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Electronic Books: A Scientometric Assessment of Global Literature during 1993-2018

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ABSTRACT

A quantitative and qualitative description of global research on the topic of the 'electronic books' published during 1993-18 on select bibliometric indicator is provided. The study finds that 'E-books' is a fast growing topic of research within the domain of library and information science. Just 10 top most productive countries in the subject account for bulk of (73.25 %) the global research output in the literature. The USA leads the subject with 38.42 per cent global publications share whereas the rest of the 9 of top 10 top countries are distant cousins contributing 1.61 per cent to 8.74 per cent global publications share. United Kingdom registered the highest citation impact per paper and relative citation index (12.08 and 1.61). Bar-Ilan University, Israel was the most productive organisation and H. Falk was the most productive author. Publishing Research Quarterly is the most popular journal in e-books.

Keywords: E-Books; E-resources; Global publications; Bibliometrics; Scientometrics.

1. INTRODUCTION

Electronic books belong to the category of electronic resources that are accessible on the internet or directly on a variety of electronic devices. E-books can be in many forms from text-only content to multiple media to cyber books creating virtual reality. E-books come as self executable files with many in-use features such search and cross reference functions, hypertext links, navigation, highlights, multimedia objects and interactive tools[1].

Electronic books come in different formats like HTML, XML, and PDF accessible on a variety of electronic devices including personal computers, personal digital assistants, mobile phones, ipads, tablets or book readers. PDF format in particular requires Acrobat or Microsoft readers to view on screen or print on paper. E-books that come in book reader formats require dedicated hand-held portable book readers (Kindle) to display a digital version of a book on a flat screen. Several companies now-a-days manufacture electronic book readers (Kindle) which offer e-books content in proprietary and open standard formats such as EPUB, MOBI, AZW, AZW3, IBA, and PDF[2].

Electronic books are fast becoming popular and their market share in e-publishing is growing. The underlying factors that were instrumental in the e-books growth and development include: advances in computing technologies, internet technologies facilitating easy exchange of text and data, and web applications enabling HTML, XML, and PDF as the underlying standards[3].

The other factors that have catalysed e-books growth include re-purposing of electronic files used in the production of print books, as well as re-engineering of editorial and production processes in line with ongoing advances in e-publishing industry[4].

Currently 'e-books' research is heading towards two distinct directions I) at the evolving nature of digital/electronic content and ii) e-book reader technologies used to view or read e-book content. Major areas of research interests in the 'e-books' include e-books use; e-books use technologies; accessibility/ delivery; use features; library collection development policies; impact of the 'e-books' on libraries, librarians, digital rights management, and on publishing industry[5]. Given this context it would be worthwhile to undertake a research study to map the global literature on the 'e-books' using quantitative and qualitative indicators and to understand top countries, organisations, and authors in the world in the pursuit of the 'electronic books' research.

1.1 Literature Review

Kolle[6], *et al.* presented an analysis of the global scientific outputs on ebooks, covering 2965 document, sourced from Scopus, 2001-16 by document types, language, publication output, citations, authorship pattern, journal pattern, prolific authors, etc. Kumbhar[7] profiled e-book research in 2016 on e-books use, e-books collection development and management, and search and discovery. Kumbhar[8] reviewed e-books published during January to December 2010 and reported that popularity of e-books had been increasing and that the e-book market share has been growing at a very fast pace. Besides, there are quite a few other studies but cover literature on electronic resources, a topic broader in scope and definition compared

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to e-books research. Chatwal[9] examined e-resources published during 2006-2016 on measures like publication output, prolific authors, journal pattern, high productive organisations, and country-wise research output and by highly cited papers. Gupta and Dhawan[10] presented a scientometric assessment of the global research output on the 'electronic resources in libraries' during 1994-17. Dhawan and Gupta[11] analysed the global literature (7010) on 'electronic publishing' published during 2005-14 and reported that e-publishing research is in its infancy stage due to slow 3.41 per cent compound average growth rate (CAGR) growth and low citation impact. In overall, It is to be noted that in-use features like user friendliness, cost, portability have influenced the use of e-books. Besides, with the growth of e-book readers in the market with different features, copyright and digital rights management (DRM) are fast becoming challenging issues in the subject. New e-book pricing models are evolving with their own merits and demerits. Libraries are adopting innovative practices to promote e-books as well as undertaking e-book usage studies.

