

**TRANSFORMATION
OF
KNOWLEDGE RESOURCE
CENTERS
IN
COLLABORATIVE ERA
(VOLUME I)**

EDITOR
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(Volume I)*

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AUTHORSHIP PATTERN, MOTIVATIONAL FACTORS AND BARRIERS IN RESEARCH PRODUCTIVITY

—Rahul B. Khandare

Abstract

The paper presents Authorship pattern, motivational factors and barriers in Research Productivity of Academic librarians affiliated to North Maharashtra University, Jalgaon from 2008 to 2012. The study covers Gender wise, Year wise, Age wise, Writing/publication status of librarians, Language wise productivity, Financial Agencies of research, Motivational Factors, Authorship Pattern, Authorship position, Use of electronic resources in research, Barriers in research productivity etc.

Keywords

Academic Library, Librarian, NMU, Authorship Pattern, Motivational Factors, Barriers, Research Productivity.

Introduction

The Library and Information Science is the youngest profession but fast developing, in the last few decades. It is particularly so in India after Independence. Dr. S.R. Ranganathan was a pioneer in starting the Library science education and research activity as well (Raju, 2008). Research in library and information science is increase. e.g. library automation, OPAC, computerized SDI, CAS, Electronic-mail service, use of electronic-resources library 2.0 etc. Librarians not only play the key role of repository of knowledge but also work as the purveyor of research activities. There number of problems

that librarians and Library professionals face. It is only research that helps to solve those problems, expand the human knowledge base and develop better and advanced tools and techniques for their work situations. These factors have, however, encouraged the LIS professionals to conduct research activities within their ambit in India. At the college level, the most important requirement from promotion is publications, it is the rule either "you publish or you perish."

Statement of the Research Problem

The Problem under study is "Authorship Pattern, Motivational Factors and Barriers in Research Productivity." The study will evaluate the research productivity of the academic librarians which are affiliated to North Maharashtra University, Jalgaon.

Research Productivity

Redman and Mory define Research as a "Systematized effort to gain new knowledge."

Bottle and other (1994) accept that the productivity of an academic can be calculated by counting the number of publishing produced over a period of time. Supporting the above view Hattie and others also point out that the individual librarians scholarly productivity can be counted and used as a unit of analyses when evaluating higher education. Counting can thus be used to measures the status of an academic with regard to scholarly publishing.

Librarian publishing productivity is often used as an index of departmental and institutional prestige and is strongly associated with an individual librarian repartition, visibility and advancement in the academic reward structure.

Review of Literature

Mukherjee (2013) the study shows the bibliometric characteristics during 1968-2011 including authorship pattern, citations received and relative performance of Prof. Lalji Singh an eminent Indian scientist in the field of genome analysis, DNA finger printing, etc. there are 222 articles indexed in the two databases.

Prof. Singh has contributed on an average of 7-8 articles per year. Higher number of articles appeared in 2006 (27 articles) followed by 2007 and 2008 (19 articles each year) and 2009 (16 articles). Prof. Singh used mostly multiple authorship patterns.

Aswathy & Gopikuttan (2013) the study is based on publication pattern of faculty members of three universities in Kerala namely University of Kerala, Mahatma Gandhi University and University of Calicut. They observed that the faculty members under the study contributed papers mostly in journals and conference proceedings. Professors contribute more publications than reader and lecturer. Multi-authored papers are high when compared against single authored papers. The faculty members with experience between 20 and 25 years are having maximum Degree of Collaboration.

Gupta and Khare (2013) The study covers 63 doctoral thesis submitted to the department of LIS in Bundelkhand University, Jhansi and Dr. Harisingh Gour University, Sagar which have been submitted during 1992 to 2009. Most of the cited sources were books and journals by both universities and most of the cited literature was single authored. As per the country wise distribution most of the literature cited appeared from U.S.A. ILA Bulletin is most cited journal.

Gupta and Khare (2013) they conduct a study on 28 doctoral thesis submitted to the department of LIS in Dr. Harisingh Gour University, Sagar. The analysis reveals that the journal used maximally were those published during the 1995-1986. Maximum numbers of journals consulted are those published from U.S.A. IASLIC Bulletin with 351 citations is most cited Indian journal.

Kumar (2013) studied a bibliometric analysis of journal of Indian library association (JILA). They found that maximum number of research papers were contributed by single authors i.e. 34 (47.88%) articles. This is followed by two authors with 28 (39.43%), and three authors with 8 (11.26%) articles. The number of references in articles published from 2007 to 2011, the highest number 263 being in year 2007, followed by year 2010, 2008, 2011 and 2009 with 157, 139, 98, 90 references respectively. It is observed that only one author from Pakistan contribute in the journal during the five years. Out of

119 authors 118 (99.15%) are from India followed by Pakistan with 1 (0.84%) author. The four states Haryana, Delhi, Tamil Nadu and Maharashtra state top the list with 51 while the remaining authors from fifteen states contributed 53.

Rao (2013) the main objective of this review is to survey the research publications (since 2000) in Scientometrics and related topics in India. The data was collected from the LISA database; all the records in LISA were searched using the terms based on the scope and definition of scientometrics. Searches then were narrowed down to those journal articles which were published during 2000-2012. They were able to identify 167 relevant articles. 110 articles were summarized and presented in different subjects in the area of pure science and social science. He found that proportion of single authorship is quite high in the field of library and information science, bio-informatics, social sciences (92 %), and in economics. Proportion of multiple authorship is very high in chemistry, biological science, biotechnology, laser research (about 97.7 %), thorium studies, etc. In library and information science, URLs are less cited, compared to that in other disciplines. There are good number of articles related to Bradford's law and Lotka's law. He also mentions that no scientometric research is being carried out to evaluate and measure research outcome; there is also no evidence that the results of the scientometric research is being used in drafting science policy or in science administration.

Francis & Sathian (2014) conducted a study on university libraries and their human resource management with special reference to Kerala. They found that out of 13 universities in Kerala, four universities have not established the university libraries. Seven universities not created the post of librarian. Out of 13 universities eight are functioning in two shifts. They also mention that UGC schemes, 1986, 1996 and 2006 for librarians were not properly Kerala.

Goel & Patadia (2014) conducted a study on Doctoral thesis awarded by Maharaja Sayajirao University of Baroda during 2003-2012. They found that 929 scholars were awarded Ph.D. during this period. Out of this largest number of Ph.D.'s awarded was with the faculties of Science (286), followed by Technology and Engineering

(251). 17.12% of the scholars registered were reserved categories, whereas, 5.41% were general category. 4.05% of the doctoral scholars registered were SC, 7.66% ST, whereas, 5.41% OBC. 102 scholars were awarded Ph.D. Degree during 2011-12. 46% male and 54% female scholars registered for Ph.D. during 2011-2012. 835 papers were published by teachers during 2011-12.

Objectives

The main objective of this study is analysing the Authorship pattern, motivational factors and barriers in research productivity of academic librarians affiliated to North Maharashtra University during 2008-2012. In particular, the study focuses on the following objectives.

- To know Gender wise productivity
- To know Year wise productivity
- To know Language wise productivity
- To determine Financial Agencies provides fund to research work.
- To know Authorship Pattern
- To know the Motivational Factors
- To know Use of electronic resources in research
- To find out Barriers in research productivity

Hypothesis

- More experience more productivity
- Well situation of working & living condition motivate the librarians to write

Scope and Limitation

Present study is limited to only 46 college librarians in Jalgaon district which are affiliated to North Maharashtra University; study is limited only to Arts, Commerce, and Science colleges during 2008-2012.

Methodology

Present study has done with the help of survey method. Survey research is distinguished by its reliance upon the selection of person from large and small population and the making of observation. So that inference can be applied to present population.

Data Analysis

The total numbers of Academic Libraries in North Maharashtra University, Jalgaon (NMU) are 46. Out of them 34 librarians have responded, 12 librarians have not responded.

The collected data have been analyzed with using following parameters;

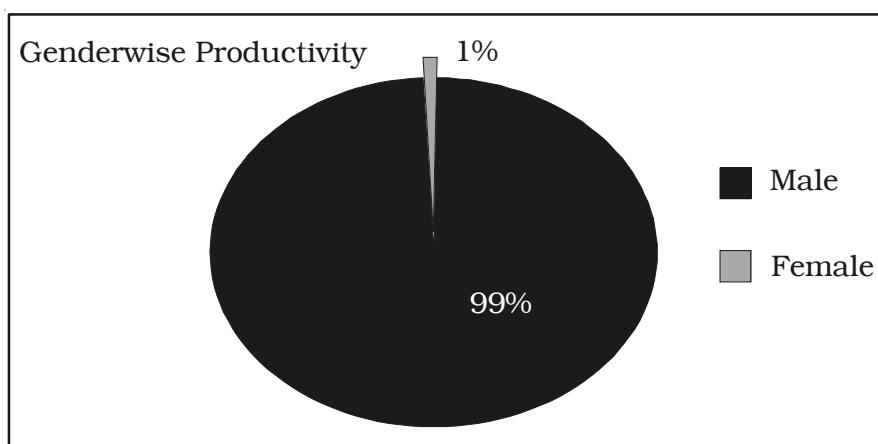
- Gender wise productivity
- Year wise productivity
- Age wise productivity
- Writing/publication status
- Language wise productivity
- Financial Agencies
- Book Publication Status
- Authorship Pattern
- Motivational Factors
- Authorship position
- Use of electronic resources in research
- Barriers in productivity

Gender wise productivity

Responded were asked about Gender. The response received presented in Table No.1

Table No. 1 Gender wise Productivity

Sr. No.	No. of Respondent	Publications	Percentage
1	28	563	99%
2	06	06	01%
Total	34	569	100

Figure No. 1 Gender wise Productivity

It can be observed from Table No.1 and figure No.1 that Male librarians have published 563 (99%) publications, while Female librarians have published 06 (1%) publications. It indicates that Male Librarians have more research productivity than Female Librarians.

