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Women Involvement in Social Science Journals in India as Members of Editorial Board and Authors: An Analysis

Srinivas Puala*, Bulu Maharana, S. Majhi*****

Abstract

The study of women involvement in social science journals in India as members of editorial board and authors broadly aims to analyse women participation in the scholarly communication process in the domain of social sciences. Out of 1053 members of editorial boards, 166 (15.76%) are women. Similarly 351 (29.77%) women authors out of 1179 contributed papers in social science journals available at IndianJournals.com database. Total of 143 women from Indian states and 23 women from foreign countries contributed as editorial board members in social science journals in India. Uttar Pradesh is the state with highest women participation both as editors and authors.

Keywords: Social Science Journals; Editorial Boards; Current Issues; Women Contributions; Research Organisations; Authorship.

Introduction

In the present world, every society projects the status of women as high as man. It is quite apparent that today's women participating in all spheres of human activities including social, cultural, economic, political and scientific fields in the same positions as men. Particularly, in the field of education and research women have been excelling in various areas. The present study has been designed to make an assessment of the status of women in social science as members in editorial board and authors in journals published in India. Women are working in high level positions in the field of social sciences in different universities and research organizations in India. Many of them are serving in different levels of teaching positions in colleges, universities, and other such organizations of higher learning. These women academicians and researchers contribute significantly in the scholarly communication process as members of editorial boards and authors of research papers in journals.

Editorial board members of social science journals are the gatekeepers of social science knowledge because of their pivotal role in deciding what is published. Many of the articles that the editorial board members accept for publication are then used by teaching faculty in social science education. We need to know, therefore, the gender composition of the editorial boards of social science journals and understand the determinants of that composition. This awareness is needed because of the undeniable influence of editorial board members on how the social science field develops and, hence, on what we teach and research. The influence of editorial board members is evidenced in the ongoing debate on the "gatekeepers of knowledge" in social science journals. Similarly, one can argue that women's representation in editorial boards should increase over time as their representation as authors increases.

Review of Literature

Cho, Alyssa H. et al. (2014) [1] carried out a survey of 10 highly regarded journals in environmental biology, natural resource management, and plant sciences to quantify the number of women on their editorial boards and in positions of editorial leadership from1985 to 2013. They found that during this time period only 16% of subject editors were women, with more pronounced disparities in positions of editorial leadership. Metz, Harzing (2012) [2] accomplished a longitudinal analysis of scholarly management journals over a period of two

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decades to update knowledge of women's representation. This study extends the work on women's representation in the editorial boards of 57 management journals from 1989 to 2004 by focusing on the development of gender diversity in editorial board membership over time. They then add empirical richness by conducting a more fine-grained analysis of women's representation at the various editorial board levels over time. Stark, Barbara L. et al. (2015) [3] found the gender composition of archaeological editorial boards. The research was conducted by a subcommittee of the SAA's Committee on the Status of Women in Archaeology (COSWA). The research reflects one of COSWA's central missions, which is to collect data relevant to the status of women in the archaeological profession. Stegmaier, & Assendelft (2011) [4] remarked although the overall representation of women in the field of political science has increased gradually over the last several decades, most gains are being achieved at junior levels. When considering the status of women in the profession, it is instructive to incorporate information on the presence of women in editorial positions at top-ranked political science journals. The authors in most of the studies have remarked that the role model effect and the gate keeping power of editors suggest that greater inclusion of women as authors who bring different perspectives to research could result in a more vibrant range of research topics and methodological approaches published in a journals.

Objectives of Study

- To study the status of gender diversity in Indian social science journals.
- To study the level of women participation in editorial board in Indian Social Science Journals
- To study the level of women participation as authors in current issues of Indian social science journals.

Methodology

The present study focussed on 50 social science journals in India indexed in Indianjournals.com database. The bibliographic details of these journals were analysed by MS-Excel. Particularly, the number of women in the editorial boards of different journals was extracted and author details of published papers in the current issues of these social science journals were examined to find out details of women authors, their affiliation, position, etc. A careful scrutiny of these journals resulted in a total of 1053 editorial board members, out of which 166 were women. Similarly, out of a total of 705 papers published in current issues (August 2015 to November 2015) of social science journals, 351 have been authored by women.

Members in Editorial Board

The reputation of a scholarly journal is partly but most importantly determined by the academic and research profile of the members of editorial board. The job of an editorial board member is highly intellectual and very crucial as regards to the choice of research papers, content, style of presentation, etc. In the present study the information regarding the editorial board and their gender composition has been taken from the journal information page of each individual journal from indianjournals.com. The collected data has been incorporated in the table below.

Table 1 revealed the status of editorial boards of the 50 journals in social sciences included under the study. Each of these journals has an editorial board constituted with number of members varying from 2 to 105. The editorial board of *International Journal of Advanced Research in Management and Social Science*s has highest number (105) of editorial members followed by *International Journal of Social and Economic Research* (78) and *Indian Journal of Clinical Psychology* (64). With regard to women participation in editorial board, it ranged between 0-55.56%. Only 11 out of 50 journals have 25% or more women members in the editorial board. In 5 journals, there are no women in the editorial board.

State wise distribution of women editors in social science Journals

Social science research infrastructure varied across the country depending upon the size of the state, number of universities and colleges, NGOs, etc. Accordingly the women participation in research communication will also vary. In order to find out state wise representation of women in social science journals, the data as represented in following table has been collected.

From Table 2 it was found that, highest numbers of women in editorial board (33) are from Uttar Pradesh. The second highest women participation as editorial board member is from Delhi with 16 (11.11%) women in editorial board. Goa is state where lowest percentage of women is in the editorial board.

Women Editorial Members from Foreign Countries

Many of the social science journals in India have

Table 1: Members in the editorial boards of social science journals

Sl. No.	Name of the Journal	Nos. of Editorial members	Nos. of Women in Editorial Board	% of Women in Editorial Board
1.	Institutionalised Children Explorations and Beyond	9	5	55.56
2.	Voice of Intellectual Man- An International Journal	10	5	50.00
3.	Motifs : An International Journal of English Studies	4	2	50.00
4.	World Affairs: The Journal of International Issues	2	1	50.00
5.	Mass Communicator: International Journal of Communication Studies	11	4	36.36
6.	Samajbodh	18	6	33.34
7.	TechnoLearn: An International Journal of Educational Technology	14	4	28.57
8.	International Journal of Sociology, Social Anthropology and Social Policy	26	7	26.92
9.	The Clarion- International Multidisciplinary Journal	15	4	26.67
10.	Learning Community-An International Journal of Educational and Social Development	20	5	25.00
11.	Shikshan Anveshika	8	2	25.00
12.	Journal of Exclusion Studies	21	5	23.80
13.	Research Journal of Humanities and Social Sciences	18	4	22.23
14.	journal of research the bede athenaeum athenaeum	28	6	21.42
15.	ACADEMICIA: An International Multidisciplinary Research Journal	11	2	18.18
16.	Quest-The Journal of UGC-HRDC Nainital	11	2	18.18
17.	Educational Quest, An International Journal of Education and Applied Social Sciences	18	3	16.67
18.	International Journal of Peace, Education and Development	18	3	16.67
19.	Economic Affairs	12	2	16.67
20.	Gyanodaya: The Journal Of Progressive Education	25	4	16.00
21.	Afro Asian journal of Anthropology and Social policy	38	6	15.78
22.	ZENITH International Research & Academic Foundation (ZIRAF) India	38	6	15.78
23.	Indian Journal of Clinical Psychology	64	10	15.62
24.	Asian Journal of Development Matters	32	5	15.62
25.	Asian Man (The) - An International Journal	13	2	15.38
26.	INROADS- An International Journal of Jaipur National University	13	2	15.38
27.	Indian Journal of Economics and Development	21	3	14.28
28.	Journal of Teacher Education and Research	7	1	14.28
29.	International Journal of Social and Economic Research	78	11	14.10
30.	Sandharv	22	3	13.63
31.	International Journal of Advances in Social Sciences	16	2	12.5
32.	International Journal of Physical Education Sports Management and Yogic Sciences	16	2	12.50
33.	International Journal of Reviews and Research in Social Sciences	16	2	12.50
34.	International Journal of Social Sciences	8	1	12.50
35.	International Journal of Research in Economics and Social Sciences	42	5	11.90
36.	International Journal of Advanced Research in Management and Social Sciences	105	12	11.42
37.	International Journal of Physical and Social Sciences	18	2	11.11
38.	Academic Discourse	31	3	9.68
39.	Journal of Global Communication	11	1	9.09
40.	Spectrum : A Journal of Multidisciplinary Research	11	1	9.09
41.	International Journal of Research in Social Sciences	26	2	7.69
42.	Asian Journal of Research in Social Sciences and Humanities	13	1	7.69
43.	Public Affairs And Governance	17	1	5.88
44.	VIDHIGYA: The Journal of Legal Awareness	20	1	5.00
45.	international journal in management & social science	48	2	4.17
46.	Iassi quarterly	11	0	0
47.	Samaj Shashtriya Patrika	10	0	0
48.	Indian Journal of Arts	4	0	0
49.	International Scientific Journal of Sport Sciences	3	0	0
50.	Dynamics of Public Administration	2	0	0

Table 2: State wise representation of women in editorial board

Name of the State	No of women editors	% of women editors
Uttar Pradesh	33	22.91
Delhi	16	11.11
Karnataka	14	9.72
Haryana	12	8.33
Maharashtra	10	6.94
Tamilnadu	7	4.86
Rajasthan	6	4.17
Punjab	6	4.17
Madhya Pradesh	5	3.47
Odisha	5	3.47
Andhra Pradesh	5	3.47
Assam	4	2.78
West Bengal	4	2.78
Chhattisgarh	4	2.78
Uttarakhand	4	2.78
Himachal Pradesh	3	2.08
Gujurat	2	1.39
Telengana	2	1.39
Goa	1	0.69
Total	143	100.00

women from countries abroad as editorial board member. The following table lists the foreign countries from which the members of editorial board of some of the Indian social science journals are reflected in the following table.

Out of 166 women members in editorial board, 23 (13.85%) are foreign members. Further, it was revealed that the foreign members in the editorial board represent 14 foreign countries. Highest percentage of women editors are (34.78%) from USA, followed by Australia and Tunisia with 2 (8.69%) members each. Rest 11 countries have 1 (434%) women member each in the editorial board.

Position Held by Women Editors

It is always seen that scholars at the senior level with specialization and experience are taken as members of editorial board of the journals. In order to find out the positions held by the women editors in the present study the following data has been collected.

Table 3: Women from foreign countries as members of editorial board

Name of the Country	No of women editors	% of women editors
USA	8	34.78
Australia	2	8.69
Tunisia	2	8.69
Pakistan	1	4.34
Oman	1	4.34
Albania	1	4.34
UK	1	4.34
New Zealand	1	4.34
Spain	1	4.34
Malaysia	1	4.34
Sri Lanka	1	4.34
Ethiopia	1	4.34
South Korea	1	4.34
Israel	1	4.34
Total	23	100.00

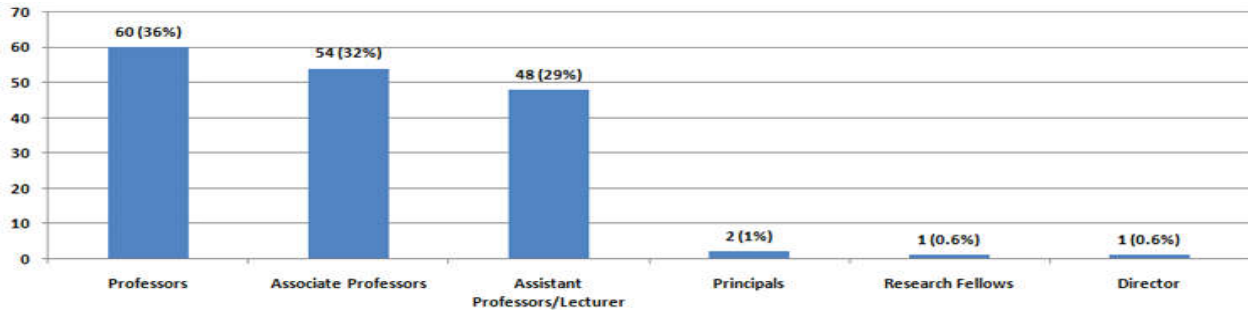

Fig. 1: Positions held by members of editorial boards

It is quite clear from the above given Figure 1 that majority of women served in editorial boards of social science journals have academics back ground serving in various positions in universities and colleges as Professors, Associate Professors or Assistant Professors. A little more than one third of the women in editorial boards i.e. 60 (36.14%) are very senior academicians at the position of professor followed by almost equal number of women 54 (32.53%) who are working as Associate Professors. Similarly, 48 (28.91%) are Assistant Professors.

