

SCHOLARLY RESEARCHES ON SOCIAL NETWORKING SITES BY LIS AUTHORS: A BIBLIOMETRIC STUDY

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ABSTRACT: The present study is a bibliometric analysis of scholarly researches published on Social Networking Sites (SNSs) and contributed by Library and information Science (LIS) authors across the Globe. The study is based on world's largest indexing database Scopus. The required data were retrieved from Scopus database to analyze the yearly publication trend, authorship pattern, degree of collaboration, geographical distribution, prolific authors, favoring journals, citation impact and other such facets of literatures published on Social Networking Sites during the starting of the years to 31st of December, 2015. A total numbers of 113 research documents have been retrieved for this study and seen a steady growth of literatures, multi authorship trend, less collaborative intensity, United States as most contributing nation, The Electronic Library as leading journal and good citation impact of the publications etc. As the day to day life of present day human civilization is driven by Social Networking and they expect more from its dynamic implications, the literatures published on it will definitely be helpful for its users as well the researchers.

KEYWORDS: Bibliometric, Social networking sites, research collaboration, Scopus

INTRODUCTION

Bibliometric study is a widely acceptable study for evaluation of research performance, growth of literature, inter-subject relationship, authorship pattern, research collaboration, geographical scattering etc. of any subject domain, country, institution, person or a journal. The study is used for statistical analysis of written publications, such as books or articles or academic literatures. It helps for analysis of a body of literature to reveal the historical development and it periodic growth. In the present day social science research it is a most popular research method among the researchers, specifically in the field of Library and Information Science. In the year 1969, Alan Pritchard, a British Librarian, first coined this term "Bibliometric" as the application of mathematics and statistical methods to books and other media of communication.

Social Network Sites (SNSs) are day by day gaining its popularity among the library professionals and users. Its best practices have changed the processes of disseminating library and information services. Various social networking sites like Face book, MySpace, Orkut etc. are being used by library and information centers to communicate with their users. For wider and innovative use of these tools both library professionals as well as the users need to be aware and educate. In this regards, it is important to know about the literature growth on Social Networking Sites. The present study will play an instrumental role to display the growth of literature, authorship pattern, degree of collaboration, geographical distribution of publications, most productive authors, leading journals , citation impact etc. on Social Networking Sites.

LITERATURE REVIEW

Gan & Wang (2014) revealed in their study that, social media research steadily increased from the period of 2002 to 2013 and the annual publication output in 2012 and 2013 were almost half of the total. Analysis of countries and journals suggested an uneven distribution of publications on national and journal levels. The USA attained a leading position by contributing the largest share of articles. The most commonly used author keywords appeared in the articles were social media,

Social network, Internet, Communication, Web 2.0, Blog, Twitter, Face book and Virtual community. Piotrowski (2015) studied that research on social media has grown exponentially in recent years. Out of their 23 studies only 2 studies reported regarding negative views by either students or faculties on the implementation of social media platforms for academic purposes. Hester & Vargo (2013) in their study Social Network Sites and Social Media: A New Research Paradigm for Strategic Communication? studied citation, co-citation, and social network analysis to examine the current state of strategic communication research related to social network sites and indicate that research is distributed across a wide variety of publications, well beyond the typical core journals in communication, marketing, advertising, and public relations. Boyd & Ellison (2007) and Ofcom (2008) in their studies coherently defined about Social Network Sites its background and its related applications. Lone & Wani (2012) revealed in their study about the use and growth of social networking sites used in the world. Again the study reveals use of various social networking sites in seven continents of the world. It offers a thorough insight of yearly growth of social networking sites. Face book has got market in every continent.

OBJECTIVES OF THE STUDY

- To look at the yearly researches publications trend on Social Networking Sites,
- To examine the authorship pattern and degree of collaboration among authors,
- To know the geographical distribution of publications,
- To identify the prolific authors,
- To recognize the leading journals, and
- To assess the citation impact of research published on Social Networking Sites.

SCOPE OF THE STUDY

The present study has covered a total numbers of 113 scholarly researches published on “Social Networking Sites” and only indexed in Scopus database. The study has restricted to the researches published by LIS authors only. There is no restriction of language, document type, country of origin and institution of affiliation in the study, however researches published from the starting of the years to 31st of December, 2015 has been covered under the study.

METHODOLOGY

Scopus database has been used to retrieve required data for the study. Data were exported using search query on document search (Title-Abs-Key("Social Networking Sites") AND Title-Abs-Key(Library Science) AND (Exclude(Year,2016))). The collected data were tabulated in an excel sheet and simple statistical methods like average, mean, percentage were used for final presentation of the results.