Year wise Productivity

Respondents were asked about Year wise productivity. The responses received are presented in figure no. 2.

Figure No. 2 Year wise Productivity

Figure no. 2 presents the year wise productivity of librarians during 2008-2012. The figure shows that 2012 was the more productive year in relation to the number of publications. The less productive year was 2008. It shows that the productivity of librarians increase year by year. It is growing than previous year.

Age wise productivity

Respondents were asked about Age group. The responses received are presented in Table no. 2.

Table No. 2 Age wise productivity

Sr. No.	Respondent	Age Group
1	Dr. S.J. Deshmukh	51 to above
2	Dr. D. M. Deshmukh	51 to above
3	Dr. V.S. Kanchi	41-50
4	Dr. B. G. Mukhyadal	31-40
5	R. B. Khandare	21-30
6	Dr. D. A. Khobragade	41-50
7	M. M. Chavan	51 to above
8	V.T. Parit	51 to above
9	P. R. Deshmukh	31-40
10	P.N. Pawar	31-40
11	R.P. Jadhav	21-30
12	V.R. Kamble	31-40
13	N.G. Sarode	41-50
14	B.N. Patil	41-50
15	Mrs. A.A. Wanikar	31-40
16	P.M. Dongare	31-40
17	S. S. Patil	51 to above

18	S.B. Rathod	41-50
19	I. G. Gaikwad	31-40
20	S. A. Zope	41-50
21	D.T. Pawar	51 to above
22	V. B. Patil	41-50
23	S.P. Patil	31-40
24	D. R. Patil	31-40
25	D. H. Dhargave	31-40
26	Mrs. R.M. Gajbhiye	31-40
27	Mrs. N.B.R. Khan	51 to above
28	Mrs. L. K. Patil	41-50
29	P.S. Mahajan	41-50
30	S.S. Kale	51 to above
31	M.D. Warade	51 to above
32	Mrs. A.R. Chaudari	31-40
33	P.S. Patil	51 to above
34	Mrs. P. K. Bavaskar	31-40

Table No. 2.1 Age wise productivity

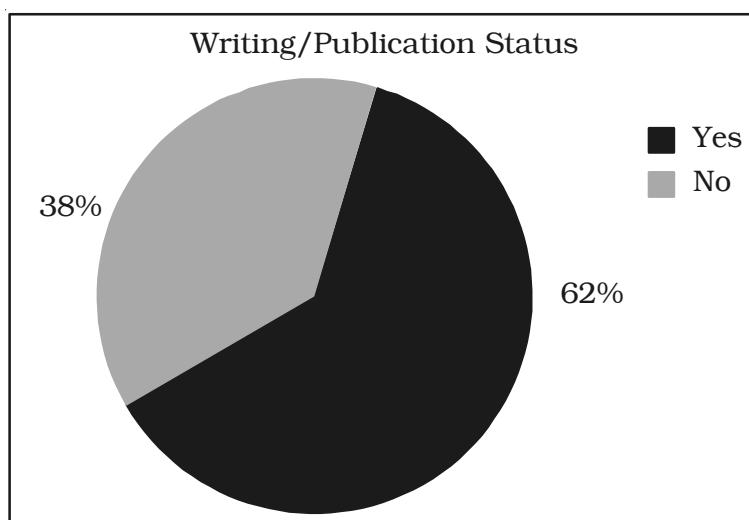
Sr. No.	Age Group	Respondent	Percentage
1	21-30	02	06%
2	31-40	13	38%
3	41-50	09	27%
4	51 to above	10	29%
Total		34	100

Table No. 2 and 2.1 indicated that majority librarians belong to 31-40 age group i.e. 13 (38%). 10 (29%) librarians belong to 51 to above age group. It shows that Dr. Shamkant J. Deshmukh and Dr. Dilip Deshmukh with an equal age Group i.e. 51 to above having rank first. Followed by Dr. V.S. Kanchi having 41-50 age group. This indicates that "**More experience more productivity**" (**Hypothesis No. 1**) is valid.

Writing/Publication Status

Respondents were asked about writing/publication research status. The responses received are presented in figure no. 3.

Figure No. 3 Writing/Publication Status



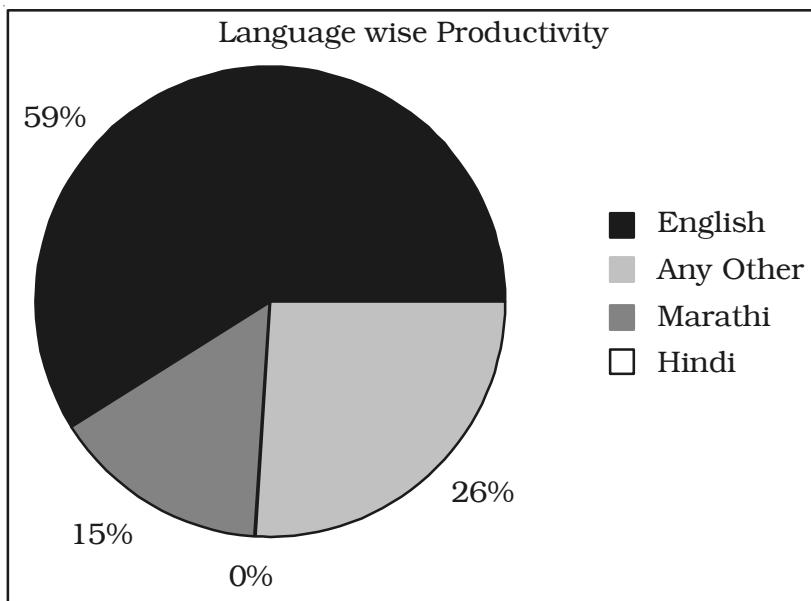
The figure no. 3 shows that 21 (62%) librarians are write/published research papers in various seminars, conference, Journal and Books etc.; whereas 13 (38%) librarians not write/published any research activity/paper.

Language wise productivity

Respondents were asked about their language of research productivity. The responses received have been tabulated in Table No. 3 and figure no 4.

Table No. 3 Language wise productivity

Sr. No.	Preferred Language	No. of Respondent	Percentage
1	English	20	59%
2	Marathi	05	15%
3	Hindi	-	-
4	Any others	09	26%
	Total	34	100

Figure No. 4 Language wise productivity

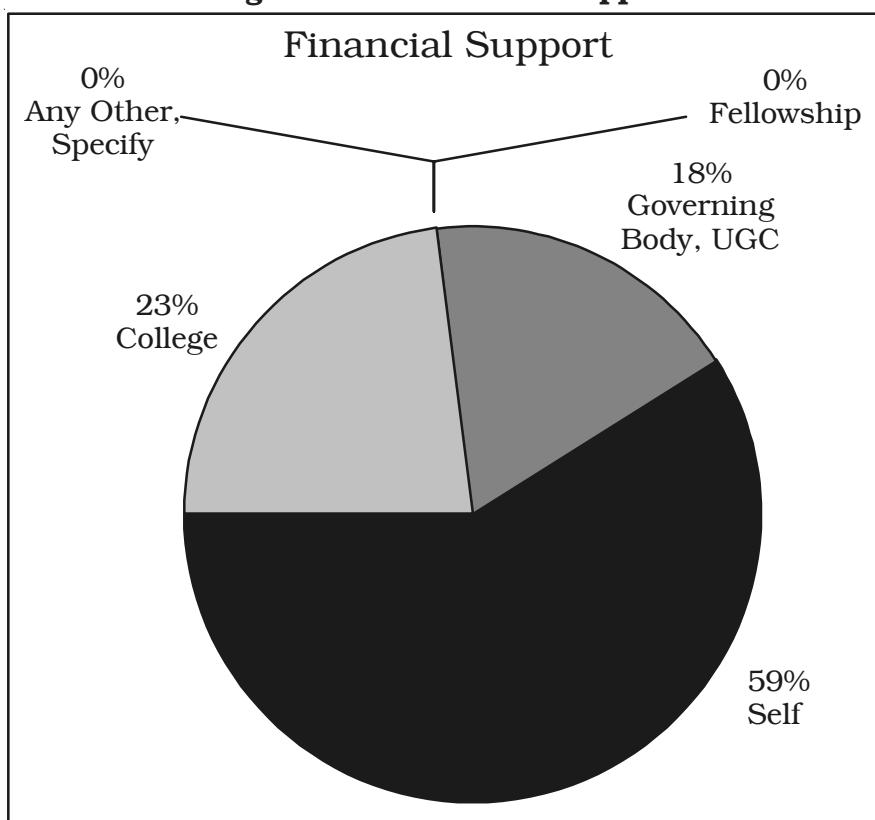
The Table No. 3 and Figure no. 4 indicate that 20 (59%) librarians using English language for research publication. Followed by 05 (15%) librarians used Marathi Language; Whereas 09 (26%) librarians are not doing any research activity. Nobody used Hindi language for research purpose.