Position of Women in the Editorial Board

The editorial boards are usually constituted with members at different levels in the hierarchy. The head of the editorial board is known as the Chief Editor or the Executive Editor. Associate Editors are in the second level of the hierarchy followed by Assistant Editors. At the bottom most layer of the editorial board hierarchy are members. In the present study the women members in the editorial board of social science journals are placed in different levels of the hierarchy as reflected in the table below.

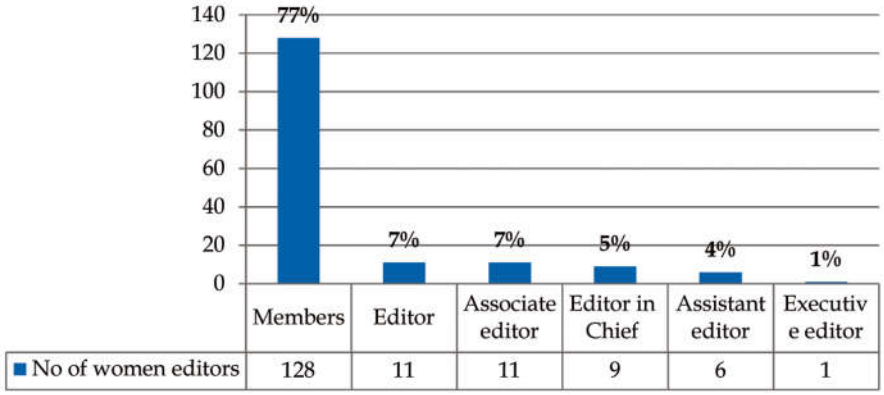

Fig. 2: Positions held by women members of editorial boards

In the above Figure 2 it could be found that a position of women in the editorial board members of social science journals in India. From the table and figure has found that the designation wise of women in editorial board members in social science journals. Here highest percentage of women participation as members' is (77.10%) editorial board in the editorial board members in social science journal in India**.** In table has given editors and associate editors are equally participation (6.62%) in editorial board of social science journals, and editor in chief (5.42%), assistant editors (3.61%) and executive editors (0.60%) women in editorial board of social science journals in India.

Journal Wise Analysis of Papers Authored by Women Published in the Current Issues

Gender inequalities as regards to authorship of scientific and research papers are quite apparent from bibliometric studies in almost all the scholarly disciplines. However, since social science is a comparatively soft science as compared to other branches of study, it is expected that women participation would have been more than men. In order to find out the fact, the following data was elicited in the present research.

Authorship of Women in Indian Journals

Gender disparity is quite visible in the authorship pattern of journals where the male authors dominant. In order to know whether the same pattern holds in case of social science also, the following data was derived from the analysis of papers in the journals. The women participation as authors in journals has been categorised into 4 categories of journals in decreasing order of the percentage of women authors in the journals such as >75-100%, >50-75%, >25-50% and >1-25%.

Table-4 reflects the gender disparity with regard to authorship in social science journals in India. Above table has found that out of 1179 authors 351 (29.77%) are women authors in social science journals in India. Thus, overall one third of the authors in social science are women. However, there are few journals in the list in which higher participation of women as authors visible.

Designation Wise Distribution of Women Authors

The academic and professional profile of the authors in the journals matter a lot so far as the process of scholarly communication is concerned. It is always has a vital implication to know who the authors are. In some areas of study high level professionals at senior positions contribute more than the junior professionals or vice versa. The research makes an effort to find out the trend in social science area as well.

Table 4: Gender disparity in authorship pattern of social science journals

Sl No	Name of the Journal	Total No of authors	No of women authors	% of women authors
1	Institutionalised Children Explorations and Beyond	9	8	88.88
2	Shikshan Anveshika	15	13	86.66
3	Motifs : An International Journal of English Studies	12	10	83.34
4	International Journal of Advances in Social Sciences	12	9	75.00
5	Journal of Teacher Education and Research	19	13	68.42
6	Journal of research the bede athenaeum athenaeum	19	12	63.15
7	Learning Community-An International Journal of Educational and Social Development	13	8	61.53
8	Mass Communicator: International Journal of Communication Studies	6	3	50.00
9	International Scientific Journal of Sport Sciences	15	7	46.67
10	VIDHIGYA: The Journal of Legal Awareness	7	3	42.85
11	The Clarion- International Multidisciplinary Journal	45	19	42.23
12	ZENITH International Research & Academic Foundation (ZIRAF) India	34	14	41.17
13	Indian Journal of Clinical Psychology	18	7	38.88
14	Asian Man (The) - An International Journal	39	15	38.46
15	International Journal of Advanced Research in Management and Social Sciences	21	8	38.09
16	Academic Discourse	19	7	36.84
17	Educational Quest, An International Journal of Education and Applied Social Sciences	19	7	36.84
18	Research Journal of Humanities and Social Sciences	14	5	35.71
19	Voice of Intellectual Man- An International Journal	14	5	35.71
20	ACADEMICIA: An International Multidisciplinary Research Journal	37	13	35.13
21	International Journal of Reviews and Research in Social Sciences	18	6	33.34
22	Journal of Exclusion Studies	12	4	33.34
23	World Affairs: The Journal of International Issues	9	3	33.33
24	TechnoLearn: An International Journal of Educational Technology	6	2	33.33
25	international journal in management & social science	79	25	31.64
26	Samajbodh	20	6	30.00
27	Indian Journal of Economics and Development	34	10	29.41
28	International Journal of Peace, Education and Development	7	2	28.57
29	International Journal of Research in Social Sciences	112	30	26.78
30	International Journal of Physical and Social Sciences	79	21	26.58
31	International Journal of Sociology, Social Anthropology and Social Policy	16	4	25.00
32	Public Affairs And Governance	12	3	25.00
33	Gyanodaya: The Journal Of Progressive Education	8	2	25.00
34	International Journal of Research in Economics and Social Sciences	42	10	23.80
35	Iassi quarterly	10	2	20.00
36	Economic Affairs	74	14	18.91
37	INROADS- An International Journal of Jaipur National University	28	5	17.85
38	Asian Journal of Research in Social Sciences and Humanities	24	4	16.66
39	Dynamics of Public Administration	18	3	16.66
40	International Journal of Physical Education Sports Management and Yogic Sciences	12	1	8.34
41	Spectrum : A Journal of Multidisciplinary Research	12	1	8.33
42	Journal of Global Communication	25	2	8.00
43	Samaj Shashtriya Patrika	14	1	7.14
44	Asian Journal of Development Matters	36	2	5.56
45	International Journal of Social Sciences	18	1	5.56
46	International Journal of Social and Economic Research	19	1	5.26
47	Quest-The Journal of UGC-HRDC Nainital	19	0	0
48	Afro Asian journal of Anthropology and Social policy	17	0	0
49	Sandharv	13	0	0
50	Indian Journal of Arts	0	0	0
	Total	1179	351	29.77

Table 5 reveals that majority of women authors i.e. 155 (44.15%) are junior level academicians with designation 'Assistant Professor' followed by next majority of 75 (21.36%) research scholars. The participation of senior level academicians like Associate professors and Professors has 14.24% and 10.82% contribution respectively.

There are some other categories of authors such as principals of colleges, Post Doctoral Fellows, Directors, Scientists, etc. with very little contribution.

Authorship Pattern of Women Authors

Authorship pattern is a major indicator of the dimensions of scholarly communication in any field of research. The first author of a research paper has always given more weightage than the co-authors. The API system of UGC for research appraisal also lays more emphasis on the first author with 60% of the total score accrued from that publication. As regards to the authorship pattern of women authors in social science journals in India, the following table highlights that out of 351 women authors 276 (78.64%) are first authors and rest 75 (21.36%) are co-authors.

Table 5: Designation/position of the women authors in social science

Designation	No of women authors	% of women editors
Assistant Professor/Lecturer	155	44.15
Research Scholar	75	21.36
Associate Professor	50	14.24
Professor	38	10.82
Student	15	4.27
Principal	4	1.13
Post Doctoral Fellow	4	1.13
Director	3	0.85
Teacher	3	0.85
Scientist	3	0.85
Total	351	100.00

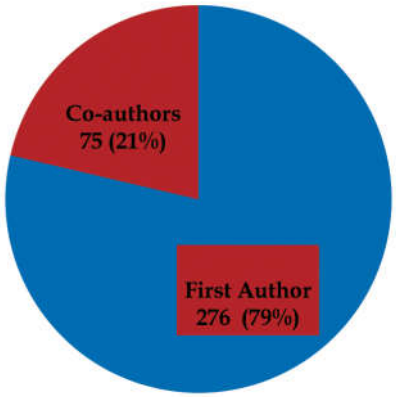

Fig. 3: Women authors in social science journals

State Wise Distribution of Women Authors in Social Science

Bibliometric and scientometric studies have always proved the geospatial disparities as regards to contributions of scientific and research publications and so also representation of authors from different geographical regions. The following table gives a geospatial angle to the representation of women authors in social science from different states in India.

Table-6 demonstrated that Uttar Pradesh is at the top among the Indian states/union territories as regards to women participation in scholarly communication as authors in social science journals with 39 (12.11%) women authors. The other states which have significant number of women authors are Chhattisgarh (32), Haryana (28), Rajasthan (28), Delhi (25), Punjab (23), Tamil Nadu (21), and Assam (21).

State wise Distribution of Women Authors in Social Science

Many of the Indian journals in various fields have foreign members in the editorial board as well as authors of research papers. The participation of these foreign members definitely adds positively to the reputation of these journals. But it is always important to know the foreign members are from which country. The following table indicates participation of women from countries abroad as authors in social science

Table 6: State wise distribution of women authors in social science

S.L No.	Name of the State	No of women authors	% of women authors
1.	Uttar Pradesh	39	12.11
2.	Chhattisgarh	32	9.93
3.	Haryana	28	8.69
4.	Rajasthan	28	8.69
5.	Delhi	25	7.76
6.	Punjab	23	7.14
7.	Tamil Nadu	21	6.52
8.	Assam	20	6.21
9.	Karnataka	18	5.59
10.	West Bengal	14	4.34
11.	Himachal Pradesh	13	4.03
12.	Maharashtra	10	3.10
13.	Kerala	8	2.48
14.	Madhya Pradesh	7	2.17
15.	Gujarat	6	1.86
16.	Manipur	6	1.86
17.	Uttarakhand	6	1.86
18.	Andhra Pradesh	4	1.24
19.	Jammu and Kashmir	3	0.93
20.	Bihar	2	0.62
21.	Odisha	2	0.62
22.	Telengana	2	0.62
23.	Tripura	2	0.62
24.	Goa	1	0.31
25.	Jharkhand	1	0.31
26.	Pondicherry	1	0.31
	Total	322	100.00

Table 7: Participation of women authors from foreign countries

S.L No.	Name of the State	No of women authors	% of women authors
1.	Pakistan	6	20.68
2.	USA	5	17.24
3.	Australia	3	10.34
4.	Mexico	3	10.34
5.	Iran	2	6.89
6.	Kenya	2	6.89
7.	Spain	2	6.89
8.	Bangladesh	1	3.44
9.	Bhutan	1	3.44
10.	Brazil	1	3.44
11.	Indonesia	1	3.44
12.	Sri Lanka	1	3.44
13.	Tanzania	1	3.44
	Total	29	100.00

journals in India.

From the Table 7 it is evident that 29 women from 13 foreign countries have contributed as authors in the current issues of social science journals. The highest number of women i.e. 6 (20.68%) from Pakistan 5 (17.24%) from USA and 3 (10.43%) each from Australia and Mexico.