2. OBJECTIVES

The study provides a scientometric description of global publications data in the field of 'electronic books' based on publications data as seen from Scopus database published during 1993-2018. The objectives are as follows.

- To study the growth and distribution of world literature on the 'electronic books'
- To analyse the distribution of citations to papers constituting the global literature in the subject
- To create a scientometric profile of top 10 most productive countries in the 'electronic-books', top 20 most productive organisations, and top 20 most productive authors in the subject
- To study the distribution of publications output by broad subject areas
- To identify important keywords that comprehensively describe the literature on 'electronic-books' in all its dimensions
- To analyse the medium of research communication in the subject; and describe the characteristics of highly cited papers in the subject.

3. METHODOLOGY

The publications data on the topic of "electronic books" was sourced from Scopus database (http://www.scopus.com) covering the publication period 1993 to 2018. The search statement was formulated by combining keywords such as "ebook*" or "e-book*" or "electronic book" or "online book" with field tag "Title-Abstract-Keyword". To limit search results to the select period '1993-18', field tag "date range" was added to search statement. We further restricted our search results by disciplines including "Social Sciences", "Computer Science" and "Arts & humanities". A total of 4092 documents were discovered from the Scopus database including 2116 research articles. As the purpose of our study is to understand research trends in ebooks, we used research articles data only for analysis and description. The search statement was further modified by combing it with "country tag" and accordingly we obtained publications data on top 10 countries in the world one-by-one.. We utilised the analytical provisions outlined in Scopus database, such as "subject area tag", "source title tag", and "affiliation tag" to obtain publications data by subject, collaborating countries, journal wise and organisation wise, etc. The citation data was collected from the date of publication till 2 December 2018.

TITLE-ABS-KEY("ebook*" or "e-book*" or "electronic book" or "online book") AND PUBYEAR > 1992 AND PUBYEAR < 2019 AND (LIMIT-TO (SUBJAREA,"SOCI") OR LIMIT-TO (SUBJAREA,"COMP") OR LIMIT-TO (SUBJAREA,"ARTS"))

TITLE-ABS-KEY ("ebook*" OR "e-book*" OR "electronic book" OR "online book") AND PUBYEAR > 1992 AND PUBYEAR < 2019 AND (LIMIT-TO (SUBJAREA , "SOCI") OR LIMIT-TO (SUBJAREA , "COMP") OR LIMIT-TO (SUBJAREA , "ARTS")) AND (LIMIT-TO (DOCTYPE , "ar"))

4. DATA ANALYSIS & RESULTS

The global research studies in the field of the "electronic books" registered a fast 25.95 per cent annual average growth. In quantitative terms the annual publications output in the subject went up from 2 in 1993 to 131 publications in 2018. The subject under study accumulated a total of 2116 publications during the 26-year long period. The subject registered exponential publications growth. The highest annual output in the subject was 217 publications was in 2014 and the lowest (3 publications) in 1993. The average output per year in the subject was 81.38 publications. The subject registered 545.07 per cent absolute growth based on 13-year cumulative output that surged up from 284 in 1993-2005 to 1832 publications in

Table 1. Annual and cumulative growth of research publications on "electronic books" during 1993-18

Period	TP	TC	CPP	Period	TP	TC	CPP
1993	2	1	0.50	2008	83	1331	16.04
1994	4	11	2.75	2009	76	2231	29.36
1995	5	15	3.00	2010	116	1750	15.09
1996	7	101	14.43	2011	131	1166	8.90
1997	6	68	11.33	2012	211	1415	6.71
1998	6	16	2.67	2013	201	1448	7.20
1999	15	84	5.60	2014	217	887	4.09
2000	21	323	15.38	2015	201	642	3.19
2001	54	662	12.26	2016	190	519	2.73
2002	49	554	11.31	2017	183	187	1.02
2003	40	555	13.88	2018	131	53	0.40
2004	31	235	7.58	1993-05	284	3222	11.35
2005	44	597	13.57	2006-18	1832	12681	6.92
2006	37	280	7.57	1993-18	2116	15903	7.52
2007	55	772	14.04				

TP=Total Publications; TC=Total Citations; ACPP= Average Citations Per Paper

2006-2018 as shown in Table 1 and Fig. 1.