Financial support for your research

Respondents were asked about financial support for their research publication. The responses received are tabulated in Table no. 4 and figure no. 5.

Table No. 4 Financial support

Sr. No.	Financial Support	Number of Respondent	Percentage
1	Fellowship	-	-
2	Governing Body, UGC	06	18%
3	Self	20	59%
4	College	08	23%
5	Any other, specify	-	-
Total		34	100

Figure No. 5 Financial support

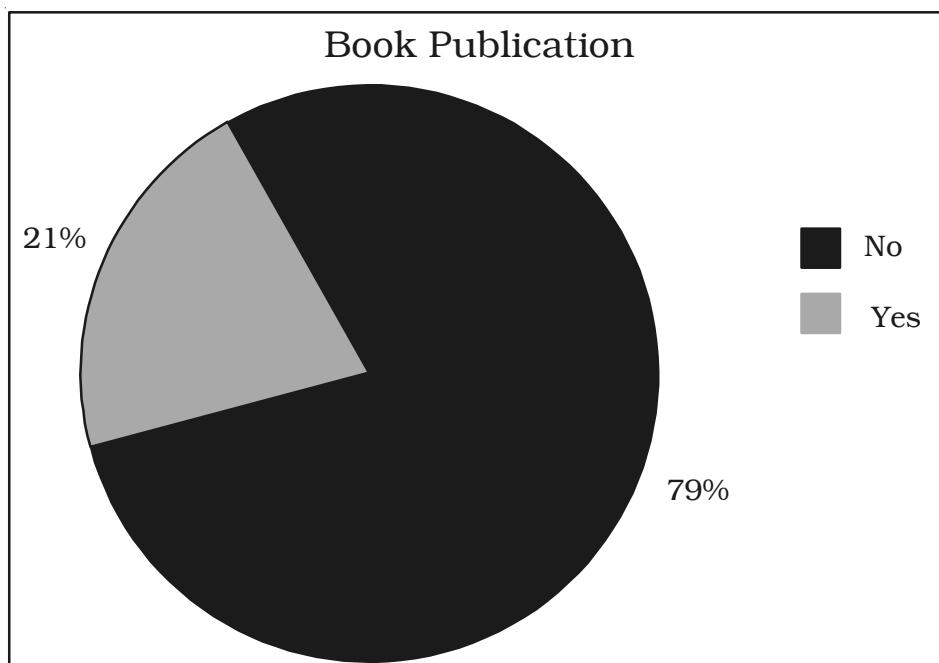
It is observed from the Table no. 4 and Figure no. 5 that mostly librarians i.e. 20 (59%) spend self on research activity; 08 (23%) librarians stated that, colleges provide financial support for research

publication. Whereas 06 (18%) librarians mention that Governing Body/UGC fund provides fund for research activity.

Book Publication

Respondents were asked about Publication of Book. The responses received are presented in figure no. 6.

Figure No. 6 Book Publication



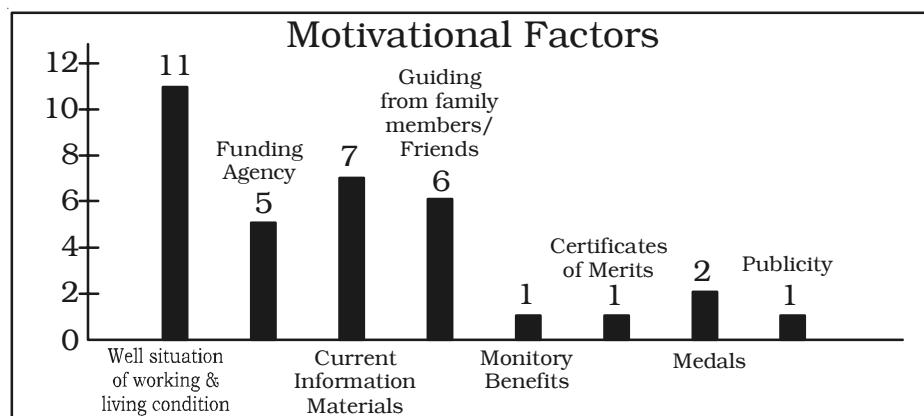
It can be noted from figure no. 6 that 27 (79%) librarians are not published/writes any type of book. whereas only 07 (21%) librarians published books i.e. Text, Reference, Subject, Edited Book.

Motivated Factor in productivity

Respondents were asked about Motivational Factors in their productivity. The responses received are tabulated in Table no. 5 and figure no. 7.

Table No. 5 Motivational Factors

Sr. No.	Motivated Factor	Number of Respondent	Percentage
1	Well situation of working & living condition	11	32%
2	Funding Agency	05	15%
3	Current Information Materials	07	20%
4	Guiding from family members/ Friends	06	18%
5	Monitory benefits	01	03%
6	Certificates of Merits	01	03%
7	Medals	02	06%
8	Publicity	01	03%
Total		34	100

Figure No. 7 Motivational Factors

The Table no. 5 and figure no. 7 shows that mostly librarians i.e. 11 (32%) motivated by Well situation of working & living condition; 05 (15%) librarians motivated by funding agency; while Current Information Materials motivated to 07 (20%) librarians; 06 (18%) librarians motivated through Guiding from family members/ Friends; Whereas 02 (06%) feel that rewarding through Medals motive to

research and only 01 (03%) librarians motivated through Monitory benefits, Certificates of Merits and Publicity, respectively. **“Well situation of working & living condition motivate the librarians to write” (Hypothesis no. 2) is valid.**

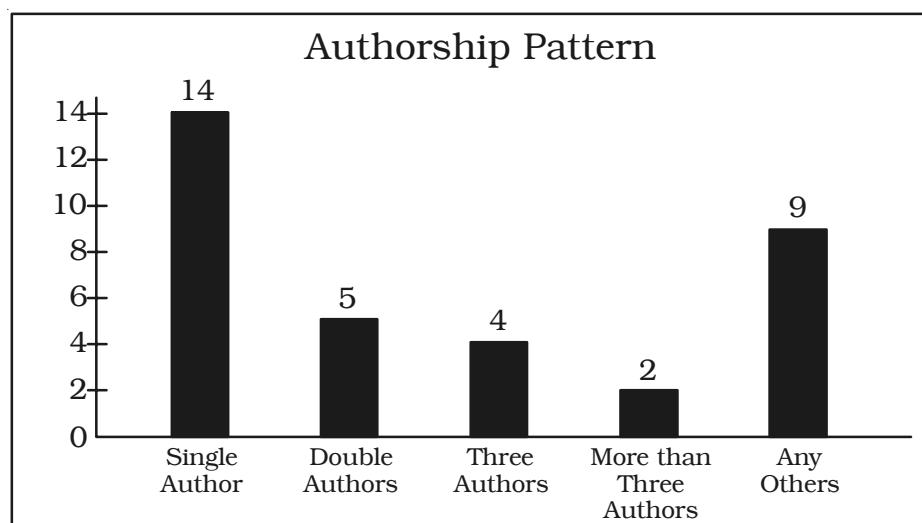
Authorship Pattern

Respondents were asked about Authorship pattern. The responses received are tabulated in Table No. 6 and figure no. 8.

Table No. 6 Authorship Pattern

Sr. No.	Authorship Pattern	Number of Respondents	Percentage
1	Single Author	14	41%
2	Double Authors	05	14%
3	Three Authors	04	12%
4	More than Three Authors	02	06%
5	Any others	09	27%
Total		34	100

Figure No. 8 Authorship Pattern



It can be noted from Table no. 6 and figure no. 8 it is clear that 14 (41%) librarians using single authorship pattern; while 05 (14%) librarians preferred double authorship pattern; followed by 04 (12%) librarians using three authorship pattern and only 02 (06%) librarians using more than three authors pattern in their publication. Whereas 9 (27%) librarians not using any authorship pattern.

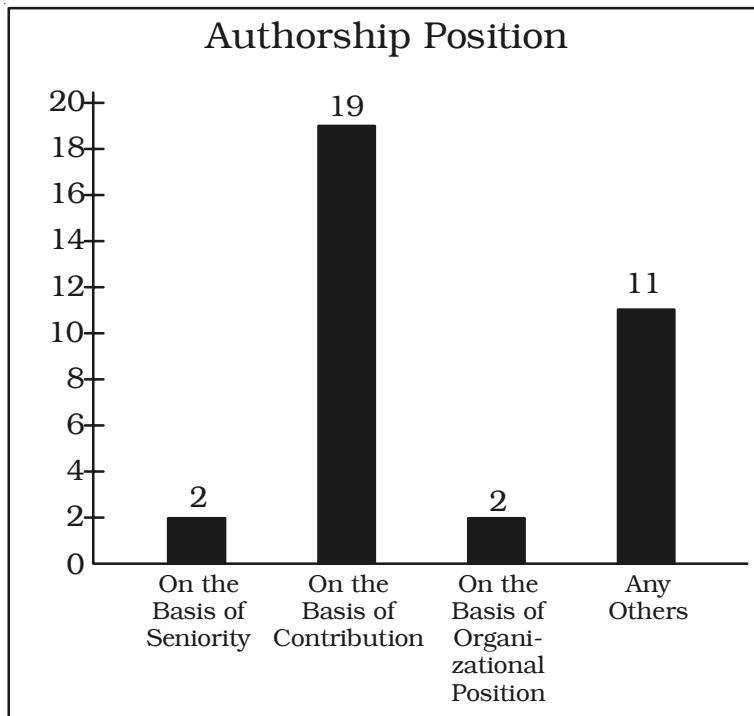
Authorship Position

Respondents were asked about Authorship Position. The responses received are tabulated in Table no. 7 and figure no. 9.

