Big Data Output in J-gate during 2013 to 2017: A Bibliometrics Analysis

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ABSTRACT

The present study discusses the "Big Data" as reflected in J-gate for the period from 2013–2017. The present paper investigates the highly productive authors, and h-index. Present study is also aims to find out the top contributing Authors, Subject area, Source Type, etc. The result indicates that there were total 8930 Articles on Big Data during 2013 to 2017. The result shows that United States of America and United Kingdom are the most attentive countries in the area of Big Data Analytics. Study shows that publication trends in the subject Information Science and Systems.

Keywords: J-gate, Big Data, Data Analytics

I. INTRODUCTION

There are billions of information is available in different type of format at different location on the web and handheld devices, social media and other application. Huge amount of information is available in the various sectors like banking, corporate and in the online form, etc. It is difficult to manage information in high excessive amount therefore new terms came in existence. In the 21st century, many researcher and scientist conducted research or practices on the big data analysis. Variety of research published with different methodology and techniques on the big data. Therefore, present paper has analysed of research done on the concept of "Big Data". It is very a new, emerging concept for collect, manages, and analysis huge amount of information with cloud based technology.

II. CONCEPTUAL ANALYSIS

2.1 Big data

Big data is concept about the use of predication of user usage analysis and Behaviour through various strategies. Big data is term as broader mean to accomplish goal to collect, manage, store and analyzed with proper methods and strategy. Big data main benefits is to decision making, time and cost reducing technology and it help to invented new cloud based product development. Present day big data touches various different industry like education, banking, health care, retail and manufacturing etc.

2.2 J-Gate

J-Gate is an electronic gateway to global e-journal literature. Launched in 2001 by Informatics India Limited, J-Gate provides seamless access to millions of journal articles available online offered by 13,273 Publishers. It presently has a massive database of journal literature, indexed from 47,958 e-journals with links to full text at publisher sites. J-Gate also

plans to support online subscription to journals, electronic document delivery, archiving and other related services. a. Table of Contents (TOC) - For 47,958 e-journals. b. Database - A comprehensive searchable database with 53,067,286 articles, with 10,000+ articles added every day.

III. OBJECTIVES OF THE STUDY

To analyse the term "Big Data" title in J-gate database by various parameters such as Author wise, Country wise, Publication year wise , Research area wise , Source wise. The specific objectives of the present study are.

1. To Study the number of Articles in which "Big Data" title has been used.
2. To find out highly prolific authors on Big Data.
3. To analyses the data geo-graphically by types of Articles.
4. To Identify Publication productivity on Big Data by chronologically.
5. To know highly preferred journals by the authors for writing research papers on Big Data.

IV. SCOPE & LIMITATION OF STUDY

Present Study is limited to search results in the title of 'Big Data' in J-gate database during 2013 to 2017. The data analyzed with the help of Microsoft office excel.

V. METHODS AND MATERIALS

The growth of publications in the Big Data research was derived from the J-gate. During the period 2013–2017, 8930 records were found for the title 'Big Data'. Necessary data was tabulated into separate sheets in terms of authorship pattern, geographical distribution of contributors, ranking list of Sources and collaborative measures.

VI. REVIEW OF RELATED LITERATURE

Kalantari, A., et al. (2017) disused about bibliometrics analysis study on Big data from 1980 to 2015. He has analyzed 6572 records from Thomson Reuters Web of Science. He also found trend on concept of Big Data was Computer Science, Engineering, and Telecommunications. Kale Vilas A., Deshmukh Rahul K. & Khiste Gajanan P. (2017) discusses the "Consortia" as reflected in Web of Science for the period from 1989–2016. This study investigates the highly productive authors, Document Type wise, Country wise, Language wise, Publication year wise, Research area wise, Source Title or Journal wise. Khiste G.P. (2017) discusses the "Consortia" as reflected in Scopus for the period from 1989-2016. Khiste G.P., Deshmukh R.K.& Kale V.A. (2017) discusses the "Bibliometric" as reflected in J-Gate for the period from 2005 to 2016. Khiste G.P., Maske D.B.& Deshmukh R.K. (2018) discusses the "Knowledge Management" as reflected in Scopus for the period from 2007–2016. The result indicates that there were total 7996 documents on Knowledge Management during 2007 to 2016. At the international front, India's contribution to Knowledge Management is 298 documents during 2007 to 2016, which is rank on tenth. Khiste G.P.& Paithankar R.R.(2017) explained "Bibliometric" as reflected in SCOPUS for the period from 2008–2016.