The citation impact of research output in the 'electronic books' averaged to 7.52 citations per paper (CPP). During 1993-2018, citation impact was the highest (29.36 CPP) in 2009 and the lowest (0.50 CPP) in 1993. The citation impact of 13-year cumulative research output averaged to 11.35 CPP during 1993-05 and 6.92 CPP during 2006-18.

4.1 Most Productive Countries in Research on the 'Electronic-books'

Global research studies on the "electronic books" were undertaken across 74 countries in the world during the study period. Publications productivity

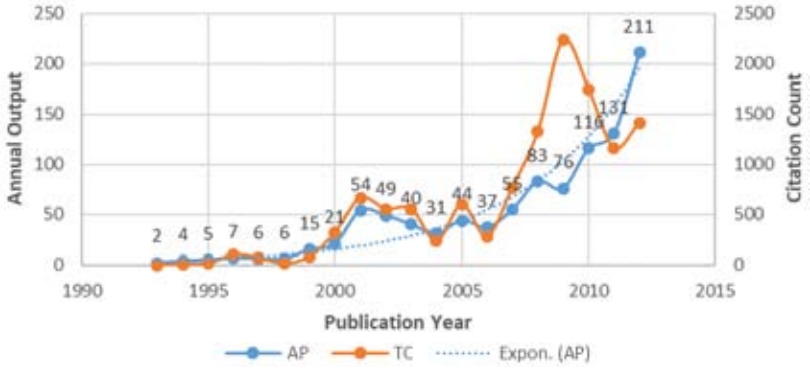

Figure 1. Research growth in "Electronic-books" - 1993-2018.

Table 2. Scientometric profile of top 10 countries in the "electronic books" during 1993-18

Country	Total Papers			Share of Papers			TC	CPP	ICP	%ICP	RCI
	1993-05	2006-18	1993-18	1993-05	2006-18	1993-18			1993-18		
United States	106	707	813	37.32	38.59	38.42	6729	8.28	47	5.78	1.10
United Kingdom	44	141	185	15.49	7.70	8.74	2235	12.08	36	19.46	1.61
Taiwan	4	112	116	1.41	6.11	5.48	1031	8.89	12	10.34	1.18
Spain	7	85	92	2.46	4.64	4.35	387	4.21	16	17.39	0.56
Canada	3	81	84	1.06	4.42	3.97	693	8.25	16	19.05	1.10
Australia	4	58	62	1.41	3.17	2.93	307	4.95	13	20.97	0.66
China	7	54	61	2.46	2.95	2.88	268	4.39	15	24.59	0.58
India	7	48	55	2.46	2.62	2.60	324	5.89	0	0.00	0.78
South Korea	2	46	48	0.70	2.51	2.27	398	8.29	10	20.83	1.10
Germany	4	30	34	1.41	1.64	1.61	170	5.00	9	26.47	0.66
Total of 10 Countries	188	1362	1550	66.20	74.34	73.25	12542	8.09	174	11.23	1.08
World total	284	1832	2116				15903	7.52			
Share of top 10 countries in global output	106	707	813				78.87				

TP=Total Publications; TC=Total Citations; CPP= Citations Per Paper; ICP= International Collaborative Papers; RCI= Relative Citation Index

by country of research publication varied widely from 34 to 813 paper. The top 10 most productive countries in the world accounted for 73.25 per cent global publications share (1550 paper) and 78.87 per cent global citations share (12542 citation) in the subject. The USA is the world leader in the subject accounting for the largest 38.42 per cent global publications share, followed distantly by United Kingdom (8.74 %), Taiwan (5.48 %), Spain (4.35 %) and other 6 countries (from 1.61 % to 3.97 %). The United Kingdom registered the highest citation impact per paper as