Table No. 7 Authorship Position

Sr. No.	Authorship Position	Number of Respondent	Percentage
1	on the basis of seniority	02	06%
2	on the basis of contribution	19	56%
3	on the basis of organizational position	02	06%
4	Any others	11	32%
	Total	34	100

Figure No. 9 Authorship Position



It can be observed from Table no. 7 and figure no. 9 that 02 (06%) librarians published their research work on the basis of seniority and on the basis of organizational position, respectively; while 19 (56%) librarians published their research work on the basis of contribution; Whereas 11 (32%) librarians not doing any research work.

Reasons for attending the Workshops/Symposia/Seminars/Conferences etc.

Respondents were asked about Reasons for attending the Workshops/Symposia/Seminars/Conferences etc. The responses received are tabulated in Table no. 8 and figure no. 10.

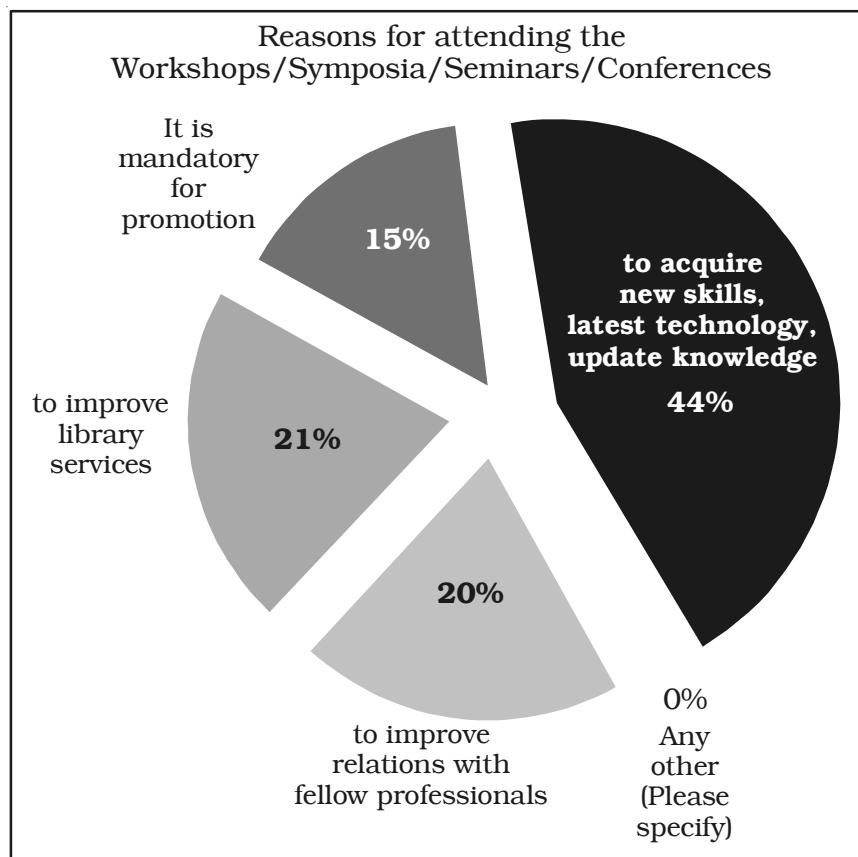
Table No. 8 Reasons for attending the Workshops/Symposia/Seminars/Conferences

Sr. No.	Reasons	Number of Respondent	Percentage
1	to acquire new skills, latest technology, update knowledge	15	44%
2	to improve relations with fellow professionals	07	20%
3	it is mandatory for promotion	05	15%
4	to improve library services	07	21%
5	Any other (please specify)	-	-
Total		34	100

Table No. 9 Use of E-resources in research work

Sr. No.	E-Resources	Preference	Not Aware
1	Search Engines	34 (100%)	-
2	Library websites	30 (88%)	04 (12%)
3	Web OPAC	25 (74%)	09 (26%)
4	E-Books	24 (71%)	10 (29%)
5	Online Journals	25 (74%)	09 (26%)
6	Online databases	17 (50%)	17 (50%)
7	Open Source Resources (like DOAJ)	20 (59%)	14 (41%)
8	Institutional Repositories	17 (50%)	17 (50%)
9	Library Networks	22 (65%)	12 (35%)
10	Any Other (please specify)	-	-

Figure No. 10 Reasons for attending the Workshop/Symposia/Seminars/Conferences



It is observed from the Table no. 8 and figure no. 10 that 15 (44%) librarians attending the Workshops/Symposia/Seminars/Conferences for acquire new skills, latest technology, update knowledge; while 07 (20%) librarians attending the same to improve relations with fellow professionals; and 05 (15%) librarians attended the above activity because it is mandatory for promotion; whereas 07 (21%) librarians attending the Workshops/Symposia/Seminars/Conferences to improve library services.

Use of Electronic resources for research work

Librarian's preference regarding Electronic resources use for research work. The responses received has been tabulated in Table no. 9.

It is clear from the Table No. 9 that 83% of the Faculties are having quality awareness towards Internet Information Resources; only 27% are unaware of quality aspects of Internet information sources.

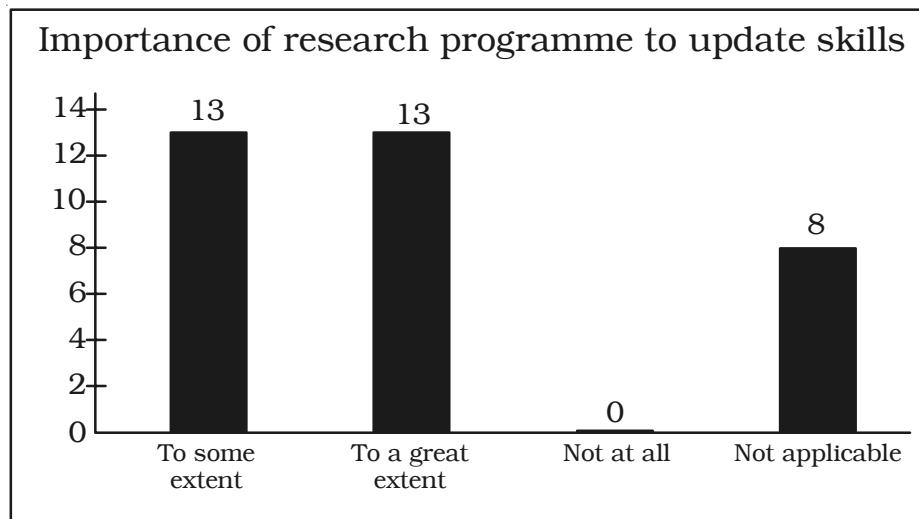
Importance of research programme to update skills

Respondents were asked about their opinion about Importance of research programme for update skills. The responses received are presented in Table no. 10 and figure no. 11.

Table No. 10 Importance of research programme to update skills

Sr. No.	Importance	No. of Respondent	Percentage
1	to some extent	13	38%
2	to a great extent	13	38%
3	not at all	-	-
4	not Applicable	08	24%
Total		34	100

Figure No. 11 Importance of research programme for update skills



It was observed from Table no. 10 and figure no. 11 that 13 (38%) librarians feel that Workshops/Symposia/Seminars/

Conferences etc. are useful to some extent; while 13 (38%) librarians also feel that research programme useful to a great extent.

Barriers in productivity

Respondents were asked about major Barriers in productivity. The responses received are presented in Table no. 11.

Table No. 11 Barriers in productivity

Sr. No.	Barriers	Number of Respondent	Percentage
1	Insufficient fund	09	26%
2	Lack of cooperation to Authority	06	18%
3	Language Barrier	03	09%
4	Lack of ICT knowledge	07	20%
5	Time Barrier	07	21%
6	Availability of resources	02	06%
Total		34	100

It can be noted from the Table No. 11 that 09 (26%) librarians are facing the insufficient fund problems for productivity; Whereas 7 (20%) librarians are facing the problem of ICT awareness and Time barrier, respectively; while 06 (18%) librarians don't have cooperation from Authority; and 02 (6%) librarians facing the Language problem. According to 02 (6%) librarians, they don't have sufficient resources for publication.

Findings and Conclusion

- Male librarians have published 563 (99%) publications, while Female librarians have published 06 (1%) publications. It indicates that Male Librarians have more research productive than Female Librarians.
- 2012 was the more productive year in relation to the number of publications. The less productive year was 2008. It shows that the productivity of librarians increase year by year. It is growing than previous year.