Major Findings

As a result a systematic analysis of data obtained for the present study in the previous chapters, the researcher observes the following findings about the women involvement in social science journals in India as members of editorial board and authors;

i. Editorial boards in different social science journals in India constituted with members ranging between 2 to 105. The editorial board of *International Journal of Advanced Research in Management and Social Science*s has highest number (105) of editorial members followed by International Journal of Social and Economic Research (78) and Indian Journal of Clinical Psychology (64). With regard to women participation in editorial board, it varied between 0-55%. Only 11 out of 50 journals have 25% or more women members in the editorial board. In 5 journals, there are no women in the editorial board.

ii. The highest percentage of women participation in editorial board is (55.56%) in the journal *Institutionalised Children Explorations and Beyond* and second highest percentage of women participation in editorial board is (50.00%) *Voice of Intellectual Man- An International Journal* and *Motifs: An International Journal of English Studies*.

iii. It was found that, highest numbers of women in editorial board (33, 22.91%) are from Uttar Pradesh. The second highest women participation as editorial board member is from Delhi with 16 (11.11%) women in editorial board. Goa is state where lowest number of women represents in the editorial board. Odisha is among the top ten states with high participation of women in editorial works of social science journals.

iv. Out of 166 women members in editorial board, 23 (13.85%) are foreign members representing 14 foreign countries. Highest percentage of women editors (34.78%) are from USA, followed by Australia and Tunisia with 2 (8.69%) members each. Rest 11 countries have 1 (4.34%) women member each in the editorial board.

v. The highest percentage of women in editorial board is 33 (29.10%) women in editorial board of social science journals from the state of Uttar Pradesh. Delhi is second highest in terms of number of women editors with 16 (14.15%) women in editorial board followed by Maharashtra (8.84%), Punjab (5.3%), and Rajasthan (5.3%).

vi. Majority of women (77.10%) represent to different editorial boards serve as 'members'. In table has given editors and associate editors are equally participation (6.62%) in editorial board of social science journals, and editor in chief (5.42%), assistant editors (3.61%) and executive editors (0.60%) women in editorial board of social science journals in India.

vii. It was found that 705 papers published in current social science journals have been authored by 351 women authors with an average of 0.49 women authors per paper. In these social science journals, 5 journals (top five in the table) are highly participated by women as authors with 1 or >1 women authors per paper. Rest 45 journals have less than 1 woman in the authors per paper. In 4 journals in the bottom of the list does not have a single women author in any of the 32 papers published in the current issues.

viii. It was revealed that out of 1179 authors 348 (29.51%) are women authors in social science journals in India. Thus, overall one third of the authors in social science are women.

ix. Cotton College, Guwahati, is at the top of the ten institutions with 10 women faculty representing as authors in social science. While Pt. Ravi Shankar University stands in the second position with 9 women representing as authors, St. Bede's College, Shimla is at the third position with 6 women representations. However, reputed universities such as university of Delhi, University of Calcutta and B. R. Ambedkar University Lucknow are at the bottom of the list with less than 5 women representing themselves as authors in social science journals.

x. Out of 351 women authors 276 (78.64%) are first authors and rest 75 (21.36%) are co-authors.

xi. Uttar Pradesh is at the top among the Indian states/union territories as regards to women participation in scholarly communication as authors in social science journals with 39 (12.11%) women authors. The other states which have significant number of women authors are Chhattisgarh (32), Haryana (28), Rajasthan (28), Delhi (25), Punjab (23), Tamil Nadu (21), and Assam (21).

xii. The study revealed that 29 women from 13 foreign countries have contributed as authors in the current issues of social science journals. The highest number of women i.e 6 (20.68%) as authors are from Pakistan followed by 5 (17.24%) women from USA and 3 (10.43%) each from Australia and Mexico.

Suggestions

On the basis of the analysis of data and generalization of the findings in the preceding chapter, the following suggestions are structured:

i. Gender disparities from the base level be tried to be removed by taking special measures for women students in social science by making a reservation of few seats in social science subjects.

ii. The universities and college, while taking up recruitment of faculty in social science Departments may mandate to reserve 30% to 40% of the available faculty strength for women.

iii. The presence of women in the editorial board take care of feminine issues be emphasised in the research papers published in the social science journals. Hence, the journal publishers may mandate and ensure the presence of at least one third of women in the editorial board.

iv. Social Science departments in colleges and universities may be sanctioned special research assistance for women faculty and scholars for their increased participation in the scholarly communication process as authors.

v. Special scholarships for women students and scholars pursuing higher studies in social science may be launched by the University Grants Commission or by government.

vi. Social science journals which publish only papers authored by women may be launched to bridge the gender disparities in the scholarly communication.

Conclusion

Women's representation in editorial boards and author panels of social science journals are underrepresented as compared to their male counterpart. However, this does not always reflect lacking in specialties in women in social science. Social and other gender related issues are actively involved in this field. Hence, efforts should be made through appropriate legislation and mandates at different levels to attain parity of women on these boards. The statistics in this investigation only reflect to certain other issues which involved with the under representation of women. These issues have been dealt with logical solutions to ensure gender parity and balanced representation of women in research contribution towards social science.

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Publication Productivity of the Heart Transplantation, 1999 to 2014: A Scientometric Analysis

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Abstract

Purpose: The purpose of this study is to investigate the growth of Heart Transplantation literature between the time frame of 1999 and 2014. There are very less number of scientometric studies have been done on this area. This is to understand our motives and desires, as well as obstacles in the scientometric study of Heart Transplantation. *Methodology:* Statistical tools such as frequency distribution and percentage analysis and bibliometric techniques i.e. Relative Growth Rate (RGR), Doubling Time (Dt) are used for this study. *Findings:* An average RGR of articles R_t(P) increased gradually from 0.68 to 2.63 (1999 to 2014) and sudden increase in the year 2008 (2.24). Correspondingly, the value of doubling time of the publication of the articles Dt(P) increased gradually from 2000(1.36 years) to 2014 (5.27 years). It indicates that the mean relative growth of Heart Transplantation literature has an increasing trend may be due to interdisciplinary and multidisciplinary nature of the research and communication pattern of the medical and surgical researchers.

Keywords: Scientometrics; Heart; Heart Transplantation; Relative Growth Rate (RGR); Doubling Time (Dt).

Introduction

Heart transplant is a surgical process in which a diseased heart is substituted with a healthy heart from a deceased person. Heart transplants are done as a life-saving measure for the end-stage of heart failure. The world's first heart transplant in human beings was done in South Africa on 3rd December, 1967 by Dr.Christian Barnard, but the patient only lived 18 days [1]. The number of patients with heart failure is getting epidemic proportions in the western world. In the UK there are approximately 100000 new cases per year, whereas in the USA five times more than that number. Patients at the end-stage of heart failure may have a 1 year survival of 50%, and the figure is as low as 10% by 2 years. It is primarily a disease of the elderly and in 95% of cases is due to ischemic heart disease. The most effective treatment, but with limited availability, is heart transplantation [2]. India's first heart transplant carried out by Dr. P K Senat Parel back in 1968. Whereas,in India at present, there are 50000 cases have been reported for requiring heart transplant surgery in every year but Only 30 hearts have to done transplantation.

Scientometrics is used to analyze various quantitative or qualitative aspects of a publication in the field of Heart transplantation. It is a scientific field that studies the evolution of science through some quantitative measures of the scientific information, as the number of scientific articles published in a given period of time, their citation impact, etc. [3]. This study helps to library professional, Medical researcher to find exact statistics of the Heart Transplantation.

Review of Literature

The variations in the mass of literature over a specific period termed as growth literature. Gilbert (1978) has studied the existing literature on the indicators of growth of knowledge in scientific areas, and has enumerated many ways of measuring it, noting their strength and limitations and commenting, at same time, on their use. Gupta, B.M (1977) recommends two approaches that have normally been considered in understanding knowledge growth: (i) Qualitative and (ii) Quantitative. Qualitative methods

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recommended the structural or descriptive models of knowledge growth, while descriptive model use social phenomenon to explain diffusion and formation of knowledge. Quantitative approach is trusted on summarization of statistics to elaborate the observed behavior, whereas others apply growth and technology diffusion models and bibliometric/ Scientometric techniques.

More number of studies has been made on the growth of literature in the field of Medicine and Surgical literature but a less number of studies have been reported on growth of research literature on Heart Transplantation. Therefore an attempt has been made to study the growth and dynamics of Heart Transplantation research literature.

Objectives

- To define the growth rate of 'Heart Transplant' literature by calculating relative growth rate and doubling time for publications;
- To fit both modified linear curve and exponential curve for the original publications data studying actual growth pattern.

Scope

The Scientometric study is a statistical method of measuring to evaluate and enumerate the growth of a subject. The research trend during the said time span would be clearly understood from this study and a predictive projection may be made for an anticipatable future. There are several areas in science, social science and arts for which scientometric studies have been carried out. The data gathered on 'Heart Transplant' is between the year 199 to 2014 from the 'Pub Med' database only.

Methodology

The present study focused on the scientometric analysis of research publications in Heart transplantation. The literature is collected from PubMed database and applied search techniques to access the data and used key term as "Heart Transplant". A total of 31,665 records retrieved the field of Heart transplantation worldwide during the years 1999 to 2014 [4]. A spreadsheet application (MS Excel) was used to classify the collected data and the data were analyzed by statistical tools such as frequency distribution, percentage analysis and bibliometric techniques such as Relative Growth Rate (RGR) and Doubling Time (D_t) were used for this study.

Statistical Method

To investigate the nature and growth of articles, exponential, linear and logistic were tested. The exponential growth is defined as

$F(t) = a\, e^{bt}$

Where

a = the initial size of literature i.e. at time t=o and b, the continuous growth rate is related to the percentage by which the size increases each year.

The logistic has a lower limit and an upper limit or a ceiling beyond which the size cannot grow and can be represented mathematically as

$$U_t = \frac{K}{1+\mu}$$

Where,

U = expected size of literature

K and μ = constants and t= time.

Similarly, the linear growth is represented as

$U_e = a + b_t$

Relative Growth Rate (RGR) and Doubling Time (D_t) had been applied. RGR means the increase in the number of articles per unit of time. The mean RGR of articles over the exact period of interval is represented as

R_t = Relative Growth Rate of articles over the specific period of time.

$\log_e p(0)$ = Logarithm of initial number of articles

$\log_e p(t)$ = Logarithm of final number of articles

Similarly, RGR of subject's articles has increased in number of articles per unit of time. The mean RGR of subject articles Rt(SA) over the period the specific period of time is determined as

$$R_t(SA) = \frac{1}{t}\left[\log_e p(t) - \log_e p(0)\right]$$

R_t(SA) = Relative Growth Rate of articles over the specific period of time.

= Logarithm of initial number of articles

= Logarithm of final number of articles

Dt (Doubling Time) has been calculated using the following formula:

Doubling Time or $D_t = 0.693/R$

Dt (Doubling Time) is directly related to RGR and

is defined as the time required for the articles to become double of the existing amount. In case the number of articles in subject doubles during a given period, then the difference between logarithms of number at the beginning and at the end of this period must be the logarithm of the number 2. We used Napier logarithm and the taken value of is 0.693. Therefore, as per this (0.693) and an average growth rate we calculated by what time interval does the Napier logarithm of numbers increase by 0.693. So the Doubling time is calculated as

$$D_t(SA) = \frac{\log_e 2}{R_t(SA)} = \frac{0.693}{R_t(SA)}$$

Here, D_t (SA) = average doubling time of the articles [5].

