.] Qayyum, M.; Naseer, M.M. Bio-Bibliometric Study of Dr. Khalid Mahmood's Contributions to LIS Field in Pakistan. Library Philosophy and Practice. 2013. Available online: http://hdl.handle.net/10760/18994

[25.] Kousar, M.; Mahmood, K. Dr. Syed Jalaludin Haider: A Bio-Bibliometric Study. Pakistan Journal of Information Management and Libraries. 2010. Available online: http://hdl.handle.net/10760/25605

[26.]   Singh, G., Mittal, R., & Ahmad, M. (2007). A bibliometric study of literature on digital libraries. *The electronic library*.

[27.]   Manivannan, G., & Sanjeevi, K. (2012). The Indian Journal of Medical Research (2000–.2005): Bibliometric Analysis. *Journal of Advances in Library and Information Science*, 01 (02), 100-103.

.