- Majority librarians belong to 31-40 age group i.e. 13 (38%). 10 (29%) librarians belong to 51 to above age group. It shows that Dr. Shamkant J. Deshmukh and Dr. Dilip Deshmukh with an equal age Group i.e. 51 to above having rank first. Followed by Dr. V.S. Kanchi having 41-50 age group.
- 21 (62%) librarians are write/published research papers in various seminars, conference, Journal and Books etc.; whereas 13 (38%) librarians not write/published any research activity/paper.
- 20 (59%) librarians using English language for research publication. Followed by 05 (15%) librarians used Marathi Language; Whereas 09 (26%) librarians are not doing any research activity. Nobody used Hindi language for research purpose.
- Mostly librarians i.e. 20 (59%) spend self on research activity; 08 (23%) librarians stated that, colleges provide financial support for research publication. Whereas 06 (18%) librarians mention that Governing Body/UGC fund provides fund for research activity.
- 27 (79%) librarians are not published/writes any type of book. whereas only 07 (21%) librarians published books i.e. Text, Reference, Subject, Edited Book.
- mostly librarians i.e. 11 (32%) motivated by Well situation of working & living condition; 05 (15%) librarians motivated by funding agency; while Current Information Materials motivated to 07 (20%) librarians; 06 (18%) librarians motivated through Guiding from family members/ Friends; Whereas 02 (06%) feel that rewarding through Medals motive to research and only 01 (03%) librarians motivated through Monitory benefits, Certificates of Merits and Publicity, respectively.
- 14 (41%) librarians using single authorship pattern; while 05 (14%) librarians preferred double authorship pattern; followed by 04 (12%) librarians using three authorship pattern and only 02 (06%) librarians using more than three authors pattern in their publication. Whereas 9 (27%) librarians not using any authorship pattern.

- 02 (06%) librarians published their research work on the basis of seniority and on the basis of organizational position, respectively; while 19 (56%) librarians published their research work on the basis of contribution; Whereas 11 (32%) librarians not doing any research work.
- 15 (44%) librarians attending the Workshops/Symposia/ Seminars/Conferences for acquire new skills, latest technology, update knowledge; while 07 (20%) librarians attending the same to improve relations with fellow professionals; and 05 (15%) librarians attended the above activity because it is mandatory for promotion; whereas 07 (21%) librarians attending the Workshops/Symposia/ Seminars/Conferences to improve library services.
- 83% of the Faculties are having quality awareness towards Internet Information Resources; only 27% are unaware of quality aspects of Internet information sources.
- 13 (38%) librarians feel that Workshops/Symposia/Seminars/ Conferences etc. are useful to some extent; while 13 (38%) librarians also feel that research programme useful to a great extent.
- 09 (26%) librarians are facing the insufficient fund problems for productivity; Whereas 7 (20%) librarians are facing the problem of ICT awareness and Time barrier, respectively; while 06 (18%) librarians don't have cooperation from Authority; and 02 (6%) librarians facing the Language problem. According to 02 (6%) librarians, they don't have sufficient resources for publication.

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**Annexure I – List of Arts, Commerce and Science
Colleges Affiliated to North Maharashtra
University, Jalgaon**

Sr. Name of the College

No.

- 1 Khandesh College Education Society's, Moolji Jaitha College, Jalgaon
- 2 Khandesh College Education Society's, College of Post Graduate Studies Research and Development, Jalgaon
- 3 J.D.M.V.P.Co-Op. Samaj's Shri.S.S.Patil Arts, Shri Bhausaheb T.T. Salunkhe Commerce and Shri. G.R. Pandit Science College, Jalgaon
- 4 Leva Educational Union's Dr. Annasaheb G.D. Bendale Arts, Science and Commerce Mahila Mahavidyalaya, Jalgaon
- 5 Krida Rasik Education Society's Adv. Sitaram (Babanbhau) Anandramji Baheti Arts, Commerce & Science College, Jalgaon
- 6 Iqra Education Society's H.J. Thim Arts & Science College, Mehrun, Jalgaon
- 7 East Khandesh Education Society's Arts, Commerce & Science, Jalgaon
- 8 Tapti Education Society's Bhusawal Arts, Science and P.O. Nahata Commerce College, Bhusawal, Dist. Jalgaon
- 9 Shri. Saraswati Vidya Prasarak Mandal's Smt. P.K. Kotecha Arts, Commerce & Science Mahila College, Bhusawal, Dist. Jalgaon
- 10 J.D.M.V.P.Co-op. Samaj's Arts, Commerce & Science College, Varangaon, Tq.Bhusawal Dist. Jalgaon
- 11 The Bodvad Sarvajanik Co-op. Education Society Ltd. Bodwad's Arts & Commerce College, Bodvad, Dist. Jalgaon
- 12 The Bhusawal Peoples Charitable Sanstha's Dadasaheb Devidas Namdeo Bhole College, Bhusawal, Dist. Jalgaon

- 13 Khandesh Education Society's Pratap College, Amalner, Dist. Jalgaon
- 14 Jijau Bahuuddeshiya Sanstha's Arts, Commerce and Science College, Amalner, Dist. Jalgaon
- 15 Chalisgaon Education Society's B.P. Arts, S.M.A. Science & K.K.C. Commerce College, Chalisgaon, Dist. Jalgaon
- 16 Rashtriya Sahakari Shikshan Prasarak Mandal Ltd Chalisgaon Sanstha's Nanaasaheb Yashavantrao Narayanrao Chavan Arts, Science & Commerce College, Chalisgaon, Dist. Jalgaon
- 17 Mahatma Gandhi Taluka Shikshan Mandal's Arts, Science & Commerce College, Chopada, Dist. Jalgaon
- 18 J.D.M.V.P.Co-op. Samaj's Arts, Commerce & Science College Yawal, Dist. Jalgaon
- 19 Tapi Valley Education Society's Dhanaji Nana Mahavidyalaya, Faizpur, Tq. Yawal, Dist. Jalgaon
- 20 Khashaba Apang Krida Prashikshan Sanstha Sanchalit Commerce & Science College, Jalgaon
- 21 Yashwantrao Chavan Shikshan Prasarak Mandal's Dadasaheb Digamber Shankar Patil Arts, Commerce & Science College, Erandol, Dist. Jalgaon
- 22 P.R. High School Society's Arts, Science & Commerce College, Dharangaon, Dist. Jalgaon
- 23 Jamner Taluka Education Society's Gitabai Dattatraya Mahajan Arts, Shri. Keshrimal Rajmal Navalakha Commerce and Manoharseth Dhariwal Science College, Jamner, Dist. Jalgaon
- 24 The Shendurni Secondary Education Co-op. Society's A.R.B. Garud Arts, Commerce & Science College, Shendurni, Tq. Jamner, Dist. Jalgaon
- 25 Pachora Taluka Co-op. Education Sanstha's Shri. Seth Muralidharji Mansingka Arts, Science & Commerce College, Pachora, Dist. Jalgaon

- 26 Vidya Bharati Shaikshanik Mandal, Amrawati Dwara Sanchalit Sant Muktabai Arts & Commerce College, Muktainagar, Dist. Jalgaon
- 27 Muktainagar Taluka Education Society's Smt. Godawaribai Ganpatrao Khadse Science & Arts College, Muktainagar, Dist. Jalgaon
- 28 Dhandaimata Education Society's College of Arts, Amalner, Dist. Jalgaon
- 29 Pankaj Shaikshanik & Samajik Sanstha Sanchalit Pankaj College of Arts, Chopada, Dist. Jalgaon
- 30 Raver Parisar Shikshan Prasarak Mandal's Shri. Vitthalrao Shankarao Naik Arts, Commerce & Science College, Raver, Dist. Jalgaon
- 31 Ainpur Parisar Shikshan Prasarak Mandal's Sardar Vallabhbhai Patel Arts & Science College, Ainpur. Tal. Raver, Dist. Jalgaon
- 32 Kisan Vidya Prasarak Sanstha Sanchalit Kisan Arts, Commerce & Science College, Parola, Dist. Jalgaon
- 33 Pachora Taluka Co-op Education Sanstha's Sau. Rajanibai Nanaheb Deshmukh Arts, Commerce and Science College, Bhadgaon, Dist. Jalgaon
- 34 Sahajivan Shikshan Prasarak Mandal's Rani Laxmibai Mahavidyalaya, Parola, Dist. Jalgaon
- 35 Secondary Education Society Sanchalit Arts & Science College, Bhalod, Tq. Yawal, Dist. Jalgaon
- 36 Dhanaji Nana Chaudhari Vidya Prabodhani's College of Science & Arts, Jalgaon
- 37 Gram Vikas Shikshan Mandal's Late Nhanabhau Mansaram Tukaram Patil Arts College, Marwad, Tq. Amalner, Dist. Jalgaon
- 38 Madhayamik Shikshan Prasarak Mandal's Shri. Rajaram Ganu Mahajan Arts College, Tandalwadi, Tq. Raver, Dist. Jalgaon

- 39 Bhagini Mandal Chopada's College of Science, Chopada, Dist. Jalgaon
- 40 Gram Vikas Mandal's College of Arts, Pimpalgaon (Hareshwar), Tq. Pachora, Dist. Jalgaon
- 41 Mahatma Fuley Samajik & Shaikshanik Vikas Mandal's Mahatma Fuley Arts College, Chalisgaon, Dist. Jalgaon
- 42 Godavari Foundation's Dr. Ulhas Patil College of Science, Jalgaon
- 43 Shri. Shivaji Shikshan Prasarak Mandal's K. Narkhede College of Science, Bhusawal, Dist. Jalgaon
- 44 Shri. Vaishnavi Shikshan Prasarak Sanstha's Nanasaheb B.R.More College of Science, Jalgaon, Dist. Jalgaon
- 45 J.D.M.V.P.Co-op. Samaj's College of Arts, Samner, Tq. Pachora, Dist. Jalgaon
- 46 Asmita Foundation Jalgaon Sanchalit College of Commerce Pachora, Tal. Pachora, Dist. Jalgaon



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Research Productivity Of Academic Librarians Affiliated To North Maharashtra University, Jalgaon : A Scientometrics Study

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Abstract

Research is entirely a creative activity. For this innovative work, academic knowledge in the concerned subject is essential. Ultimately, scholar's creative thinking, patience, perseverance and curiosity shapes his research. The paper presents Scientometric study of Research Productivity of Academic librarians affiliated to North Maharashtra University, Jalgaon from 2008 to 2012. The study covers Gender wise, types of research contribution, Language wise, rank list of Author, book publication/research project Status, authorship pattern, barriers in productivity etc.