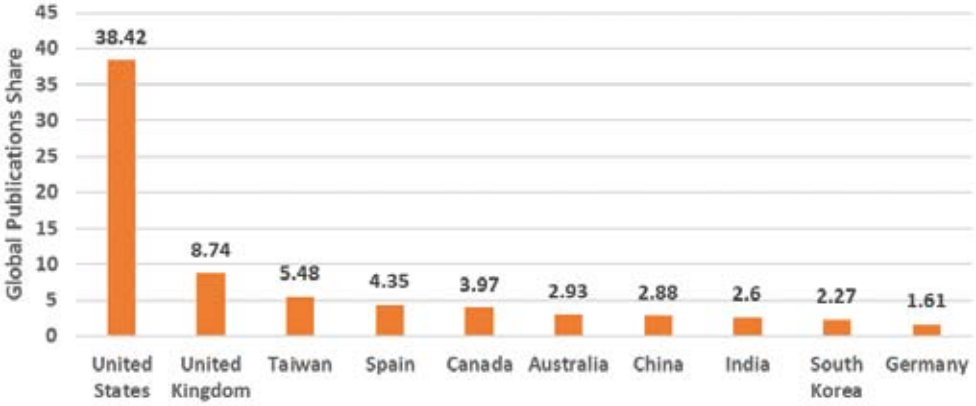

Figure 2. Distribution of global publications share of top 10 countries in the 'Electronic books' - 1993-2018.

well as relative citation index (12.08 and 1.61). Germany and China registered the largest national-level share of their output to international collaborative publications (26.47 % and 24.59 %) as shown in Table 2.

4.2 Subject-Wise Distribution of Papers in the 'Electronic Books'

The global research in the "electronic books" was distributed across three major disciplines as defined in the Scopus classification. Knowledge related resources related to social sciences accounted for the largest output in the 'ebooks' research (84.26 % share), followed studies in such resources related to computer science (44.47 %) and arts & humanities (9.45 %) as shown in Table 3.

The study examined select three subject areas for ascertaining any change in their research efforts over time and comparing it on activity index measure. The study noted that arts & humanities witnessed surge in its activity index significantly from 14.9 in 1993-05 to 113.19 (above the global average of 100) in 2006-18. Computer science instead witnessed a modest drop in the index from 129.06 in 1993-2005 to 95.49 in 2006-2018, just close to global average. Social sciences witnessed a marginal rise in the activity index from 94.44 to 100.86 during the period as shown in Table 3 and Fig. 3.

Further, the study noted that computer science registered relatively the highest citation impact (9.57 citations per paper) and arts and humanities the least (3.84 citations per paper) during 1993-2018.

4.4 Keywords in Literature on Electronic Books

Sixty-seven significant keywords with potential to define the "electronic books" in its various dimensions were identified using Scopus database and ranked on their recall performance in information retrieval. Table 4 categorises these significant keywords under 18 broad areas as defined by Scopus database. Besides, data analysis of select keywords based on their search 'hits' counts reveals major areas of research interests in the 'eletronic-books'. These include acquisition, collection development and management, usage studies and user behaviour, perception and experience, reading habits, access, information storage and retrieval, information processing, e-learning, library and information services, copyright and licensing as shown in Table 4.

4.5 Top 20 Most Productive Global Organisations

Three hundred thirty six (336) global organisation contributed a total of 2116 publication in the "electronic books" in 26-year period 1993-2018. Their research productivity individually varied ranging from 10 to 28 paper. Top 20 in the most productive organisations list contributed 12.57 per cent global publications share (266 paper) and 21.36 per cent global citations share (3397 citation) in the subject during the period under study as shown in Table 5.

- Only 6 organisation registered productivity rate above the group average of 13.30
- Nine organisation registered citation impact per paper and relative citation index above the group average of 12.77 citation per paper and 1.70
- Seven organisation contributed their individual-level share to international collaborative papers above the group average of 15.79.