Table 1: Relative Growth-rate (RGR) and Doubling time (D_t) of articles in Heart Transplantation, 1999 to 2014

Year	No. of Articles	Cumulative	Log_e1^P	Log_e2^P	$R_t(P)$	Mean Rt(P)	$D_t(P)$	Mean Dt(P)
1999	1671	1671	7.42	7.42	0		0	
2000	1722	3393	7.45	8.13	0.68		1.36	
2001	1729	5122	7.46	8.54	1.09		2.17	
2002	1645	6767	7.41	8.82	1.41		2.83	
2003	1773	8540	7.48	9.05	1.57		3.14	
2004	1882	10422	7.54	9.25	1.71		3.42	
2005	2132	12553	7066	9.44	1.77		3.55	
2006	2052	14605	7.63	9.59	1.96	1.27	3.93	2.55
2007	2018	16623	7.61	9.72	2.11		4.22	
2008	1976	18599	7.59	9.83	2.24		4.48	
2009	2045	20644	7.62	9.94	2.31		4.62	
2010	2185	22829	7.69	10.04	2.35		4.69	
2011	2107	24936	7.65	10.12	2.47		4.94	
2012	2184	27120	7.69	10.21	2.52		5.04	
2013	2271	29391	7.73	10.29	2.56		5.12	
2014	2274	31665	7.73	10.36	2.63	2.4	5.27	4.8
	31665							

R^2(Linear trend for no. of articles)=0.863
R^2(Exponential trend for no. of articles)=0.8559
R^2(Exponential trend for cumulative no. of articles)=0.8955

Table 1: Literature Growth of Heart Transplantation

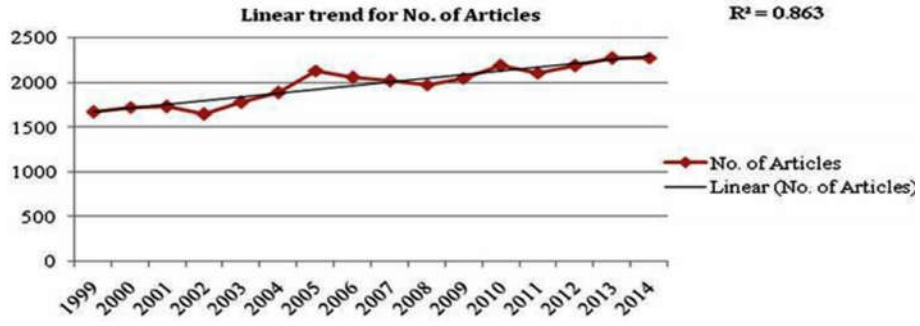

Fig. 1: Linear trend for No. of articles from 1999 -2014

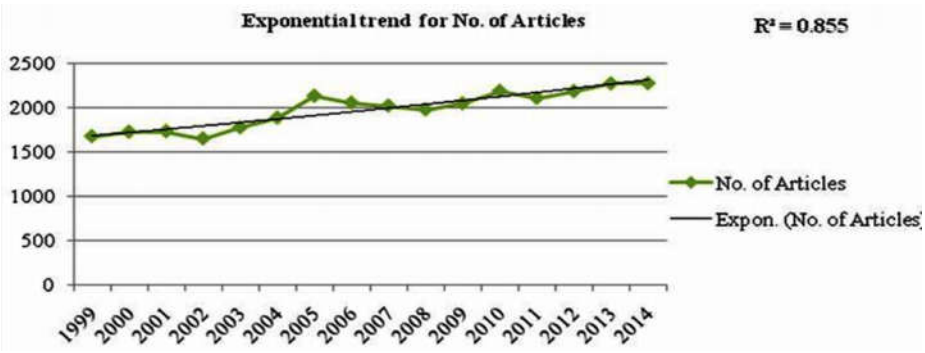

Fig. 2: Exponential trend for No. of articles from 1999-2014

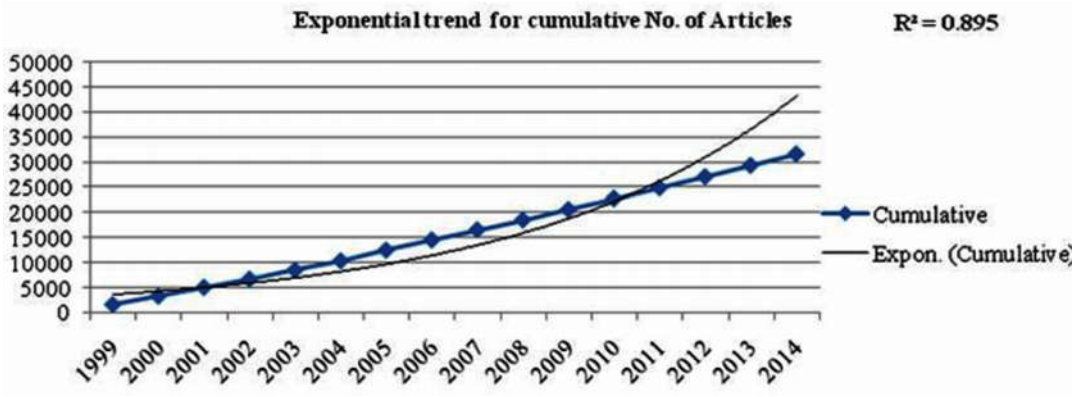

Fig. 3: Exponential trend for cumulative No. of articles from 1999-2014

Relative Growth Rate (RGR)

As the table clearly indicates, the value of an average RGR of articles $R_t(P)$ increased steadily from 0.68to 2.63 (1999 to 2014) and there is tiny decrease in the year 2012 (2.33). Therefore during year 1999 to 2014 there were much research has been done. Consequently majority of the countries of the world have given more importance to research to improve the surgical techniques as well as to create the awareness among the donors of the heart, those who are in end stage of the life, hence the RGR has been increased. For the first eight years i.e. 1999 to 2006 the RGR was 1.27 and in the next eight years i.e. from 2007 to 2014, it was increased to 2.40. Interestingly it noted that, during the year 2008(2.24) the $R_t(P)$ has been increased slightly, whereas in the year 2014 there has been $R_t(P)$ growth was raised up to (2.63). Because of variations in Cumulative articles. Cumulative values of Doubling time of the publication of articles $D_t(P)$ increased gradually from 1999 (1.36 years) to 2014 (5.27).

The mean relative growth $R_t(P)$ for the first 8 years (1999 - 2006) indicates a growth rate of 2.55 years, whereas for the next 8 years (2007 - 2014) it was increased 4.80 years. It indicates that the mean relative growth of Heart Transplant literature has shown an increasing trend. It may be due to interdisciplinary and multidisciplinary nature of research and the communication patterns of medical and surgical researchers. Therefore, it is inferred that majority of the countries have shown keen interest in research to precious Heart Transplant Surgery. The linear growth trend is fit to number of articles and exponential growth trend fit to number of articles and number of cumulative articles for the years 1999 to 2014. The Table and Figure 1, 2 & 3 reveals that the R^2 value for the linear trend (0.863) is more than that of exponential trend (0.8559), which indicates that the exponential trend is more suitably fit to as compared to linear trend.

Further, the exponential trend is fit to the cumulative number of articles from 1999 to 2014. The R^2 value for this trend is 0.8955, shows 96.04% variation observed from the cumulative number of articles.

Major Findings

The year-wise analysis of the growth of literature output shows that the growth was asymmetrical from the year 1999 to 2006, and it was high during 2007 to 2008. Between the years 2009 to 2014 there was an exponential growth of research literature on Heart Transplant worldwide. The high productivity during these years may be due to their significance of the studies on Heart Transplant Surgery, which may have got prominence in Research and subsequent literature as well. Therefore, it is evident from the study that there was an asymmetrical growth of literature on Heart Transplantation During a span of 16 year (1999 to 2014).

Conclusion

Many of the disciplines around the world would be aimed at informed decision making, critical assessments of the amount of new knowledge contributed by the research output and so on. Therefore valid measures of knowledge growth may be obtained. It helps to provide exact, useful descriptions and estimated growth of knowledge in the field of 'Heart Transplantation'. The year wise analysis of the growth of article output as shows that growth was peer in the year 1999 to 2014 and then there is a gradually increase in the output during the year 1999 to 2006 and 2007 to 2014. The high productivity during these years may be due to their significance in Heart Transplantation literature having got prominence in research.

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Citation Analysis of Doctoral Theses in Legal Research Submitted to Selected Universities in Kerala

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Abstract

Studies relating to research in law are very essential to identify the modern research and progress of the subject. Moreover theses are unpublished documents, hence the analysis of this is very important to impart valuable information to other researchers for analyzing the progress made in this field. Citation Study and analysis may throw light on the extent of dependence of legal research on legal materials and various subjects in other disciplines. It is hoped that the outcome of the study will expose to researchers in law, the pattern of information use in their field and the total scenario of research going on in the concerned areas. All of us live under a legal environment and must confront the law in many aspects of our daily lives. One thing we cannot do, however, is to avoid the law. Like it or not, it is a pervasive feature of our lives and is likely to remain as such. So it is very relevant to conduct a citation analysis based on PhD Theses in Law.

Keywords: Citation Analysis; Theses; Legal Education; Bibliography and Authorship Pattern.

Introduction

Citation analysis is a technique adopted to measure the extent of information sources based on citations in dissertations or journal articles. It is one of the important bibliometric techniques involving analysis of the references. Research is an indispensable component for any discipline for the generation of new knowledge, which coupled with skills lead to effective action.

Citation analysis denotes the statistical analysis or mathematical analysis of references or citations appended at the end of each article. Much useful information for location and identification of existing and emerging knowledge of a discipline comes to the limelight through analysis of both cited and citing papers. It can be used for identifying the core journals and the characteristic features of a discipline such as authorship pattern, bibliographical form, subject type, etc.

Citation is a universal practice. Citing or giving a reference to a document in any learned presentation is the acknowledgement for intellectual debt received from the author or authors. Citation enables the readers to identify, locate, understand and decide whether the cited paper should be consulted or not. For this purpose, the references should contain all the necessary information for easy access and retrieval by the readers. They may be used to substantiate, explain or elaborate a particular point. They may also be referred to contradict or negate the conclusion of an already published work.

The results of high quality academic research written in the form of a report are usually termed as Theses or Dissertation. The main characteristics of these Theses are: they present details of Investigation/ Research; they offer findings and conclusions, and they are submitted to an overseeing Body.

The Doctoral theses which are products of research activity form an important source of information studies of the citations and may be useful in the decision making process of the library regarding acquisition of reading materials and provision of better services to the users. These doctoral theses are also important because apart from giving the experimental evidence, it also records a thorough review of works that have already been done in a particular field to show that the proposed work is not done elsewhere. In this process, the researchers cite large number of documents in the theses to establish their claim.

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Studies of these citations may be useful in determining the acquisition of reading materials more effectively. Cito analytical studies of doctoral theses have been carried out in extensive numbers in India and abroad, in order to understand the pattern of materials used by the scientists for their research purposes in different disciplines. Citation analysis has been increasingly used in the study of scientific and technological theses to provide qualitative data on their utility and relationship that could be used in several ways. It is one of the important methods employed in the identification of core journals in a particular subject field or for particular scientific community. It is a technique of listing of references appended to articles in significant periodicals and counting the frequency with which the periodicals are cited. This method emphasizes the most profusely cited journals and it can be taken to be the most desirable one in a library collection, for they are likely to be frequently used.

Citation analysis provides a number of interesting and useful insights to the network of journals that functions as the formal communication medium. The citations appended to PhD theses submitted in any Institution of higher learning have been a subject of study for quiet long. A number of studies have been conducted in various disciplines, such as Agriculture, Chemistry, Physics, etc. Citation analysis helps to decide the appropriate collection for a library, weeding out the obsolete documents, etc. It can provide some evidence to the use of various library materials and this can help the librarian to reallocate the funds accordingly. 'Obsolescence' studies help to solve the space problem. 'Obsolescence' is' the condition of no longer being used or useful' – 'the process of becoming obsolete'.

Literature Review

Sinha & Sumit (2015) [1] In their study, 'Status of library use pattern among undergraduate students of Assam University, Silchar: A survey', on the basis of a questionnaire circulated randomly among 140 respondents revealed that students were using the library frequently for their academic purposes. It was found that majority of the respondents use the available printed resources. Other findings revealed that regarding access to e-resources, the problems encountered were frequent power failure, lack of training, etc. Suggestions were made to introduce open access system and also to procure more number of books for the library.

Vithal (2015) [2] Conducted a Study on 'Information use pattern of faculty members of agricultural sciences, Andhra Pradesh. Questionnaires were distributed to 235 faculty members. It was found that nearly 50% of the faculty members used the library once in a week for collecting information. The motivator, 'preparation for teaching' had received the highest rank, 34% spent 1-5 h per week for collecting the required information, 82.1% maintained personal libraries for their information requirements 77.5% responded to the awareness about e-portals.

Santhi & Radhakrishnan (2014) [3] Examined the Usage pattern of electronic resources by the research scholars from Engineering Institutions affiliated to Anna University of Technology, Coimbatore. The study was carried out for researchers who are doing Ph.D in Anna University, Coimbatore and its affiliated institutions to explore their usage pattern of electronic resources. Questionnaire method was used to examine and collect data from the research scholars. The collected data were analyzed with the help of Statistical Package for Social Science (SPSS). Statistical methods like percentage, Chi-Square and ANOVA were used. The Hypotheses framed were proved by this study. The results revealed that there was a significant difference among researchers in different age groups who were familiar with utilization of electronic resources. They concluded that course oriented web pages should be linked with library websites which in turn help the research scholars to use these resources easily and effectively.

Thavamani (2014) [4] Conducted a study on information use pattern of Connemara Public Library, Chennai. The findings indicated that majority of 88.50 respondents were satisfied with the availability of the information sources like newspapers and magazines section being situated separately in the library. The results also pointed out that 46% of the users were college students, and that the users had good opinion about the reference sources.