Keywords: Research Productivity, Academic Library, Librarian, NMU, Scientometrics

Introduction

The Academic library is the bedrock of any Academic institution. Every research starts and ends up in the library. In fact, the library is so important to the success of any academic institution that it has been technically referred to as "the greatest essential to discovery". Librarians in an academic setting are integrally involved with providing research services to faculty, students, and staff of higher education institutions. Though familiar with the research process and responsible for supporting others in their academic agendas (Kennedy and Brancolini, 2012). Research in social sciences mostly deals with the development of body of principles which enables to identify problems or solutions to solve given problems. The findings of research results may sometimes offer guidelines to develop practical solutions in the society. The research in Library and Information Science (LIS) belongs to Social Science field. The Library and Information Science is the youngest profession but fast developing, in the last few decades. (Raju, 2008).

Statement Of The Research Problem

The Problem under study is "Research Productivity of academic librarians affiliated to North Maharashtra University, Jalgaon: A Scientometrics Study (2008-2012)". The study will evaluate the research productivity of the academic librarians which are affiliated to North Maharashtra University, Jalgaon.

• Definitional Analysis

Research

Research is common parlance refers to a search for knowledge. Research is an art of scientific investigation. According to The advanced learner's dictionary of current English, "Research is a careful or inquiry especially through search for new facts in any branch of knowledge."

Research Productivity

Bottle and other (1994) accept that the productivity of an academic can be calculated by counting the number of publishing produced over a period of time. Supporting the above view Hattie and others also point out that the individual librarians scholarly productivity can be counted and used as a unit of analyses when evaluating higher education. Counting can thus be used to measures the status of an academic with regard to scholarly publishing.

Librarian publishing productivity is often used as an index

of departmental and institutional prestige and is strongly associated with an individual librarian repartition, visibility and advancement in the academic reward structure.

Academic Library

A Library attached to an academic institution which is engaged in teaching, research and imparting formal education to students who desire to complete a particular course under a prescribed syllabus, is known as an academic library e.g. School Library, College Library, University Library etc. (Dawra, 2003).

Librarian

"A professionally trained person responsible for the care of a library and its contents, including the selection, processing, and organization of materials and the delivery of information, instruction, and loan services to meet the needs of its users. In the online environment, the role of the librarian is to manage and mediate access to information that may exist only in electronic form" (Reitz, 2012)."

North Maharashtra University, Jalgaon

Established on 15th August 1990, North Maharashtra University has played a pioneering role since its inception in propagating higher education in the three district of Khandesh.

Every university is identified by its research. North Maharashtra University has earned a distinction a research centre. In the last twenty years the university has taken several steps to raise the standard of higher education and research to keep up with the emerging global trends. The effort of the university towards academic excellence are being recognized by funding agencies like the UGC, DST, CSIR and other's sustained grants. There are more than 235 colleges/institutes are Affiliated to North Maharashtra University, Jalgaon.

Scientometrics

In the 1960s, particularly in Eastern Europe, the term "Scientometrics" was used to denote "measurement of informetrics process" (Rao, 2013).

"A quantitative method of investigating the development of science as an information process" (Nalimov and Mulchenko, 1969).

• Need Of The Study

Academic librarian research can be considered as root cause of all development. Mapping of research in fast growing subject is highly essential, as it would help in assessing India's contribution to world literature. The research productivity of

eminent librarians is one of the crucial and still open research problems in Library and information science field. The productivity and its quality in the first place, is the starting point and the basis of standing the contribution of librarians to the scientific knowledge. The need of present study is to know what stand does the academic librarian have achieved in Research productively since the 2008 to 2012. At the college level, the most important requirement from promotion is publications, it is the rule either "you publish or you perish."

• Review Of Literature

Swain, Swain, & Rautaray (2014) this study examines the patterns of publications in the Journal of Educational Media and Library Science (JoEMLS) from 2008 to 2012. Majority of publications of JoEMLS are articles (84 papers; 84.85%), followed by editorials (13 papers; 13.13%). publications of JoEMLS are led by two-author contributions (48 papers; 48.48%). Chiu, J.Y. is the most prolific author who has contributed 13 papers to the JoEMLS during 2008 to 2012. Taiwan, being the country of the origin of the journal, is the top performer with a record contribution of 88 articles. However, contributions from all other countries are found to be remarkably less.

Singh & Babbar (2014) conducted a study on Doctoral Research in Library and Information Science in India during 1950-2012. For this study, data of 1754 Ph.Ds awarded from 81 universities, located in 22 states of India was collected up to 2012. Very limited number of studies has been carried out on theoretical aspects to expand the theoretical base of LIS research interest among LIS professionals also from traditional areas to currently emerging areas like, 'Web Resources', 'Open Access Resources', 'E-learning Resources', 'Total Quality Management', 'Websites' and 'Search Engine', 'Design and Development of Models in Different areas', etc., which is a good sign of development in the field of LIS. UGC has also laid down the condition of Ph.D. as an essential qualification for higher positions both in libraries as well as in LIS departments. While it is appreciable to note that more and younger professionals are pursuing research, but there is an evident need to ensure that quality of research is not compromised.

Singh & Bebi (2014) investigated the bibliometric study of the journal Library Herald during 2003-2012, in which 234 articles were published in the marked period. They found that among all the authors Dr.NosratRiahinia from TarbiatMoallem University, Tehran topped the list of contributors followed by Dr. KP Singh, University of Delhi. It reveals that highest books (20) are reviewed by M P Satija followed by K P Singh and H C Jain (06) respectively. Maximum numbers (48.8%) of articles are single authored followed by two authored (38.5%). The proportion of three authored and four authored contributions are very less as compared to single and two authored articles. major portion (81.6 %) of the articles originated from India and about 18.4% from abroad.

Rao (2014) proportion of single authorship is quite high in the field of library and information science, bio-informetrics, social sciences (92%) and in economics. Multiple authorship is very high in chemistry, biological science, biotechnology, laser research (97.7%) thorium studies, etc. in library and information science; URLs are less cited, compared to that in other disciplines.

Chikate&Wadhwana (2014) conducted scientometric

study of research productivity of LIS professionals of SNDT women's university, Mumbai from 2003 to 2012. The study is based on five LIS professionals. The LIS professionals of SNDT women's university published 71 publications in ten years. Maximum research output is in the year 2011 i.e. 13 (18%). The majority of contributions 12 (17%) is on library management followed by open access movement 9 (13%) and Institutional repositories 7 (10%). Being a women's university majority professionals are female (80%) and their research contribution is 99% as contrast to only one research output (1%) by male professional. Out of 71 publications 65 (91%) are in English language. Mostly LIS professionals done single authorship 67 (94%). Dr.SarikaSawant is the prolific author having 33 (46%) publications. Journal is the most popular channel of communication preferred by the authors i.e. 32 (45%).

• Objectives

The main objective of this study is analysing the research productivity of academic librarians affiliated to North Maharashtra University during 2008 – 2012. In particular, the study focuses on the following objectives.

- To measure research productivity of academic librarians of arts, commerce science colleges affiliated to North Maharashtra University, Jalgaon.
- To know Gender productivity.
- To know research productivity in books, published lecture and conference proceeding, Journal articles etc.
- To know Language wise productivity
- To identify the profile author having largest number of publication.
- To know Authorship pattern.

Hypothesis

- Librarians write in Seminar Conferences rather than Journals and Books etc.
- Mostly librarians using Single Authorship Pattern.

Scope And Limitation

Present study is limited to only 46 college librarians in Jalgaon district which are affiliated to North Maharashtra University; study is limited only to Arts, Commerce, and Science colleges during 2008-2012.

Methodology

Present study has done with the help of survey method. Survey research is distinguished by its reliance upon the selection of person from large and small population and the making of observation. So that inference can be applied to present population. A population is may be group of person, objects institution or other units that passes at least on common characteristics.

Data Analysis

The total numbers of Academic Libraries in North Maharashtra University, Jalgaon (NMU) are 46. Out of them 34 librarians have responded, 12 librarians have not responded.

The collected data have been analyzed with using following parameters;

- Gender wise productivity
- Types of Research Contribution
- Language wise productivity
- Rank list of Author and Publication
- Book Publication Status
- Research Project Status
- Authorship Pattern
- Barriers in productivity

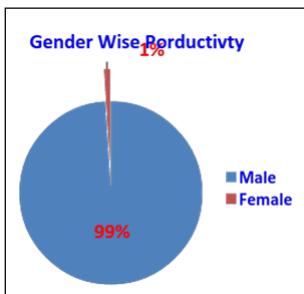
Gender Wise Productivity

Respondents were asked about Gender. The response received presented in Table 1.

Table 1 : Gender wise Productivity

Sl. No.	No. of Respondent	Publications	Percentage
1	28	563	99%
2	06	06	01%
Total	34	569	100

Figure 1 : Gender wise Productivity



It can be observed from Table 1 and figure 1 that Male librarians have published 563 (99%) publications, while Female librarians have published 06 (1%) publications. It indicates that Male Librarians have more research productivity than Female Librarians.