4.6 Top 20 Most Productive Global Authors

Three hundred forty nine (349) author across the world contributed a total of 2116 publication in the "electronic books"in 26-year period 1993-18. Their publication productivity individually varied ranging from 6 to 24 paper. Top 20 in the most productive authors list accounted for 8.65 per cent global publications share (183 paper) and 21.12 per cent global citations share (3358 citation) as shown in Table 6.

- Only 4 author registered productivity rate above the group average of 9.15.
- Nine authors registered citation impact and relative

Table 3. Subject-wise break-up of global publications on "electronic books" during 1993-2018

Subject	Total papers			Activity index		TC	CPP	% TP
	1993-05	2006-18	1993-18	1993-05	2006-18			
Social sciences	226	1557	1783	94.44	100.86	12491	7.01	84.26
Computer science	163	778	941	129.06	95.49	9006	9.57	44.47
Arts & humanities	4	196	200	14.90	113.19	768	3.84	9.45
Total of the world	284	1832	2116					

TP=Total Publications; TC=Total Citations; CPP= Citations Per Paper

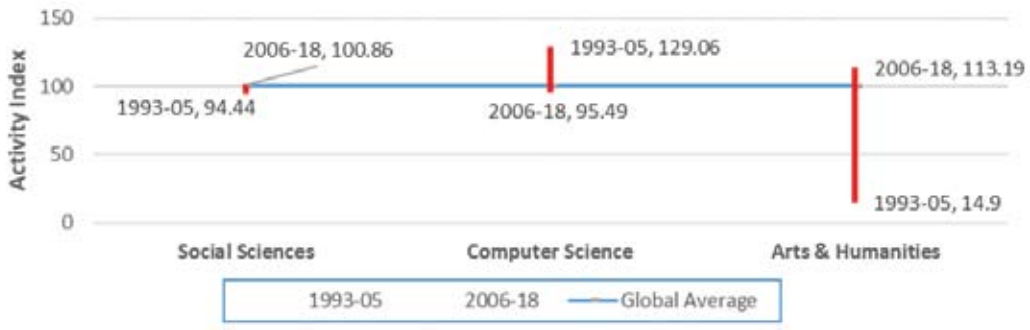

Figure 3. Activity index: Research on electronic books- 1993-2018.

Table 4. Classification of significant keywords in the "electronic books" by major areas of research during 1993-2018

Broad area	Keywords
Library and Type	Academic library (136), Library (120), Digital Library (82), Public Libraries (23), University Libraries (19)
Resources	Electronic Resources (49), E-Books (895), Books (65), Textbooks (52), E-Textbooks (34), Digital Books (14), Electronic Journals (21), Multimedia (17)
User and Usage	User Studies (26), User Interfaces (23), User Statistics (16), User Perception (12), User Behavior (11), User Experience (11), Computer Aided Instruction (20)
Acquisition	Acquisition (21), Patron Driven Acquisition (12)
Accessibility	Online Systems (24), Social Networking Online (21), Open Access (13), CD-ROM (12)
Information Processing	Cataloguing (12)
Collection Development & Management	Collection Development (67), Collection Management (21), Collection Management (18)
Reading Habits	Reading (50), Digital Reading (16)
Learning	E-Learning (34), Learning (29), Learning Systems (17), Computer-Aided Instruction (20)
Publishing	Electronic publishing (252), Publishing (41), Digital Publishing (31), Publishing Industry (15), Book publishing (14)
Devices Used	Mobile Devices (36), E-Reader (47), I-Pad (20), CD-ROM (12), Digital Devices (11)
Information Storage & Retrieval	Information Retrieval (30)
Library & Information Services	Electronic Document Exchange (106), Inter-Library Loan (22), Library Services (13), Marketing (23)
Copyright	Copyright (33)
Licensing	Licensing (11), Technical Acceptance Model (15)
Client Focus	Child, adult, old age
Context Focus Level	School, Undergraduate, Graduate, Master level
Others	Internet (91), World Wide Web (57), Search Engines (10),, Computer Software (18), Database Systems (14), Hypertext Systems (14),

citation index above the group average of 18.35 citations per paper and 2.44.