DATA ANALYSIS & INTERPRETATION

Yearly researches publication trend

Table 1: Yearly researches publication trend on Social Networking Sites

Year	Yearly research publications				
	No. of Publications (n=113)	Percentage (%)	Cumulative Publications	Cumulative Percentage (%)	Annual Growth (%)
2007	6	5.31	6	5.31	-
2008	5	4.42	11	9.73	-8.71

2009	9	7.96	20	17.70	14.47
2010	9	7.96	29	25.66	10.66
2011	21	18.58	50	44.25	28.47
2012	16	14.16	66	58.41	17.74
2013	12	10.62	78	69.03	10.40
2014	20	17.70	98	86.73	16.24
2015	15	13.27	113	100.00	10.71
Mean					11.10

The yearly growth of publications on Social Networking Sites shows a steady and fluctuate growth of literature. However the knowledge on Social Networking and its application to human civilization is extensively seen from the beginning of the year 2000, only after the year 2007 publications have been indexed in Scopus database. During these last 9 years of publication years, only a few numbers of 113 research documents were found in Scopus database. The average growth rate of publications at per year is 11.10. Highest numbers of publications were indexed in the year 2011 with 21(18.58%) papers at 28.47 growth rate and lowest numbers of publications were indexed in the year 2008 with 5(4.42%) papers at -8.71 growth rate.

Authorship pattern and degree of collaboration

Table 2: Authorship pattern and degree of collaboration

Year	Authorship Pattern & Degree of Collaboration									
	Single Author	Two Authors	Three Authors	Four Authors	Six & More than Six Authors	Single Authors (S_N)	Multiple Authors (M_N)	No. of Authors (S_N) (M_N)	No. of Papers	Degree of Collaboration (DC)
2007	5	1	nil	nil	nil	5	2	7	6	0.29
2008	3	2	nil	nil	nil	3	4	7	5	0.57
2009	6	1	2	nil	nil	6	8	14	9	0.57
2010	6	3	nil	nil	nil	6	6	12	9	0.50
2011	10	8	2	1	nil	10	26	36	21	0.72
2012	5	9	2	nil	nil	5	24	29	16	0.83
2013	4	4	1	3	nil	4	20	24	12	0.83
2014	6	12	2	nil	nil	6	30	36	20	0.83
2015	5	6	3	nil	1	5	34	39	15	0.87
Total	50	46	12	4	1	50	154	204	113	0.67 (mean)

Table 2, shows the authorship pattern on SNSs researches, which points out towards multi authorship trend, however the ratio of single vrs multi authored papers do not show a strong collaboration. The ratio of papers published during the period as single vrs multi authored is 5: 6.3. Again the degree of collaboration among authors was identified as less intensive with 0.67 mean

value which ranges from 0.29 to 0.87. Degree of collaboration among authors' has been calculated using Subramanian Law of $C = M_N / (S_N + M_N)$ where,

C = Degree of Collaboration

M_N = Number of Multi Authored Contributions

S_N = Number of Single Authored Contributions

Geographical distribution of researches

Table 3: Geographical distribution of researches

<i>Geographical Distribution of Researches</i>								
<i>Name of the Country</i>	<i>No. of Publication</i>	<i>Percentage (%)</i>	<i>Rank</i>		<i>Name of the Country</i>	<i>No. of Publication</i>	<i>Percentage (%)</i>	<i>Rank</i>
United States	41	36.28	1		Poland	2	1.77	7
India	9	7.96	2		Saudi Arabia	2	1.77	7
Nigeria	8	7.08	3		South Korea	2	1.77	7
United Kingdom	6	5.31	4		Spain	2	1.77	7
Canada	4	3.54	5		Sweden	2	1.77	7
Pakistan	4	3.54	5		Argentina	1	0.88	8
Australia	3	2.65	6		Denmark	1	0.88	8
China	3	2.65	6		Israel	1	0.88	8
Croatia	3	2.65	6		Jamaica	1	0.88	8
Greece	3	2.65	6		Kenya	1	0.88	8
Malaysia	3	2.65	6		Kuwait	1	0.88	8
Bangladesh	2	1.77	7		Norway	1	0.88	8
Germany	2	1.77	7		San Marino	1	0.88	8
Hong Kong	2	1.77	7		Singapore	1	0.88	8
Hungary	2	1.77	7		Turkey	1	0.88	8
Philippines	2	1.77	7		Undefined	4	3.54	9

About 35 countries have their contributions on Social Networking Sites throughout the globe. Table 3 reveals that United States has contributed highest 41(36.28%) papers and ranked 1. India is second most contributing Nation on Social Networking Sites with 9(7.96%) papers. The other countries, which are publishing on SNSs are Nigeria with 8(7.08%) papers followed by United Kingdom with 6(5.31%) papers, Canada and Pakistan with 4(3.54%) and etc.