Choukhande (2013) [5] In the Thesis submitted for the Degree of Doctor of Philosophy in library and information science to Amravati University, found that 2.25% of users had their research topic inter disciplinary, 97.75% did not have any additional degree, 66.50% users had given 1st rank to text book/ handbook, 71.08% did not make use of indexes nor abstracts, 56.67% felt that existing materials in the library were sufficient for their requirements, and 82.25 % of the users agreed with their library timings. Suggestions were made for developing the collection, keeping in view, the information needs of the faculty members and research scholars of various courses of the college/university.

Doraswamy (2013) [6] Carried out a study regarding the information use pattern of the students in engineering colleges and the role of libraries. Data was collected from undergraduate, postgraduate and research students through questionnaire. 35% of the responded passed students preferred low standard text books for their exam purposes, 15.31% preferred standard textbooks for their subject purposes and 14.06% preferred high standard text books for their research purposes. Thus the students of the engineering college had different requirements to meet their needs. Suggestions were made for arrangements and modifications to be implemented in the library to meet the information needs of the students

Pareek & Rana (2013) [7] In their study of information seeking behavior and library use pattern of researchers in the Banasthali University, found that guidance in the use of library resources and services were necessary to help the researchers meet some of their information requirements. Data were gathered from 100 researchers out of 150 through open and closed questionnaire.

Sakthivel & Subramaniayan (2013) [8] Attempted to analyze the information use pattern of the faculty members and research scholars in Muthayammal Institutions (Arts, Science and Engineering), Rasipuram, Tamil Nadu. The role of web based information services in these institutions were processed scientifically and tabulated as to the variables of the study, using the survey method to collect data from the library users.

Velmurugan & Thavamani (2013) [9] Investigated the information use pattern of library resources and related issues among undergraduate students of Rajalakshmi Institute of Technology at Chennai. Out of 150 questionnaires distributed, 120 were returned duly filled in. Findings indicated that 97.5% were using library for study activities, 65.83 % were using text books as the most consulted source, 95.0% were aware of search engines, 91.67 % were of the opinion that Google and Yahoo were the most sought after search engines.

Doraswamy (2012) [10] In this article, presented the findings of the study based on information use pattern of library services and facilities by the faculty members of Siddhartha Educational Institution in Vijayawada. Out of the 455 filled in questionnaires, which were analyzed, it was found that the senior faculty members were using the borrowing facility, reference service and internet searching facilities more in number than compared to junior faculty members.

Kumar & Manjunath (2012) [11] In A comparative study of information seeking behavior of faculty members of Sahyadri Science and Arts College in Shivamogga district of Karnataka, through 90 questionnaires, found that more number of science faculty visited the library to prepare themselves for classroom teaching and consulting periodicals than of arts faculty. Books were the most used library material by both categories of faculty. Most of the arts and science faculty were satisfied with the internet facility available in the library.

Sivaraman & Paramasivam (2012) [12] Studied the information use pattern of faculty members of Arts and Science Colleges in Dindigul district, Tamil Nadu. The methods adopted by the faculty for keeping themselves in tune with the latest developments, utilization of library services, amount spent in information gathering, and assessing the adequacy, availability and accessibility of the college library collection were analyzed.

Anyaogu (2014) [13] Studied the information needs and seeking behavior of the postgraduate students of the Nigerian Institute of Advanced Legal Studies, in Lagos state. The purpose of the study was to find out the various legal resources available to postgraduate law students, their information needs and seeking behavior, the services utilized by them and their level of satisfaction with the information obtained from the sources in the library. A population of 323 postgraduate law students registered at NIALS library since 2013 were selected and sampling technique was used for 204 data. The study revealed that law books were mostly available in NIALS library with a frequency score of (F=204), followed by law reports (F=200).It was also found that the major information need of the postgraduate law students was to obtain academic information in the library. The study revealed that the source of obtaining academic information by students included browsing on the shelves. Based on the findings, it was recommended that a frequent enquiry into the legal information needs of users should be adopted.

Thanuskodi (2010) [14] On analyzing the information needs and use pattern of the legal professionals of District Court of Salem and Erode in Tamil Nadu observed that practicing lawyers were using a variety of information sources to satisfy their information needs. Most of them preferred to first consult their personal library before resorting to other information providing agencies and sources. They were not comfortable while using digital law libraries. It was also found that majority of the respondents were not aware of the e-resources. They were of the opinion that the district bar collections, services and facilities were adequate to meet their information

needs effectively.

Thanuskodi (2009) [15] Observed and studied the information seeking behavior of law faculty at Central Law College, Salem.The population of the study consisted of the 64 full-time academic staff working in the Central Law College, Salem, including the guest faculty. The survey was divided into two sections, Section 1 contained the personal details and Section 2 contained information regarding information sources used by the respondents, use of Central Law College Library, adequacy of library collections, library use and computing skills of the respondents and the use of information technology based library sources and services. 87.5% filled-in questionnaires were returned within 2 weeks of distribution. The findings indicated that 33.92% had been teaching for five years or less. 51.78% of the respondents were male and 48.21% were female. They were also asked to provide a self –assessment of their library skills. It was assumed that respondents with better skills were expected to use library resources and facilities more effectively.

Ossai (2009) [16] Conducted a study on the library use patterns of undergraduate law students of University of Benin, Nigeria .The study population sample consisted of 230 undergraduate law students randomly selected from the 1st to 5th year of study. Their library used patterns were tested to find out how the undergraduate law students use the library in information seeking. The z-test statistic was used to test the stated hypotheses. The results highlighted the factors that influenced both female and male law student's library use pattern and the reactions when their information needs were not met .Recommendations based on the study were made for the improvement of library services for students in their use of the library for information seeking and use.

Objective of the Study

For analyzing the objectives of study which is the most important and crusial part of any research work, the investigator has selected the 44,522 references taken from the 107 PhD theises in law, awarded by the Kerala Cochin University Sciences and Technology & Mahathma Gandhi University. The objectives of this study have been listed below.

- To determine the main thrust area in the field of legal research
- To determine the most productive University in the field of legal research in Kerala
- To examine the gender wise distribution of legal research scholars and legal research guides
- To assess the guide ship pattern and productivity of the legal research guides
- To trace out the total number of references per thesis and thus identify the most productive legal research scholar
- To determine the various bibliographical forms used by the Legal Research Scholars
- To find out the year wise distribution of Ph. D thesis in legal research
- To study the authorship pattern of cited references in books

Methodology

The study is based on the Citations of doctoral theses awarded from the Universities of Kerala, Mahatma Gandhi & Cochin University of Science and Technology. The Data for the present study has been collected from the One Hundred and Seven PhD Theses in Law, submitted to Cochin University of Science & Technology, Mahatma Gandhi University and University of Kerala. The details of the Research Scholar, Guide, Awarding University, Year of Submission, Gender ship and Title of all the One Hundred and Seven Theses were manually collected by physical verification of the Theses.

The collected data were entered into Microsoft Excel for further analysis. The bibliographical references or citations appended to each thesis, under the study, have been collected using a predefined worksheet in Microsoft Excel and analyzed them according to the objectives as stated above. A Total Number of 44,522 Citations or References listed in the 107 PhD Theses, were collected from the Theses available in the University Library, Department of Law, Kariavattom, Kerala Law Academy Law College, TVM, CUSAT , and Mahatma Gandhi Universities.

The collected references were thoroughly analyzed and segregated into the different categories of documents such as books, journals, articles, statutes, reports, conference proceedings, international documents, conventions, newspapers, websites, etc.

Each reference made at one time has been counted as one citation. If the same reference was repeated, it has been counted again. The information relating to each citation, i.e., number of authors, bibliographic form, name of the journal, subject, country of origin, and the availability of references in the library concerned data was compiled and analysed using Microsoft Excel Software. Names of the cited authors

were classified into Indian/ Foreign citations, which were identified by the name of the authors and a list of journals was also prepared with the variables like name of the journal, year and nationality,(Indian/ Foreign) which were analyzed.

An important fact observed during the study, revealed that out of the 62 Theses submitted to CUSAT, 35 Theses have been deposited in the Shodhganga Repository, which is a Digital Repository of Indian Electronic Theses and Dissertations, set up by the INFLIBNET Centre. Also out of the 20 theses submitted to the Mahatma Gandhi University, 14 Theses have been deposited in the Shodhganga Repository.

Analysis and Interpretation

Table 1: Main thrust area

Sl. No.	Main Thrust Area	Thesis Count
1	Constitutional Law	17
2	Criminal Law	15
3	Industrial Law	8
4	Women Law	6
5	Medical Law	5
6	Health Law	5
7	Tax Law	4
8	Intellectual Property	4
9	Press Law	3
10	Child Law	3
11	Entertainment Law	2
12	Narcotics And Drugs	2
13	Motor Accidents	2
14	Labour Law	2
15	Police Law	2
16	Consumer Protection	2
17	Banking Law	2
18	Law Of The Sea	2
19	Genetics	2
20	Trade Law	1
21	Prison Law	1
22	Highcourt	1
23	Election Law	1
24	Disaster Management	1
25	Credit Law	1
26	Patent Law	1
27	Land Laws	1
28	Customary Law	1
29	Environmental Law	1
30	Service Law	1
31	Estoppel Law	1
32	Tort Law	1
33	Forest Law	1
34	Company Law	1
35	Christian Law	1
36	Insider Trading	1
37	Agricultural Law	1
38	Information Technology	1
	Grand Total	107

From this table, it is evident that out of the 107 theses analyzed, for finding the main thrust area, 39 main thrust areas were identified, out of which Constitutional Law is the most preferred area among the legal research scholars, with 17theses, followed by Criminal Law, with 15theses. The next preferred areas are Industrial Law, with 8 Theses, Women Law with 6 Theses, Health Law & Medical Law, both having 5 Theses each, Intellectual Property Law & Tax Law with 4 Theses each, Child Law,& Press Law, with 3 Theses each. Subjects having 2 Theses each are Banking Law, Consumer Protection Law, Entertainment Law, Genetics, Labor law, Law of the Sea, Motor Accidents, Narcotics & Drugs, Police Law, Unique Subject Areas like Customary Law, Credit Law, Estoppels Law, and Insider Trading Law with only 1 thesis have been noted in this study.

Table 2: Most productive university

SI. No	University	Thesis Count	Percentage
1	CUSAT	51	47.66
2	Kerala	36	33.64
3	MG	20	18.69
Grand Total		107	100

Table 3: Gender wise distribution of legal research scholars

Sl. No.	Research Scholar	Thesis Count	Percentage
1	Male	60	56.07
2	Female	47	43.93
Grand Total		107	100

Table 4: Gender wise distribution of legal research guides

Sl. No.	Research Guide	Thesis Count	Percentage
1	Female	3	10.71
2	Male	25	89.29
Grand Total		28	100

It can be observed from the table that the highest number of PhD degrees (51) (47.66%) were awarded by the Cochin University of Science & Technology (CUSAT), followed by Kerala, with 36 PhD degrees (33.64 %) and then Mahatma Gandhi University (MG), with 20 PhD degrees.(18.69%).

On examining the table for finding out the gender wise distribution of the legal research scholars, it is observed that most of the theses in law are contributions of the male legal research scholars, with 60 theses (56.07%), while the contributions of female researchers constitute only 47 Theses(43.93%), showing male dominance over female. From this it is evident that females are not showing much interest in research.

The Gender wise study of the Legal Research Guides clearly indicates that male legal research guides have guided the maximum number of 97 research scholars (90.65%), whereas the female legal research guides have guided only 10 research scholars ((9.35%), again showing the reluctance of female legal research guides to take up guide ship in law.

Table 5: Gender wise distribution of research scholars across various universities

Sl. No.	University	Female Scholar	Female Scholar %	Male Scholar	Male Scholar %	Total
1	CUSAT	16	31.37	35	68.63	51
2	KERALA	20	55.56	16	44.44	36
3	MG	11	55.00	9	45.00	20
Grand Total		47.00	43.93	60.00	56.07	107.00

On observing the Table 5, it can be seen that Kerala University has the maximum number (20) of female legal research scholars, with 55.56% and CUSAT has the maximum number of male legal research scholars (35), with 68.63%.