- Seven authors contributed their individual-level share to international collaborative papers above the group average of 13.11 per cent.

4.7 Channels of Research Communication

Of the total publications output in the 'electronic-books', 1998 appeared as articles across 652 journal. The top 20 most productive journals contributed 20 to 83 paper each; together they contributed 632 papers (31.63 % share of 2116 global research output). The journal *Publishing Research Quarterly* tops in the most productive journals list with 83 paper in the subject as shown in Table 7.

4.8 Highly Cited Papers

Of the 2116 global publications in "electronic books", 59 received high citations, ranging from 50 to 1241 citation per paper since their publication during 1993-2018. These 59 highly cited papers accounted for 5653 citation, with an average of 95.81 citations per paper. In all 15 countries collaborated to publish 59 highly cited papers in the subject. The USA as a leading partner country collaborated in largest number of highly cited papers (28), followed by U.K. (12 paper), Israel (6 paper), Iran and Taiwan (4 paper each), Canada, India, Netherlands and South Korea (2 paper each), China, Finland, Hong Kong, Japan, Spain and Switzerland (1 paper each). Of the 59 highly cited papers (all were articles) 20 resulted from participation by authors belonging to standalone single-institutions (no collaboration), 21 by authors belonging

Table 5. Scientometric profile of top 20 most productive organisations in the "electronic books" 1993-18

Organisations	TP	TC	CPP	HI	ICP	% ICP	RCI
Bar-Ilan University, Israel	28	753	26.89	14	0	0.00	3.58
University of Strathclyde, U.K	19	409	21.53	23	9	47.37	2.86
National Cheng Kung University, Taiwan	17	256	15.06	7	0	0.00	2.00
Universidad de Salamanca, Spain	17	35	2.06	4	3	17.65	0.27
Loughborough University, U.K.	15	230	15.33	7	0	0.00	2.04
Texas A & M University, USA	14	217	15.50	8	0	0.00	2.06
University College London, U.K.	13	394	30.31	7	5	38.46	4.03
National Taiwan Normal University	13	95	7.31	4	2	15.38	0.97
University of Malaya, Malaysia	13	184	14.15	7	6	46.15	1.88
National Chungttsing University, Taiwan	12	124	10.33	4	1	8.33	1.37
University of Sheffield, U.K.	11	38	3.45	3	3	27.27	0.46
University of Toronto, Canada	11	70	6.36	5	6	54.55	0.85
University of Central Florida, USA	11	21	1.91	3	1	9.09	0.25
National Central University, Taiwan	11	178	16.18	6	1	9.09	2.15
University of North Carolina at Chapel Hill, USA	11	64	5.82	4	1	9.09	0.77
University of Colorado at Boulder, USA	10	24	2.40	3	1	10.00	0.32
North Carolina State University, USA	10	16	1.60	2	0	0.00	0.21
City University of New York, USA	10	85	8.50	4	0	0.00	1.13
University of Maryland, USA	10	129	12.90	5	1	10.00	1.72
National Taiwan University of Science & Technology	10	75	7.50	5	2	20.00	1.00
Total of 20 Organisations	266	3397	12.77	125	42	15.79	1.70
Global Total	2116	15903	7.52	6.25			
Share of 20 organisations in Global Total	12.57	21.36					

TP=Total Publications; TC=Total Citations; CPP= Citations Per Paper; HI= H-Index; RCI= Relative Citation Index

to multiple collaborative institutions (21 national collaborative papers) and 8 others were international collaborative papers. A total of 154 author from 107 organisation from 15 countries were involved in the publication of 59 highly cited papers. The 59 paper had appeared across 39 journal: 6 each in *Computers in Education* and *Library High Tech*, 3 papers each in *ASLIB Proceedings* and *Library Collections, Acquisition and Technical Services*, 2 paper each in *Computers in Human Behavior, Journal of Academic Librarianship, Online Information Review* and *Program* and 1 paper each in 31 other journals.