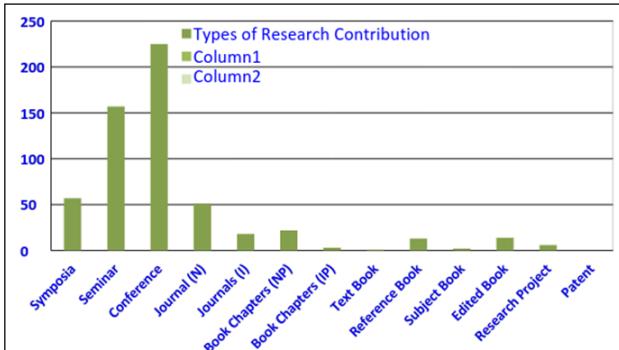
Types Of Research Contribution

Respondents were asked about contribution of research. The responses received have been tabulated in Table 2.

Table 2 : Types of Research Contribution

Sl. No.	Types of Research Contribution	2008	2009	2010	2011	2012	Total	Percentage
1	Symposia	12	11	11	7	16	57	10%
2	Seminar	8	26	33	40	50	157	28%
3	Conference	19	16	35	68	87	225	40%
4	Journal (National)	3	10	11	12	15	51	09%
5	Journals (International)	-	2	4	5	7	18	03%
6	Book Chapters (National Publisher)	-	1	3	6	12	22	04%
7	Book Chapters (International Publisher)	-	-	-	1	2	3	0.52%
8	Text Book	-	-	-	1	-	1	0.17%
9	Reference Book	-	2	1	4	6	13	02%
10	Subject Book	-	-	-	1	1	2	0.35%
11	Edited Book	1	2	1	4	6	14	2%
12	Research Project	-	-	1	2	3	6	01%
13	Patent	-	-	-	-	-	-	-
	Total	43	70	100	151	205	569	100

Figure 2 : Types Of Research Contribution



(Abbreviations used:-N=National, I= International, NP=National Publisher, IP= International Publisher)

It is observed from the Table 2 and figure 2 that mostly librarians are published their research work in Conference (40%), followed by Seminar and symposia (38%). Librarians also contributed in National Journals as compare to books. This indicates that **"Librarians write in Seminar Conferences rather than Journals and Books etc."** (Hypothesis No. 1) is valid.

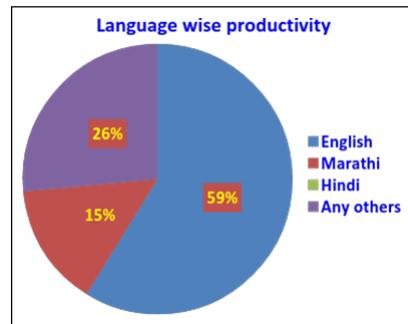
Language Wise Productivity

Respondents were asked about their language of research productivity. The responses received have been tabulated in Table 3 and figure 3.

Table 3 : Language wise productivity

Sl. No.	Preferred Language	No. of Respondent	Percentage
1	English	20	59%
2	Marathi	05	15%
3	Hindi	-	-
4	Any others	09	26%
Total		34	100

Figure 3 : Language Wise Productivity



The Table 3 and Figure 3 indicates that 20 (59%) librarians using English language for research publication. Followed by 05 (15%) librarians used Marathi Language; Whereas 09 (26%) librarians are not doing any research activity. Nobody used Hindi language for research purpose.

Rank List Of Author

The respondents were asked about their publication. The responses received have been presented in Table 4 and Figure 4.

Table 4 : Author Ranking

Sr. No.	Rank	Author	No. of Publication
1	1	Dr. S. J. Deshmukh	175
2	2	Dr. D. M. Deshmukh	91
3	3	Dr. V. S. Kanchi	42
4	4	Dr. B. G. Mukhyadal	41
5	5	R. B. Khandare	40
6	6	Dr. D. A. Khobragade	37
7	7	M. M. Chavan	19
8	=7	V. T. Parit	19
9	8	P. R. Deshmukh	17
10	9	P. N. Pawar	15
11	10	R. P. Jadhav	12
12	11	V. R. Kamble	9
13	12	N. G. Sarode	7
14	13	B. N. Patil	6
15	=13	Mrs. A. A. Wanikar	6
16	14	P. M. Dongare	5
17	=14	S. S. Patil	5
18	=14	S. B. Rathod	5
19	15	I. G. Gaikwad	4
20	16	S. A. Zope	3
21	=16	D. T. Pawar	3
22	=16	V. B. Patil	3

23	17	S.P. Patil	2
24	=17	D. R. Patil	2
25	18	D. H. Dhargave	1
26	19	Mrs. R. M. Gajbhiye	-
27	=19	Mrs. N. B. R. Khan	-
28	=19	Mrs. L. K. Patil	-
29	=19	P.S. Mahajan	-
30	=19	S.S. Kale	-
31	=19	M.D. Warade	-
32	=19	Mrs. A. R. Chaudhari	-
33	=19	P.S. Patil	-
34	=19	Mrs. P. K. Bavaskar	-
Total			569

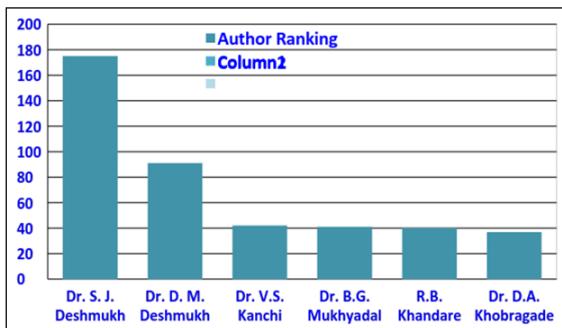
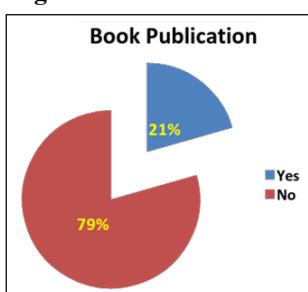
Figure 4 : Author Ranking

Table 4 and figure 4 shows that Dr. S. J. Deshmukh is the most prolific author who has contributed 175 papers to the Symposia, Seminar, Conference, Journal, Book Chapter, Book, research project etc. during 2008-2012; Dr. D.M. Deshmukh is second rank having 91 publications followed by Dr. V.S. Kanchi is third rank having 42 publications. Dr. B. G. Mukhyadal is on fourth rank having 41 publications followed by R. B. Khandare is fifth rank having 40 publications.

Book Publication

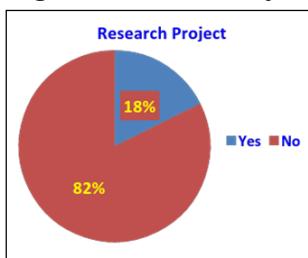
Respondents were asked about Publication of Book. The responses received are presented in figure 5.

Figure 5 : Book Publication

It can be noted from figure 5 that 27 (79%) librarians are not published/writes any type of book. whereas only 07 (21%) librarians published books i.e. Text, Reference, Subject, Edited Book.

Research Project

Respondents were asked about research project. The responses received are presented in figure 6.

Figure 6 : Research Project

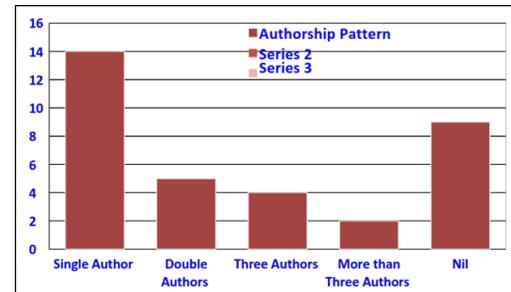
It is observed from figure6 that 28 (82%) librarians don't have any research project work. whereas 06 (18%) librarians doing research project like Major, Minor etc. funding by various agencies.

Authorship Pattern

Respondents were asked about Authorship pattern. The responses received are tabulated in Table 5 and figure 7.

Table 5 : Authorship Pattern

Sl. No.	Authorship Pattern	No. of Respondent	Percentage
1	Single Author	14	41%
2	Double Authors	05	14%
3	Three Authors	04	12%
4	More than Three Authors	02	06%
5	Any others	09	27%
Total			34
			100

Figure 7 : Authorship Pattern

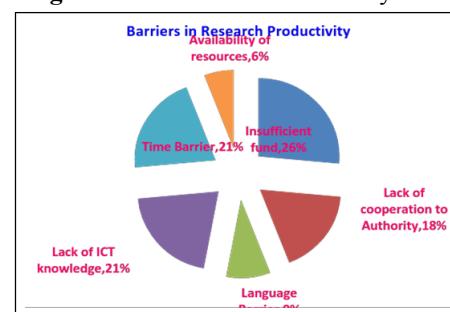
It can be noted from Table 5 and figure 7 it is clear that 14 (41%) librarians using single authorship pattern; while 05 (14%) librarians preferred double authorship pattern; followed by 04 (12%) librarians using three authorship pattern and only 02 (06%) librarians using more than three authors pattern in their publication. Whereas 9 (27%) librarians not using any authorship pattern. This indicate that **"Mostly librarians using Single Authorship Pattern."** (Hypothesis No. 2) is valid.

Barriers In Productivity

Respondents were asked about major Barriers in productivity. The responses received are presented in Table 6 and figure 8.