Library Management	4	3.54	0.642	3
Evidence Based Library and Information Practice	3	2.65	0.586	4
Internet Reference Services Quarterly	3	2.65	0.690	4
Journal of Web Librarianship	3	2.65	0.865	4
Library Hi Tech	3	2.65	0.884	4
New Library World	3	2.65	0.594	4
Challenges of Academic Library Management in Developing Countries	2	1.77	-	5
College and Undergraduate Libraries	2	1.77	1.321	5
Communications in Computer and Information Science	2	1.77	0.149	5
Community and Junior College Libraries	2	1.77	0.147	5
DESIDOC Journal of Library and Information Technology	2	1.77	0.279	5
Journal of Librarianship and Information Science	2	1.77	1.062	5
Library and Information Science in Developing Countries Contemporary Issues	2	1.77	-	5
Library Philosophy and Practice	2	1.77	0.158	5
Library Review	2	1.77	0.497	5
Libri	2	1.77	0.489	5
New Review of Information Networking	2	1.77	0.253	5
Online Wilton Connecticut	2	1.77	0.260	5
Proceedings of The ASIST Annual Meeting	2	1.77	0.196	5
Reference Librarian	2	1.77	0.681	5
Social Media Strategies for Dynamic Library Service Development	2	1.77	-	5
49 journals with 1 publication each	49	43.36	-	6

A total numbers of 73 journals have been identified containing to SNSs researches published by LIS authors, in which The Electronic Library has been ranked 1 with highest 6(5.31%) papers. The journals have been identified with their SCImago Journal ranking value. Table 5 shows the ranking of journals in decreasing order based on their numbers of contribution. The Program has been identified as ranked 2 with 5(4.42%) papers followed by Library Hi Tech News and Library Management with 4(3.54%) papers each in rank 3. There are 49 journals have been identified with contribution of 1 paper each.

Types of research documents

Table 6: Types of research documents

<i>Types of Research Documents</i>			
<i>Types of Research Documents</i>	<i>No. of Publications</i>	<i>Percentage (%)</i>	<i>Rank</i>
Article	81	71.68	1
Conference Paper	12	10.62	2
Book Chapter	7	6.19	3
Review	6	5.31	4
Editorial	2	1.77	5
Note	2	1.77	5
Book	1	0.88	6
Conference Review	1	0.88	6
Article in Press	1	0.88	6

Table 6, shows the types of papers published on Social Networking Sites during the period of study. All 113 numbers of papers were categorized under nine broad categories like Articles, Conference paper, Book chapter, Review, Editorial, Note, Book, Conference review and Articles in press. It is seen that highest 81(71.68%) papers are published in the form of Articles followed by 12(10.62%) papers as Conference paper and 7(6.19%) papers as Book chapter. Only 1 paper is published as Book, Conference review and Article in press each.

Citation Impact

Table 7. Citation impact

<i>Citation Impact</i>						
<i>Year</i>	<i>No. of Publication</i>	<i>No. of Authors</i>	<i>No. of Publication Cited</i>	<i>No. of Citation</i>	<i>Citation Impact per Publication</i>	<i>Citation Impact per Author</i>
2007	6	11	6	54	9.00	4.91
2008	5	8	5	122	24.40	15.25
2009	9	15	7	115	12.78	7.67
2010	9	15	7	127	14.11	8.47
2011	21	31	16	227	10.81	7.32
2012	16	21	11	49	3.06	2.33
2013	12	27	12	64	5.33	2.37
2014	20	36	8	25	1.25	0.69
2015	15	39	6	9	0.60	0.23
TOTAL	113	203	78	792	7.01	3.90

Citations always matters for a research work or publication. The more numbers of citations obtained by a work will increase its impact and visibility. Any article gains citation means demanded by its subject matter. Table 7, shows up the Citation Impact per Publication (CIPP) and

Citation Impact per Authors (CIPA) of researches published on Social Networking Sites. It is seen that, out of the 113 numbers of research documents published during this time, 78 articles are cited by different researchers with 792 times with Citation Impact per Publication as 7.01 and Citation Impact per Author as 3.90, which shows a strong scholarly impact of the publications.

FINDINGS & CONCLUSION

The knowledge on Social Networking is very popular in present day human civilization. Researchers in every subject domain have tried its best application in its applied areas. Library and Information Science is a core subject area which directly favors the application of Social Networking technology for faster and quality services to its users. But the growth of literatures and publication pattern in this field is not satisfactory. A huge numbers of publications with wider geographical distribution is needed to aware the librarians, information professionals and users to take out the direct benefit of applications of Social Networks in this field. The followings are the major findings carved from the study;

- The yearly growth of publication on Social Networking Sites shows a steady and fluctuate growth of literature. As per Scopus database, highest numbers of publications were indexed in the year 2011 with 21(18.58%) papers.
- About 204 LIS authors of 35 countries across the globe are actively contributing on Social Networking researches. United States is top contributing country with 41(36.26%) publications followed by India with 9(7.96%) publications. Garoufallou, E. of Greece, Mahmood, K. of Pakistan, Tella, A. of Nigeria and Vassilakaki, E. of Greece were identified as most prolific authors with highest contribution of 3 papers each.
- A total numbers of 73 source journals were identified of carrying out Social Networking research, amongst them The Electronic Library has been identified as leading journal with 6(5.31%) publications followed by The Program with 5(4.42%) publications.
- The researches published on Social Networkings are mostly in the shape of Articles. Total nine types of research documents were traced in the study, out of these highest 81(71.68%) papers are published in the form of Articles followed by 12(10.62%) papers as Conference paper and 7(6.19%) papers as Book chapter.
- Out of the 113 research documents, 78 documents are cited by 792 times with Citation Impact per Publication at 7.01 and Citation Impact per Author at 3.90. Citation impact of the publications shows a strong scholarly identity of the publications.

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