From Table 6 it can be seen that Dr, Jayakumar N K and Dr. Sunny K C, both have guided the maximum number of legal research scholars,10 each, followed by Dr. Sebastian V D , having guided 9 research scholars; Dr. Sadasivan Nair G with 7 Research Scholars; Dr .Chandrasekharan Pillai K N, Dr. Leelakrishnan P, and Dr. Vikraman Nair K, each having guided 6 scholars, While Dr.Chandrasekhaan N S, Dr. George Joseph, Dr. Parameswaran K, Dr. Sukumari Antherjanam D and Dr. Varkey A M have guided 5 Research scholars each, Dr. Bismi Gopalakrishnan has guided 4 scholars; Dr. Markose A T, Dr. Rajeev D. and Dr. Ravikumar have guided 3 scholars each. The remaining seven guides have guided only one scholar each.

The Guide ship Pattern also reveals that majority of the scholars are guided only by single guides, and only two scholars are guided by joint guides.

Table 7 shows the most productive legal research scholar, based on the total number of references, and it is seen that Dr. Kailasanatha Pillai K P, having the maximum number of I, 324 References, is the most productive Legal Research Scholar Dr. Parameswaran K, with 1167 References , is ranked Second and Dr. Balakrishnan K, with 1160 References is ranked Third. Dr. N Narayanan Nair, with 1148 references occupies the Fourth place, Dr. Jayakumar N K, with 978 references is in the Fifth position, Dr Sivakumar S, with 968 references is in the Sixth

position, Dr. Mercy I Thekkekara, with 867 references is in the Seventh place, Dr. Arul K. with 864 references, in the Eighth position, Dr. Sindhu Thulasidharan, with 852 references is in the Ninth place and Dr. Rajeesh A P, with 811 references is in the Tenth position

It is clear from Table 8 that on observing the Range

Table 6: Guide ship pattern & most productive legal guide

Sl. No.	Research Guide	Thesis count
1	Sunny K C	10
2	Jayakumar N K	10
3	Sebastian V D	9
4	Sadasivan Nair G	7
5	Chandrasekharan Pillai K N	6
6	Leelakrishnan P	6
7	Vikraman Nair K	6
8	George Joseph	5
9	Sukumari Antherjanam D	5
10	Chandrasekharan N S	5
11	Parameswaran K	5
12	Varkey A M	5
13	Bismi Gopalakrishnan	4
14	Ravikumar R	3
15	Markose A T	3
16	Rajeev D	3
17	Soman N S	2
18	Prasannan R	2
19	Gopalakrishnan N S	2
20	Self	2
21	Sankaradasan Thampi R	1
22	Nayar P K B & Sankaradasan Thampi R	1
23	Sebastian V S	1
24	Krishnan Nair M	1
25	Pramodan M C	1
26	Prasanna A	1
27	Prasanna A & James Vadackumchaery	1
	GRAND TOTAL	107

Table 7: Top 20 productive legal research scholars

Sl. No	Thesis Code	Research Scholar	Reference count
1	TH29	Kailasanatha Pillay K P	1324
2	TH11	Parameswaran K	1167
3	TH27	Balakrishnan K	1160
4	TH107	N Narayanan Nair	1148
5	TH81	Jayakumar N K	978
6	TH84	Sivakumar S	968
7	TH67	Mercy I Tekkekara	867
8	TH17	Arul K	864
9	TH90	Sindhu Thulasidharan	852
10	TH54	Rajeesh A P	811
11	TH86	Usha K M	791
12	TH34	Gopakumaran Nair S	784
13	TH61	Dinkar V R	722
14	TH23	Saleena K B	715
15	TH44	Pauly Mathew	676
16	TH78	Lekshmi P	671
17	TH07	Pradeep K P	668
18	TH79	K C Sunny	618
19	TH42	Venugopala B S	608
20	TH106	GiriSankar S S	607

of References listed, it is seen that the Range, between 301-400, has the maximum number of 25 Theses and the Range between 201-300, and has 19 Theses. Ranges between 401- 500 and 101-200, both have 17 Theses each. This shows that most Legal research Scholars prefer the range between 301-400, thus depicting a uniform pattern of collecting references for their research study. Only two researches have less than 100 references. Four Researchers have reference range above 1000, and it is to be noted that

The Researchers having more than 1000 references are mostly all in the older age group, i.e. .they had carried out their research, at a time when it was very difficult to trace out the references, for their study.

Table 8: Thesis reference range

Sl. No.	Reference Range	Thesis Count
1	>1000	4
2	901-1000	2
3	801-900	4
4	701-800	4
5	601-700	6
6	501-600	7
7	401-500	17
8	301-400	25
9	201-300	19
10	101-200	17
11	< 100	2
	Grand Total	107

Table 9: Bibliographical Forms used by the Legal Scholars

Sl. No.	Bibliographical Forms	Reference Count	Percentage
1	Books	8308	18.66
2	Table Of Cases	23840	53.55
3	Statutes	2784	6.25
4	Articles	6055	13.60
5	Reports	1445	3.25
6	International doc / Conv / Conf	810	1.82
7	Newspapers	246	0.55
8	Websites	1034	2.32
	TOTAL	44522	100.00

Table 10: Reference Range of Books, Table of Cases (Journals) & Statutes

Sl. No.	Thesis Code	Research Scholar	Book	Journal	Statute	Grand Total
1	TH29	Kailasanatha Pillay K P	99	1184	9	1292
2	Th11	Parameswaran K	97	931	139	1167
3	Th27	Balakrishnan K	168	919		1087
4	TH107	N Narayanan Nair	73	1002		1075
5	Th81	Jayakumar N K	125	620	105	850
6	TH67	Mercy I Tekkekara	22	754	59	835
7	Th90	Sindhu Thulasidharan	91	677	27	795
8	Th84	Sivakumar S	173	495	106	774
9	TH17	Arul K	340	350	36	726
10	Th34	Gopakumaran Nair S	72	649		721
11	Th54	Rajeesh A P	127	537	37	701
12	Th86	Usha K M	59	586		645
13	TH07	Pradeep K P	87	494	56	637
14	TH79	K C Sunny	163	406	16	585
15	Th42	Venugopala B S	63	456	32	551
16	TH32	Sankar Jee V N	22	483	37	542
17	TH78	Lekshmi P	193	305	31	529
18	TH02	Varkey A M	117	410		527
19	TH05	Valsamma Paul	67	434	11	512
20	TH93	Lalitha S	45	415	4	464
21	TH103	Balasankaran Nair K	50	384	18	452
22	Th50	Radhakrishnan Nair K	51	399		450
23	TH63	John P C	92	303	35	430
24	th56	Kalam Pasha B	101	326		427
25	TH39	Sebastian V D	46	233	147	426

From the Table 9, it is evident that Table of Cases (Journals) among the Bibliographical forms, constitutes the highest number of 23, 840 references (53.55%), followed by Books, with 8308 references (18.66 %), Articles, with 6055 references (13.60%) and Statutes, with 2784 references (6.25%) It is interesting

to note that Legal researchers are using only 2.32% websites out of the total references.

Table 10 shows the Reference range of books, journals and statutes referred and the research scholar with the maximum number of books, journals and statutes. It can be seen from the Figure 4 that Kailasanatha Pillai K P has the highest number of 1184 journal citations, Arul K has the maximum number of 340 book citations, and Sebastian V D has the maximum number of 147 Statute citations.

The Table 11 shows the year wise distribution of PhD theses, submitted to the Universities of CUSAT, MG and Kerala, It is observed that maximum number of 11 Theses were submitted during the Year, 2012 and in the Years, 2009 and 2011, 9 Theses were seen submitted, and during the Year 2013, 8 Theses were seen submitted, 7 Theses were submitted during the Year 1995, 6 Theses were seen submitted during the Year 1999, and 5 Theses each were seen submitted during the Years,1998, 2004, 2006 and 2007. It is clear that maximum number of theses were seen to be submitted, between the Years 2000-2013.

Table 11: Year wise distribution of PhD Thesis in Legal research

Sl. No.	Thesis Year	Count of the Code
1	1973	1
2	1976	2
3	1982	1
4	1983	1
5	1984	3
6	1985	3
7	1988	2
8	1991	1
9	1992	1
10	1993	3
11	1994	1
12	1995	7
13	1996	3
14	1997	1
15	1998	5
16	1999	6
17	2001	1
18	2002	3
19	2003	2
20	2004	5
21	2005	3
22	2006	5
23	2007	5
24	2009	9
25	2010	2
26	2011	9
27	2012	11
28	2013	8
29	2014	3
	GRAND TOTAL	107

Table 12: Authorship pattern of cited references in books

Sl. No.	Authorship Pattern	Book count	Percentage
1	Single	6330	76.19
2	Joint	1174	14.13
3	Multi	260	3.13
4	Corporate	226	2.72
5	Not Available	318	3.83
	TOTAL	8308	100.00

It is obvious from the Table 12, that in the authorship pattern in Books, Single Authored Books (6330) are the maximum, with 76.19% of the total citations. Joint Authored Books (1174) constitute 14.13% of the total citations. Corporate Authored Books (226) contain only 2.72% of the total citations. Hence the dominance of Single Authored Books is evident in this study. Only very few Legal researchers are using the corporate authored books for their study.

Table 13: References of authorship pattern thesis wise

Sl. No.	Thesis Code	Research Scholar	Single	Joint	Multi	Corporate	Grand Total
1	TH17	Arul K	280	40	10	1	331
2	TH83	Sheeba Pillai	160	27	14	31	232
3	TH99	Abhilash V	119	42	16	7	184
4	TH78	Lekshmi P	168	14	1		183
5	TH94	Sonia K Das	136	36	7	1	180
6	TH102	Shymol S	136	20	10	4	170
7	Th27	Balakrishnan K	151	15		2	168
8	Th25	Prasanna A	115	14	19	15	163
9	Th84	Sivakumar S	138	15	7	2	162
10	TH79	K C Sunny	133	20	4	1	158
11	TH52	Saroja A S	131	8	1	1	141
12	Th44	Pauly Mathew	94	21	18		133
13	Th85	Ravi kumar R	115	16		1	132
14	TH104	Sini T N	80	35	11		126
15	Th54	Rajeesh A P	96	30			126
16	TH75	Bismi Gopalakrishnan	90	33	2		125
17	TH13	Vikraman Nair K	103	18	1		122
18	TH92	James vadackumchery	97	14	11		122
19	TH02	Varkey A M	68	27	3	17	115
20	Th48	Shankar D	103	9	2		114

The Table 13 shows the usage pattern of single authored books, joint authored, multi authored, and corporate authored books among the legal researchers. It is evident that, Arul K, has the maximum number of 280 Single Authored Book citations, Abhilash has the maximum number of 42 Joint authored book citations, Prasanna A has the maximum number of 19 multi authored book citations and Sheeba Pillai has the maximum number of 31 corporate authored book citations.

Suggestions

- Topics covered under the Legal educational couses should be revisited to include possibilities forewer areas which will favour the research scholars to explore these areas.
- To promote the entry of more women into the legal profession, the government can adopt various measures, which will attract more women into this profession.
- It is recommended that the legal institutions should take effective steps in updating their periodical collections and subscribing to online repositories to enhance the quality of research
- Hence legal libraries must at least have a reasonable collection of foreign materials, especially books in their holdings.
- It is suggested that legal researchers should adopt a uniform pattern of citing references which will provide the relevant information including the relevant details like the place of publication, etc. which will aid in faster retrieval of information.

Conclusion

Citations play a vital role in identification and retrieval of earlier works. During the study it was found that citations are not in standard format. Some researchers have not used any uniform pattern / sequence while citing the research materials. It is observed that, in some cases, the year is missing, in some cases, publisher's name, & place are missing. On examining the year wise distribution, out of the 107 theses, the maximum number of theses shown, i.e.11 were produced during the year 2012, followed by 2011 and 2009 with 9 theses, showing that the period 2000 onwards is showing an increasing trend for legal research. The study also established that the highest number of research citations appended per thesis may be due to their in depth review of literature by the research scholars. It is evident from the total references, collected by the researchers that many of them have taken tedious efforts to formulate the research findings with the timely help and guidance of the teachers and information professionals. Another fact observed is that the male research scholars are more dominant in the production of research output, as well as in contributing more number of citations in the study.

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Original Article

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Usage Level of Electronic Journals Published By Three Leading Publishers in the Discipline of Physics: A Study of Guru Jambheshwar University of Science & Technology, Hisar

Vinod Kumar

Abstract

The electronic journals have become the indispensable information sources for university library. No library can afford to even think for quality research in university without electronic journals. The Ministry of Human Resource Development, Government of India is providing the financial assistance, through many channels, to universities and other Institutes of Higher Learning. UGC- INFONET, AICTE-INDEST and many more Consortiums have been formed with the primary aim to subscribe the electronic information resources. Guru Jambheshwar University of Science & Technology (GJUST) has also been provided with the access of electronic journals from 18 publishers form INFLIBNET. The present paper describes the use of electronic journals published by American Institute of Physics, American Physical Society and Institute of Physics by the users of GJUST, Hisar.