Khiste G.P.& Paithankar R.R.(2017) discusses the "Bibliometric" as reflected in Web of Science for the period from 1989–2016. Khiste G.P.& Paithankar R.R.(2017) discusses the "Bibliometric" as reflected in Science Direct for the period from 2005 to 2016. Maske Dnyaneshwar B, Deshmukh Rahul K & Khiste Gajanan P.(2018) analysed the items on "Information Literacy" as reflected in J-Gate for the period from 2007 to 2016. Nagarkar, S. (2015) studied analysis of faculty of Life Science Departments of Savitribai Phule Pune University during 1999-2013 with the help of Web of Science. Nobre, G.C. & Tavares, E. (2017) explained about bibliometrics study on the application of big data and internet of things on the

concept of circular economy. He analysed 32,550 documents from scopus. Tekale K.U.,Veer D.K & Kadam Santosh D.(2017) discuss the productivity of popular articles made by the faculty of agriculture VNMKV, Parbhani for dissemination of agriculture information among the farmers. Tekale K.U., Veer D.K & Kadam Santosh D. (2017) discussed on the annual growth and distribution of documents , year wise citation analysis of documents published by faculty of Vasantrao Naik Marathwada Krishi Vidyapeeth (VNMKV), Parbhani . Veer Chaitanya , Veer D. K. & Khiste Gajanan P.(2018) discusses the "Big Data" as reflected in Scopus for the period from 2012–2016 and investigates the highly productive authors, document types and h-index. The result indicates that there were total 9191 documents with 54129 citations on Big Data during 2012 to 2016. Veer D.K. & Khiste G.P.(2017) explained about the published documents and its citation from Agricultural Universities in Maharashtra during the period from 2004 to 2016 by Indian Citation Index (ICI) database. Veer D.K. & Khiste Gajanan P. (2017) discusses the "Digital Library" as reflected in Scopus for the period from 1995–2016. Veer D.K. & Khiste Gajanan P. (2018) discusses the Information Literacy as reflected in Web of Science for the period from 1989–2016. Veer D.K., Khiste Gajanan P. & Deshmukh Rahul (2018) explained the term Information Literacy as reflected in SCOPUS during the period during 2007 to 2016. Xian, H. & Madhavan, K. (2014) studied big data analysis in engineering research 24,172 publications.
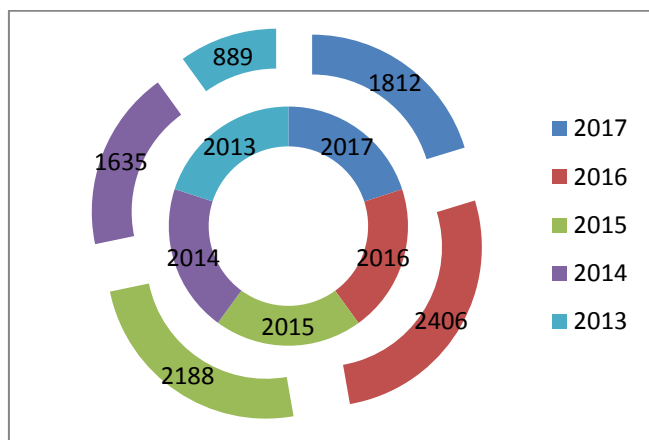
VII. CHRONOLOGICAL ANALYSIS

It is observed from the collected data that very huge articles were written on Big Data, which is reflected in Table No. 1.

Table No. 1. Year wise Articles published in J-gate on Big Data

Sr. No.	Year	Articles	Percentage
1	2017	1812	20.29
2	2016	2406	26.94
3	2015	2188	24.5
4	2014	1635	18.31
5	2013	889	9.96
	Total	8930	100

Graph No. 1. Year wise Articles published in J-gate on Big Data

Table No. 1 & Graph No.1 shows that year-wise distribution of Articles. The highest number of Articles were published in the year 2016 i.e., 2406 (26.94%) and lowest number of Articles 889 (9.96%) were published in the year 2013. However, on an average 1786 Articles were published per year during last 5 years i.e. 2013-2017.

VIII. MOST PROLIFIC AUTHORS

Table No. 2 depicts highly prolific authors. It is observed that David Ramel ranks first who has contributed a maximum number of 74 Articles, followed by Jessica Davis with 24 Articles while it is also observed from the compiled data that on 5th rank 13 Articles published by Jinjun Chen, Rajiv Ranjan and Ye Liang.