5. CONCLUSIONS

This paper analysed global literature (2116 publication) on "electronic books" published during 1993-18 vis-a-vis India. The subject registered a fast 25.99 per cent annual growth and averaged modest citation impact of 7.52 citations per paper. Bulk of global research studies in 'electronic-books' focused on information related studies in social sciences (84.26 %), followed by e-books such studies in computer science (44.47 %), and arts & humanities (9.45 %).

Global research on 'electronic-books' was undertaken across 74 countries, but top 10 countries alone dominate global research productivity in the subject with 73.25 per cent global share. The USA is the world leader with 38.42 per cent global share followed distantly by rest of 9 countries. Their (rest of 9 countries) combined global share 34.87 per cent has been marginally below the USA. India ranked 8th most productive country in the world. The global literature on 'electronic-books' is scattered across a total of 336 global organisations. Bar-Ilan University from Israel has topped the list of 20 most productive global organisations and H. Falk (24 paper) topped in the list of 20 most productive global authors in the subject. M. Tripathi from Jawaharlal Nehru University, India ranked 19th position in the list of most productive authors. The most popular journals on the topic of the 'electronic-books' are *Publishing Research Quarterly* and *Electronic Library*.

The study concludes that the 'electronic-books' is still not a hot topic for research in India despite is growing

Table 6. Scientometric profile of top 20 most productive authors in the "electronic books" 1993-18

Author	Affiliation	TP	TC	CPP	ICP	% ICP	RCI
H. Falk	Not Available	24	5	0.21	0	0	0.03
O. Korat	Bar-Ilan University, Israel	19	671	35.32	0	0	4.70
A. Shamir	Bar-Ilan University, Israel	17	561	33.00	0	0	4.39
Y.M. Huang	National Cheng Kung University, Taiwan	11	202	18.36	0	0	2.44
F. Gibb	University of Strathclyde, U.K	9	236	26.22	5	55.56	3.49
M. Landoni	University of Strathclyde, U.K	9	248	27.56	3	33.33	3.66
N. Medeiros	Haverford College, USA	9	17	1.89	0	0	0.25
S. Polanka	Wright University, USA	8	8	1.00	0	0	0.13
A.Cordon-Gracia	Universidad de Salamanca, Spain	7	15	2.14	3	42.86	0.28
C. McKnight	Loughborough University, U.K.	7	147	21.00	0	0	2.79
D. Nicholas	University College London, U.K	7	414	59.14	4	57.14	7.86
I. Rowlands	University College London, U.K	7	414	59.14	4	57.14	7.86
R. Wilson	University of Strathclyde, U.K	7	133	19.00	1	14.29	2.53
S. Fahimifar	Alzahra University, Iran	6	6	1.00	0	0	0.13
A.R. Lamothe	Lauentian University, Canada	6	48	8.00	0	0	1.06
E. Maceviciute	University of Boras, Sweden	6	9	1.50	4	66.67	0.20
M. McGrath	Not Available	6	5	0.83	0	0	0.11
J. Rowley	Manchester Metropolitan University, U.K.	6	186	31.00	0	0	4.12
M. Tripathi	Jawaharlal Nehru University, India	6	15	2.50	0	0	0.33
N.Vanderschantz	University of Waikato, New Zealand	6	18	3.00	0	0	0.40
Total of 20 Authors		183	3358	18.35	24	13.11	2.44
Total of World		2116	15903	7.52			
Share of 20 authors in global output		8.65	21.12				

TP=Total Publications; TC=Total Citations; CPP= Average Citations Per Paper; HI= H-Index; RCI= Relative Citation Index

popularity in the USA. Even as India ranks 8th highest country in the world, its global productivity share has remained small and insignificant, just 2.26 per cent share. Besides, It does not figure in the list of top 20 most productive global organisations. Furthermore, its average annual output too remained small and insignificant, limited to 81.38 paper per year during 1993-2018. National intervention in terms of policy and funding support is required to catalyse the quantity and quality of research in 'electronic-books' in India, to make e-books as a popular medium of communication in research, teaching, and learning, and to make drive India as a leading and most popular destination for e-books publishing across the world.