Keywords: Electronic Journals; Library Consortium; UGC-INFONET.

Introduction

Guru Jambheshwar University of Science & Technology, Hisar is a State Technical University in Haryana having a dedicated team of well qualified faculty members engaged in teaching and research activities. The faculty published total 1935 papers in various peer reviewed journals of national and international repute since 2009-10 is 1935. Out of these publications, 1219 publications are listed on Scopus till 2013-14, and more so, 755 publications were listed since 2009-10. As per Scopus database, the Citation Index and H-Index of the faculty range up to 466 and 28, respectively, while the Impact Factor of the papers is up to 6.05. The department of physics, since its inception of the University in the year 1995 has awarded about 40 Ph.D. and about 30 scholars are registered for Ph.D. The department has 12 faculty members-5 Professors, 1 Associate Professor and 6 Assistant Professors and offers M.Sc. Physics and M. Tech. (Optical Engineering) courses.

Electronic Journals

Periodicals, serials, serial publications are synonyms to a Journal. In AACR2 (1978) "a serial is a publication in any medium issued in successive parts bearing numerical or chronological designation and intended to be continued indefinitely". Journals are generally published by a professional association, society, foundation, trust, commercial publishers, institute, group of people etc., in the form of articles on a particular subject or may be interdisciplinary, written by different authors, and contain scholarly information.

The electronic journals are considered the journals having the research oriented information and are accessible over internet. All the universities and Institutes of Higher Learning are engaged in teaching and research activities and to continue them and further research these require the results and processes of new research available in serial publications.

As per the definition of Wikipedia, the "electronic journals are scholarly journals or intellectual magazines that can be accessed via electronic transmission. In practice, this means that they are usually published on the Web. They are a specialized form of electronic document: they have the purpose of providing material for academic research and study, and they are formatted approximately like journal articles in traditional printed journals".

In higher education electronic resources become part and parcel of the academic process (Mutula and Makando, 2003).

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UGC Infonet Consortia

Journals are most valuable information sources for the academicians and researchers and with the help of information communication technology, its production, distribution, dissemination, quality, searching etc. have become very easy, quick and efficient. Libraries are accepting the consortia approach to cater to the informational requirements as no single library can purchase or subscribe all the reading material. Libraries cannot satisfy the thrust of knowledge of all its readers from its assets alone. Long back libraries started cooperation in the form of Inter-library loan, document delivery, library networks etc. but recently Consortia approach has become most important form of library cooperation.

A library Consortia is an association of a group of libraries that agree to share their resources to satisfy the needs of users. Consortia may be formed on a local, regional, national, or international basis; on a functional or format basis; or on a subject basis (Rahman, Nahar and Akhter, 2006).

For obtaining the benefits of higher sale, many publishers sale their databases to consortia at much lesser price and consortia management purchases these databases for the collective benefits of its members. Thus both the parties remain in win-win situation. If you want to search databases of e-journals from many publishers at a single platform, there are aggregators in the market who offer this service by providing link to journal site for its full text retrieval.

UGC-Infonet

The INFLIBNET Centre, Gandhinagar (Earlier in Ahmadabad), an autonomous centre of University Grants Commission, had been given the responsibility to initiate E-Journals consortium to facilitate free access to electronic journals and databases. The INFLIBNET Centre is providing the infrastructural facilities & training to libraries and subscribing electronic journals and databases for providing free access to research scholars and faculty members in the universities and other institutes of higher learning. Current as well as archival access to more than 7500+ core and peer-reviewed journals and 10 bibliographic databases from 26 publishers and aggregators is being provided in to meet the informational requirements of the researchers.

The other important library consortia in India are:-

Forum for Resource Sharing in Astronomy and Astrophysics (FORSA)

Indian National Digital Library in Science & Technology (INDEST)

Health Sciences Library & Information Network (HELINET)

CSIR E-Journal Consortium

DAE Library Consortium

IIM Library Consortium

Objectives

This study is basically concerned with the use of electronic journals published by three publishers in the field of Physics and to find out electronic journals in great demand. The study may help the decision makers of the university to ponder the use and reputation of journals. The objectives of the study are:-

- To know and compare the month-wise usage of 3 databases
- To know the 5 highly used journals in each database
- To give an overall picture of usage level to the researchers and faculty of Physics.
- To give possible suggestions, if required.

Methodology

The present study is carried out by taking the month-wise downloaded data related to 3 publishers in the discipline of physics namely- American Institute of Physics, American Physical Society and Institute of Physics. The data has been obtained from the UGC-INFONET Consortium. The period and number of journals covered in the study is as under:-

Year	American Institute of Physics	American Physical Society	Institute of Physics	Total No. of Journals
2012	22	8	111	141
2013	15	9	117	141
2014	17	9	120	146

Review of Literature

Many studies have been carried out to know the information seeking behaviour and usage pattern of the researchers. Jamali and Nicholas (2008) examined two aspects of information seeking

behaviour of physicists and astronomers including methods applied for keeping up-to-date and methods used for finding articles and finally investigated the relationship between academic status and research field of users with their information seeking behaviour. Nicholas et. al (2009) evaluated the use of the ScienceDirect journals database with regard to Life Sciences, Economics, Chemistry, Earth & Environmental Sciences and Physics by ten major UK research institutions with the aim to study researchers' behaviour. Nicholas et. al (2009) in another study 'student digital information-seeking behaviour in context' compared student information seeking behaviour with that of other academic communities, and, in some cases, for practitioners. Tripathi and Jeevan (2013) highlighted the importance of qualitative and quantitative analysis of the usage of e-resources in academic libraries. Fourie, Ina (2013) undertook a study to find a balance between ICT, information retrieval systems and the users of these systems.

Some more relevant studies should be discussed related to know the usage level of electronic journals by its users. Shearer, Klatt and Nagy (2009) carried out a study of electronic journal usage data and analysed the journals used as 0-24 times, 25-49 times, 50 to 99 times, 100-199 times and 200+ times. Chowdhury (2012) analyzed the usage trend of e-journals in Independent University, Bangladesh (IUB) and observed that use of Emerald database is more rational as compared to other three databases. He highlighted the list of 25 journals each of Oxford University Press, JSTOR, ABI/Inform and Emerald databases. It is further stressed that more consortia may be formed for exploring more electronic resources at an affordable price and higher education libraries, at least, will then find more users. Moorthy and Pant (2012) observed that the download statistics and its usage analysis has shown that the scientists of DRDO is utilizing the resources in a positive way and in some cases, where usage of e-journals is low, training programmes are conducted from time to time. To analyze the usability of DRDO E-journals Consortium, the usage statistics for the period from 2009 to 2011 was collected for all the DRDO Labs from the websites of 8 publishers. They further stated that each library of DRDO labs has accessibility of DESIDOC resources through a well and dedicated intranet. DRDO e-journals Consortium has strengthened the resource sharing and provided information on 24X7 bases with improved quality and quantity.

Analysis

The data has been collected related to the articles downloaded from the 3 databases i.e.-American Institute of Physics, American Physical Society and Institute of Physics. The data is presented in the form of Tables and Figures and described first by taking individual database and finally compared with each other.

American Institute of Physics

The access of 22, 15 and 17 electronic journals from American Institute of Physics was provided to Guru Jambheshwar University by the INFLIBNET for the years 2012, 2013 and 2014 respectively. Total 1249, 1210 and 1307 full text articles have been downloaded during the years 2012, 2013 and 2014 respectively. The month-wise details of downloaded article during 3 years have been shown in Figure 1 and Table 1.

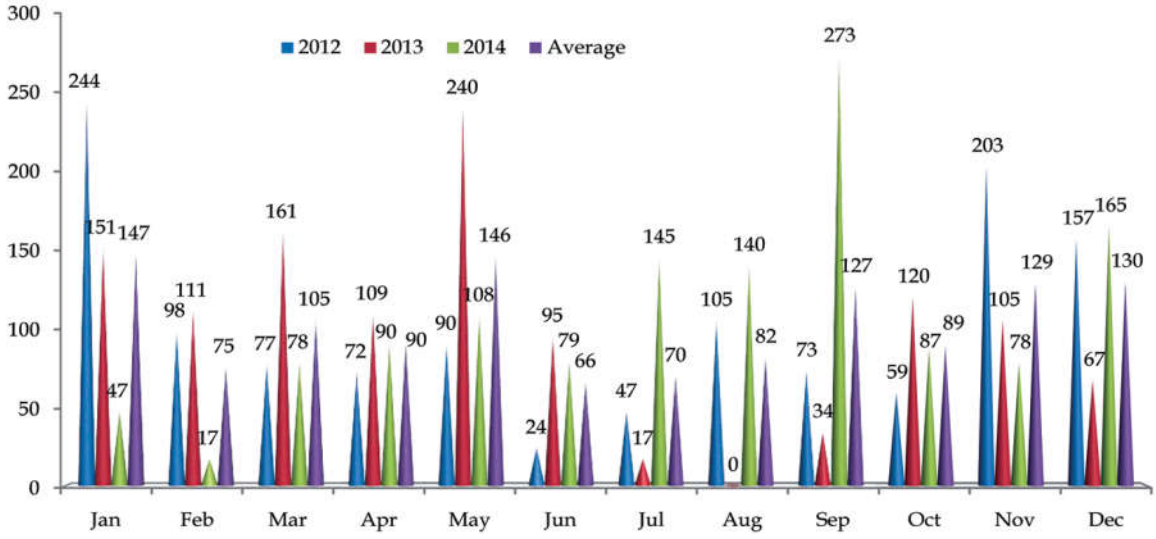

Fig. 1: American Institute of Physics: Month-wise detail of downloaded articles during 2012-2014

Total 1249 articles at an average of 104 articles per month, have been downloaded in the year 2012. In this year maximum 244 and minimum 24 articles have been downloaded in January and June 2012 respectively. During 2013, maximum 240 and minimum 0 articles have been downloaded in the month of May and August respectively and total 1210 articles, at an average of 101 articles have been downloaded. Likewise in the year 2014 total 1307 articles have been downloaded and maximum 273 and minimum 17 articles have been downloaded in the months of September and February respectively against the average of 109 articles per month.

Table 1: Month-wise detail of downloaded articles during 2012-2014

	American Institute of Physics													
Years	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Average**	**Total**
2012	**244**	98	77	72	90	24	47	105	73	59	203	157	104	1249
2013	151	111	161	109	**240**	95	17	0	34	120	105	67	101	1210
2014	47	17	78	90	108	79	145	140	**273**	87	78	165	**109**	**1307**
Average	**147**	75	105	90	146	66	70	82	127	89	129	130	105	1255
Total	**442**	226	316	271	438	198	209	245	380	266	386	389	314	3766

A peep on the Fig. 2 and Table 1 shows that total maximum 442 and minimum 198 articles have been downloaded in the months of January and June respectively for the period of 2012-2014, against the overall total of 3766 articles and at an average of 314 articles per year. Average 1255 articles per year and 105 articles per month have been observed. The overall 3 years' maximum average 147 and minimum 66 articles has been observed in the January and June respectively.