Table 6 : Barriers In Productivity

Sl. No.	Barriers	Number of Respondent	Percentage
1	Insufficient fund	09	26%
2	Lack of cooperation to Authority	06	18%
3	Language Barrier	03	09%
4	Lack of ICT knowledge	07	20%
5	Time Barrier	07	21%
6	Availability of resources	02	06%
Total			34
			100

Figure 8 : Barriers In Productivity

It can be noted from the table 6 and figure 8 that 09 (26%) librarians are facing the insufficient fund problems for productivity; Whereas 7 (20%) librarians are facing the problem of ICT awareness and Time barrier, respectively; while 06 (18%) librarians don't have cooperation from Authority; and 02 (6%) librarians facing the Language problem. According to 02 (6%) librarians, they don't have sufficient resources for publication.

Findings And Conclusion

- Male librarians have published 563 (99%) publications, while Female librarians have published 06 (1%) publications.
- Mostly librarians are published their research work in Conference (40%), followed by Seminar and symposia (38%). Librarians were also contributed in National Journals as compare to books.
- 20 (59%) librarians using English language for research publication. Followed by 05 (15%) librarians used Marathi Language.
- Dr. S. J. Deshmukh is the most prolific author who has contributed 175 papers to the Symposia, Seminar, Conference, Journal, Book Chapter, Book, research project etc. during 2008-2012; Dr. D.M. Deshmukh is second rank having 91 publications followed by Dr. V.S. Kanchi is third rank having 42 publications. Dr. B. G Mukhyadmal is on fourth rank having 41 publications followed by R. B. Khandare is fifth rank having 40 publications.
- 27 (79%) librarians are not published/writes any type of book. whereas only 07 (21%) librarians published books i.e. Text, Reference, Subject, Edited Book.
- 28 (82%) librarians don't have any research project work. whereas 06 (18%) librarians doing research project like Major, Minor etc. funding by various agencies.
- 14 (41%) librarians using single authorship pattern; while 05 (14%) librarians preferred double authorship pattern.
- 09 (26%) librarians are facing the insufficient fund problems for productivity; Whereas 7 (20%) librarians are facing the problem of ICT awareness and Time barrier, respectively; while 06 (18%) librarians don't have cooperation from Authority; and 02 (6%) librarians facing the Language problem. According to 02 (6%) librarians, they don't have sufficient resources for publication.

Acknowledgement

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Annexure I – List Of Arts, Commerce And Science Colleges Affiliated To North Maharashtra University, Jalgaon

Name of the College

- 1 Khandesh College Education Society's, Moolji Jaitha College, Jalgaon
- 2 Khandesh College Education Society's, College of Post Graduate Studies Research and Development, Jalgaon
- 3 J.D.M.V.P.Co-Op. Samaj's Shri.S.S.Patil Arts, Shri. Bausaheb T.T. Salunkhe Commerce and Shri. G.R. Pandit Science College, Jalgaon
- 4 Leva Educational Union's Dr. Annasaheb G.D. Bendale Arts, Science and Commerce Mahila Mahavidyalaya, Jalgaon
- 5 Krida Rasik Education Society's Adv. Sitaram (Bababhai) Anandramji Baheti Arts, Commerce & Science College, Jalgaon
- 6 Iqra Education Society's H.J. Thim Arts & Science College, Mehrun, Jalgaon
- 7 East Khandesh Education Society's Arts, Commerce & Science, Jalgaon
- 8 Tapti Education Society's Bhusawal Arts, Science and P.O. Nahata Commerce College, Bhusawal, Dist. Jalgaon
- 9 Shri. Saraswati Vidya Prasarak Mandal's Smt. P.K. Kotecha Arts, Commerce & Science Mahila College, Bhusawal, Dist. Jalgaon
- 10 J.D.M.V.P.Co-Op. Samaj's Arts, Commerce & Science College, Varangaon, Tq. Bhusawal Dist. Jalgaon
- 11 The Bodvad Sarvajanik Co-op. Education Society Ltd. Bodwad's Arts & Commerce College, Bodvad, Dist. Jalgaon
- 12 The Bhusawal Peoples Charitable Sanstha's Dadasaheb Devidas Namdeo Bhole College, Bhusawal, Dist. Jalgaon
- 13 Khandesh Education Society's Pratap College, Amalner, Dist. Jalgaon
- 14 Jijau Bahuuddeshiya Sanstha's Arts, Commerce and Science College, Amalner, Dist. Jalgaon
- 15 Chalisgaon Education Society's B.P. Arts, S.M.A. Science & K.K.C. Commerce College, Chalisgaon, Dist. Jalgaon
- 16 Rashtriya Sahakari Shikshan Prasarak Mandal Ltd Chalisgaon Sanstha's Nanasaheb Yashavantrao Narayanrao Chavan Arts, Science & Commerce College, Chalisgaon, Dist. Jalgaon
- 17 Mahatma Gandhi Taluka Shikshan Mandal's Arts, Science & Commerce College, Chopada, Dist. Jalgaon
- 18 J.D.M.V.P.Co-Op. Samaj's Arts, Commerce & Science College Yawal, Dist. Jalgaon
- 19 Tapi Valley Education Society's Dhanaji Nana Mahavidyalaya, Faizpur, Tq. Yawal, Dist. Jalgaon
- 20 Khashaba Apang Krida Prashikshan Sanstha Sanchalit Commerce & Science College, Jalgaon
- 21 Yashwantrao Chavan Shikshan Prasarak Mandal's Dadasaheb Digamber Shankar Patil Arts, Commerce & Science College, Erandol, Dist. Jalgaon
- 22 P.R. High School Society's Arts, Science & Commerce College, Dharangaon, Dist. Jalgaon
- 23 Jamner Taluka Education Society's Gitabai Dattatraya Mahajan Arts, Shri. Keshrimal Rajmal Navalakha Commerce and Manoharseth Dhariwal Science College, Jamner, Dist. Jalgaon
- 24 The Shendurni Secondary Education Co-op. Society's A.R.B. Garud

Arts, Commerce & Science College, Shendurni, Tq. Jamner, Dist. Jalgaon

25 Pachora Taluka Co-op. Education Sanstha's Shri. Seth Muralidharji Mansingka Arts, Science & Commerce College, Pachora, Dist. Jalgaon

26 Vidya Bharati Shaikshanik Mandal, Amrawati Dwara Sanchalit Sant Muktabai Arts & Commerce College, Muktainagar, Dist. Jalgaon

27 Muktainagar Taluka Education Society's Smt. Godawaribai Ganpatrao Khadse Science & Arts College, Muktainagar, Dist. Jalgaon

28 Dhandaimata Education Society's College of Arts, Amalner, Dist. Jalgaon

29 Pankaj Shaikshanik & Samajik Sanstha Sanchalit Pankaj College of Arts, Chopada, Dist. Jalgaon

30 Raver Parisar Shikshan Prasarak Mandal's Shri. Vitthalrao Shankarao Naik Arts, Commerce & Science College, Raver, Dist. Jalgaon

31 Ainpur Parisar Shikshan Prasarak Mandal's Sardar Vallabhbhai Patel Arts & Science College, Ainpur. Tal. Raver, Dist. Jalgaon

32 Kisan Vidya Prasarak Sanstha Sanchalit Kisan Arts, Commerce & Science College, Parola, Dist. Jalgaon

33 Pachora Taluka Co-op Education Sanstha's Sau. Rajanibai Nanasaheb Deshmukh Arts, Commerce and Science College, Bhadgaon, Dist. Jalgaon

34 Sahajivan Shikshan Prasarak Mandal's Rani Laxmibai Mahavidyalaya, Parola, Dist. Jalgaon

35 Secondary Education Society Sanchalit Arts & Science College, Bhalod, Tq. Yawal, Dist. Jalgaon

36 Dhanaji Nana Chaudhari Vidya Prabodhani's College of Science & Arts, Jalgaon

37 Gram Vikas Shikshan Mandal's Late Nhanabhau Mansaram Tukaram Patil Arts College, Marwad, Tq. Amalner, Dist. Jalgaon

38 Madhayamik Shikshan Prasarak Mandal's Shri. Rajaram Ganu Mahajan Arts College, Tandalwadi, Tq. Raver, Dist. Jalgaon

39 Bhagini Mandal Chopada's College of Science, Chopada, Dist. Jalgaon

40 Gram Vikas Mandal's College of Arts, Pimpalgaon (Hareshwar), Tq. Pachora, Dist. Jalgaon

41 Mahatma Fuley Samajik & Shaikshanik Vikas Mandal's Mahatma Fuley Arts College, Chalisgaon, Dist. Jalgaon

42 Godavari Foundation's Dr. Ulhas Patil College of Science, Jalgaon

43 Shri. Shivaji Shikshan Prasarak Mandal's K. Narkhede College of Science, Bhusawal, Dist. Jalgaon

44 Shri. Vaishnavi Shikshan Prasarak Sanstha's Nanasaheb B.R.More College of Science, Jalgaon, Dist. Jalgaon

45 J.D.M. V.P.Co-op. Samaj's College of Arts, Samner, Tq. Pachora, Dist. Jalgaon

46 Asmita Foundation Jalgaon Sanchalit College of Commerce Pachora, Tal. Pachora, Dist. Jalgaon

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Invitation to Authors

Authors are invited to contribute articles on Library & Information Science, Computer Science and Information Technology in particular for publication in the '*KLA Research Journal*'. For details see the back page of the front cover. It is published in Hindi, English and Marathi languages. The articles may be sent as an email attachment in MS WORD to: klarj2014@gmail.com, atharvapublication@gmail.com

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