Table No. 2. Top five Authors, which write highest Articles on the 'Big Data'

Sr. No.	Author Name	Articles	Rank
1	David Ramel	74	1
2	Jessica Davis	24	2
3	Francisco Herrera	17	3
4	Lizhe Wang	15	4
5	Pedro Hernandez	15	4

6	Jinjun Chen	13	5
7	Rajiv Ranjan	13	5
8	Ye Liang	13	5

IX. DATA ANALYSIS BY SUBJECTS

Table No. 3 presents the subject-wise categorization of the Articles retrieved. Subject-wise analysis indicates that maximum number of contributions was in the area of Information Science and Systems i.e. 1953 followed by Computer Science (Hardware & Networks) with 1635 Articles. The Article contribution in the subject of Astronomy is 285 i.e. on 10th Rank.

Table No. 3. Top 10 Subject wise Articles Availability on Big Data

Sr. No.	Subject	Articles	Rank
1	Information Science and Systems	1953	1
2	Computer Science (Hardware & Networks)	1635	2
3	Business Management	759	3
4	Software Engineering	744	4
5	Communication Networks & Technology	476	5
6	Electronics	428	6
7	Electrical Engineering	410	7
8	Mechanical Engineering	368	8
9	Data Storage And Data Mining	331	9
10	Astronomy	285	10

X. ARTICLES BY SOURCES

The below Table No. 4 indicates that highest ranking sources in which Articles was published. It shows that Phys.Org ranks first with 229 Articles to its credit, followed by ACM TechNews ranking on second with 184 Articles. Procedia Computer Science is on Fifth rank with 92 Articles.

Table No. 4. Top Five Source Titles

Sr. No.	Source Title	Articles	Rank
1	Phys.Org	229	1
2	ACM TechNews	184	2
3	International Journal of Computer Applications	114	3
4	International Journal of Applied Engineering Research	105	4
5	Procedia Computer Science	92	5

XI. GEOGRAPHICAL ANALYSIS OF ARTICLES

In Table No.6 'Big Data' articles were analysed published from different countries.

Table No. 6 Top Five Country credits highest Articles

Sr. No.	Country Name	Articles	Rank
1	United States of America	3683	1
2	United Kingdom	1398	2
3	India	1301	3
4	Netherlands	831	4
5	Germany	589	5
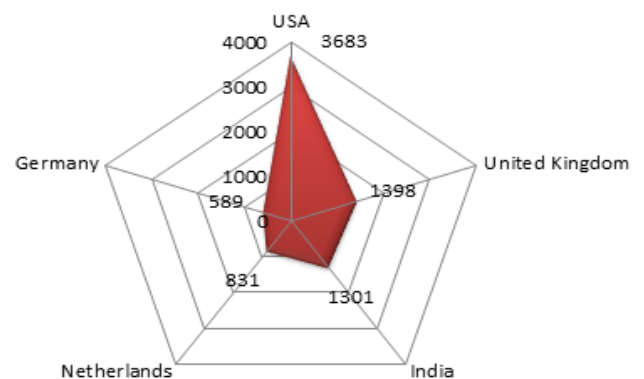
Graph No. 2. Top Five Country credits highest Articles on Big Data

Table No. 6 & Graph No. 2 depicts the geographical distribution of authors. Among 8930 Articles, United States of America tops the list with 3683 Articles, followed by United Kingdom with 1398 Articles to its credit. India's contribution to 'Big Data' is 1301 Articles during 2013–2017, which is ranked on 3rd Position & Germany published 589 Articles with rank 5th position.

XII. PUBLICATION ACCESS TYPE

Publication access type means type of category of articles whether articles are available Full Text or Non-Full Text through J-Gate database is defined in Table No. 7.

Table No. 7. Big Data Articles Access Type

Sr. No.	Access Type	Articles	Percentage
1	Full Text Access	5655	63.33
2	Non-Full Text	3275	36.67
	Total =	8930	100

Table No.6 shows that among total 8930 articles 5655 (63.33%) articles are full text and 3275 (36.67%) articles are Non-Full text.

XIII. MAJOR INFERENCES

- ✓ In J-Gate, under the category Big Data, 8930 Articles were retrieved among which maximum number of Articles was contributed in the year 2016 and minimum in 2013.
- ✓ Subject-wise analysis indicates that maximum number of contributions was in the area of Information Science and Systems i.e. 1953 Articles.
- ✓ Among 8930 Articles, United States of America tops the list with 3683 Articles & India's contribution to 'Big Data' is 1301 Articles during 2013–2017, which is ranked on third.

XIV. CONCLUSION

The data suggest that there was a significant research activity in the field of Big Data during the study period. The contributions of by year on Big Data indicate that there is healthy pattern of progress in this field. As per data retrieved, overall Big Data H-index is 4240, SJR- 4240 and NAAS is 449.

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