REFERENCES

1. Subba Rao, Siriginidi. Electronic books: a review and evaluation, *Libr. Hi. Tech.*, 2003, **21**(1), pp.85-93. doi: 10.1108/07378830310467427.
2. Price, Dan (2018). The different e-books formats explained: EPUB, MOBI, AZW, IBA, and more. https://www.makeuseof.com/tag/ebook-formats-explained/ (Accessed 14 August 2018).
3. Vassiliou, Magda & Rowley, Jennifer. Progressing the definition of "e-book", *Libr. Hi. Tech.*, 2008, **26**(3), 355-368. doi: 10.1108/07378830810903292.
4. Carreiro, Erin. Electronic books: How digital devices and supplementary new technologies are changing the face of the publishing Industry. *Publication Research Quarterly*, 2010, **26**, 219–235. doi: 10.1007/s12109-010-9178-z.
5. Mishra, R.N. & Laltanmawii, Rosa. Use of e-resources in Indian Institute of Technology Library, Guwahati: A survey. *In* Electronic resources management in libraries. edited by C.K. Ramaiah, New Delhi; Allied. 2013. 201-12
6. Kolle, Shankar Reddy; Shettar, Iranna; Vijay Kumar, M. & Parameshwar, G.S. Publication trends in literature on eBooks: A scopus based bibliometric analysis. Collection and Curation, 2018, **37**(3), 119-127. doi: 10.1108/CC-07-2017-0030.
7. Kumbhar, Rajendra. Trends in e-book research. *DESIDOC J. Lib. Inf. Technol.*, May 2018, **38**(3), 162-69.

Table 7. Top 20 most productive journals in the "electronic books" during 1993-2018

Journals	Number of papers		
	1993-05	2006-18	1993-18
Publishing Research Quarterly	5	78	83
Electronic Library	26	42	68
Journal of Electronic Resources in Medical Libraries	6	36	42
Library High Tech News	26	11	37
Serials Librarian	1	32	33
Library High Tech	11	21	32
Collection Building	4	27	31
Serials Review	0	30	30
Journal of Electronic Resources Librarianship	0	29	29
International Journal of the Book	0	27	27
Professional De La Informacion	0	25	25
Journal of Academic Librarianship	2	22	24
Collection Management	0	23	23
DESIDOC Journal of Library & Information Technology	0	22	22
Journal of Library Administration	9	13	22
Technical Services Quarterly	0	22	22
Interlending & Document Supply	12	9	21
Serials	0	21	21
Computers & Education	0	20	20
Evidence-based Library & Information Practice	0	20	20
Total of 20 journals	102	530	632
Total global journal output	259	1739	1998
Share of top 20 journals in global journal output	39.38	30.48	31.63

doi: 10.14429/DJLIT.38.3.12382.

8. Kumbhar, Rajendra. E-books: Review of research and writing during 2010. *Electron. Libr.*, 2012, **30**(6), 777-795.
doi: 10.1108/02640471211282109.
9. Chhatwal, A. A bibliometric study of world research output on e-resources during 2006– 16. *Int. J. Inf. Dissemination Technol.*, 2018, **8**(1), 8-13.
doi: 10.5958/2249-5576.2018.00002.X.
10. Gupta, B.M. & Dhawan, S.M. Global research studies on "Electronic Resources in Libraries": A Scientometric assessment during 1994-17. *COLLNET J. Inf. Manage. Scientometrics*, 2019, **13**(1), 167-181.
doi: 10.1080/0937766.2019.1583836.
11. Dhawan, S.M; Gupta, B.M. & Gupta, Ritu. Research in electronic publishing field: A scientometric assessment of publications output during 2005-14. *Annals. Lib. Inf. Stud.*, 2016, **63**, 59-67.
12. Gupta, B.M.; Dhawan, S.M. & Kolle, Shanker Reddy. Global research studies on "Electronic journals" during 1990-2017: A scientometric study. *DESIDOC J. Lib. Inf. Technol.*, 2019, **39**(3), 7-15.
doi: 10.10429/DJLIT.39.3.14016.

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