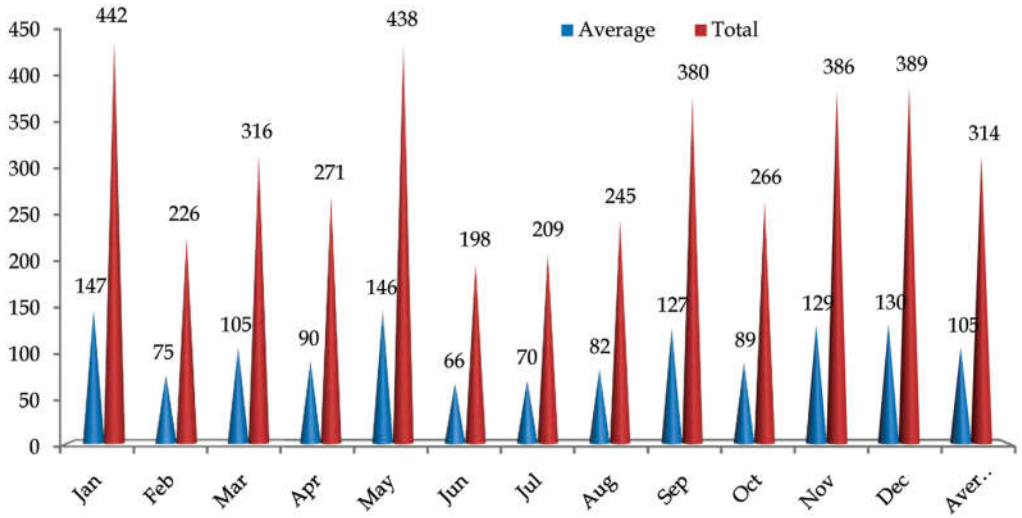

Fig. 2: American Institute of Physics: Month-wise Total and Average Downloads -2012-2014

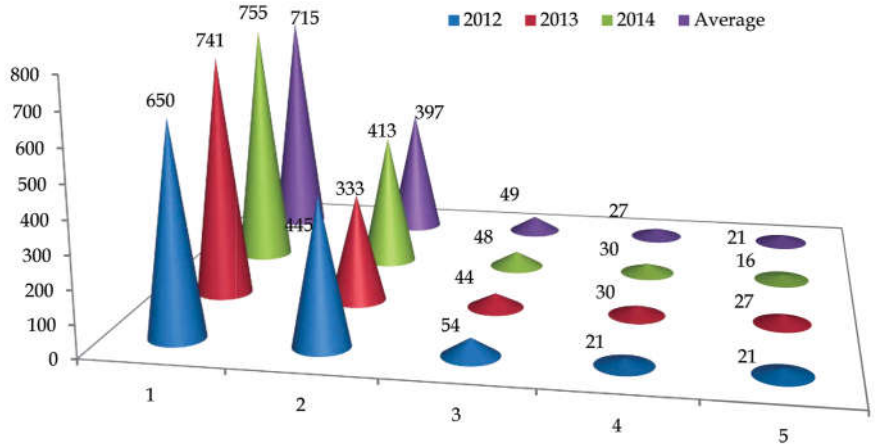

Fig. 3: American Institute of Physics: Downloads of Articles from Five Highly Used Journals in 3 Years

Table 2 and Figure 3 highlight the top five highest used journals in three years. It is also observed that 'Journal of Applied Physics' and 'Applied Physics Letters' remained at number 1 and 2 highly used journals respectively in all the 3 years whereas 'The Journal of Chemical Physics' kept at number 3 during 2012 and 2013 and number 4 in the year 2014. Hence these three journals remained in first 4 highly used journals in all the 3 years. Among the five highly used journals maximum 2145 articles have been downloaded from 'Journal of Applied Physics' in all three year at an average of 715 articles per year whereas 1191 articles have been downloaded from 'Applied Physics Letters' at an average of 397 articles per year.

Table 2: American Institute of Physics: List of 5 Highly Used Journals: 2012-2014

	2012	
Sr. No.	**Journals Name**	**Total**
1	**Journal of Applied Physics**	650
2	**Applied Physics Letters**	**445**
3	**The Journal of Chemical Physics**	**54**
4	Physics Today	21
4	Review of Scientific Instruments	21
4	The Journal of the Acoustical Society of America	21
5	Journal of Vacuum Science & Technology A	10
	2013	
Sr. No.	**Journals Name**	**Total**
1	**Journal of Applied Physics**	741
2	**Applied Physics Letters**	**333**
3	**The Journal of Chemical Physics**	**44**
4	AIP Conference Proceedings	30
5	Review of Scientific Instruments	27
	2014	
Sr. No.	**Journals Name**	**Total**
1	**Journal of Applied Physics**	755
2	**Applied Physics Letters**	**413**
3	AIP Advances	48
4	**The Journal of Chemical Physics**	**30**
5	Applied Physics Reviews	16

It is to mention here that "Journal of Applied Physics" remained higest used journal not only in American

Institute of Physics database but it remained at top amongst all the 7100+ e- journals available in the university under consortia arrangement.

American Physical Society

The 2nd publisher covered under the study is 'American Physical Society' vide which the access of 8 journals in 2012 and 9 journals each for the years 2013 and 2014 was provided to university. The month-wise details of downloaded articles have been shown in Figure 4 and Table 3. It is evident that total 467, 642 and 340 full text articles have been downloaded during the years 2012, 2013 and 2014 respectively at an average of 483 articles per year.

The month-wise details show that maximum 65 articles and minimum 1 article have been downloaded during April and June, 2012 respectively against the overall average of 39 articles per month. During 2013, the monthly average was 54 articles which is observed as highest amongst the three years, whereas the maximum 119 and minimum 16 articles have been downloaded in the month of January and November respectively. Likewise, maximum 86 and minimum 0 articles have been observed in May and August, 2014 respectively against the overall average of 28 articles per month which is observed as lowest amongst three years.

Table 3: Month-wise detail of downloaded articles during 2012-2014

	American Physical Society													
Years	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Average**	**Total**
2012	46	23	41	**65**	48	1	19	34	49	41	48	52	39	467
2013	**119**	54	30	45	74	100	75	41	41	28	16	19	**54**	**642**
2014	26	62	13	73	**86**	7	10	0	25	10	14	14	28	340
Average	64	46	28	61	**69**	36	35	25	38	26	26	28	40	483
Total	191	139	84	183	**208**	108	104	75	115	79	78	85	121	1449

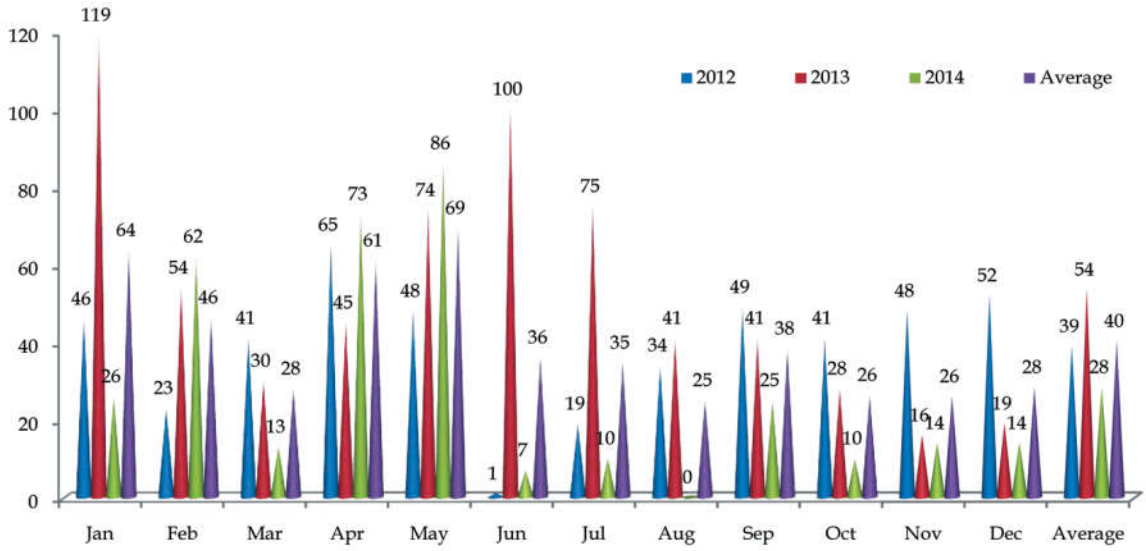

Fig. 4: American Physical Society: Month-wise detail of downloaded articles during 2012-2014

It is further observed that sum total of May month for three year is 208 journals, is highest and its corresponding average is 69 articles per May month whereas the lowest use is observed in August Month where only 75 articles have been downloaded during three years and its corresponding average per month is 25 articles.

Table 3 and Figure 5 show that in total 1449 articles have been downloaded at an average of 121 articles per year and 40 articles per month. It remains summer break in July & August in the university and June is the examination period because of which the downloads have been observed less than the overall monthly and yearly average.

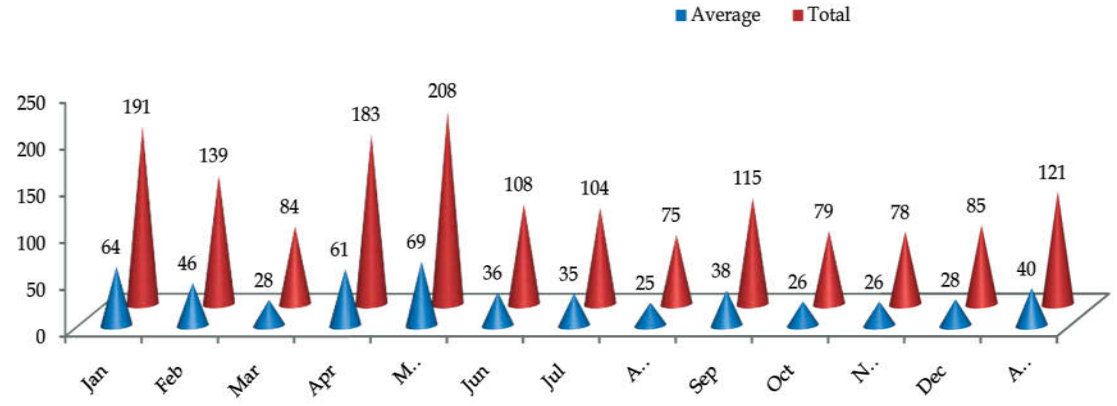

Fig. 5: American Physical Society: Month-wise Total and Average Downloads -2012-2014

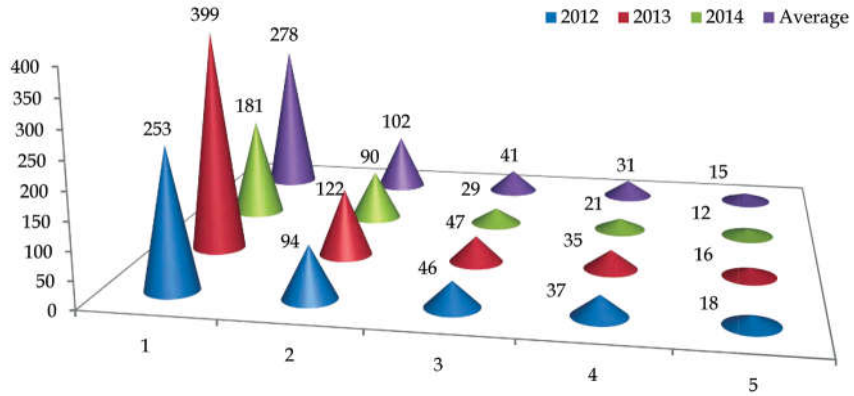

Fig. 6: American physical society: downloads of articles from five highly used journals in 3 years

Table 4: American Physical Society: List of 5 Best Used Journals during 2012-14

No.	Journals Name	Total
	2012	
1	**Physical Review B**	**253**
2	**Physical Review Letters**	**94**
3	**Physical Review Online Archive (PROLA)**	**46**
4	Physical Review C	37
5	Reviews of Modern Physics	18
	2013	
No.	**Journals Name**	**Total**
1	**Physical Review B**	**399**
2	**Physical Review Letters**	**122**
3	**Physical Review Online Archive (PROLA)**	**47**
4	Physical Review A	35
5	Physical Review C	16
	2014	
No.	**Journals Name**	**Total**
1	**Physical Review B**	**181**
2	**Physical Review Letters**	**90**
3	**Physical Review Online Archive (PROLA)**	**29**
4	Physical Review A	21
5	Physical Review E	12

Fig. 6 and Table 4 show that out of top 5 highly used journals, the Journals -'Physical Review B', 'Physical Review Letters' and 'Physical Review Online Archive (PROLA)' have occupied 1st , 2nd and 3rd position in all the 3 years. Out of total downloaded articles of 467, 642 and 340 in the year 2012, 2013 and 2014, total 393, 568 and 300 articles have been downloaded from these 3 journals respectively. Out of total 1449, maximum articles 833 have been downloaded from the single Journal- 'Physical Review B' i.e. 253, 399 and 181 in the years 2012, 2013 and 2014 respectively.

Institute of Physics

The 3rd publisher covered under the study is 'Institute of Physics' vide which the access of 111, 117 and 120 journals was provided for the years 2012, 2013 and 2014 respectively. The month-wise details of downloaded articles have been shown in Fig. 7. and Table 5. It is evident from the figure that maximum articles have been downloaded in the month of October, 2012 whereas not even a single article was downloaded in the months of April, May and June 2012, May 2013, June and July 2014.

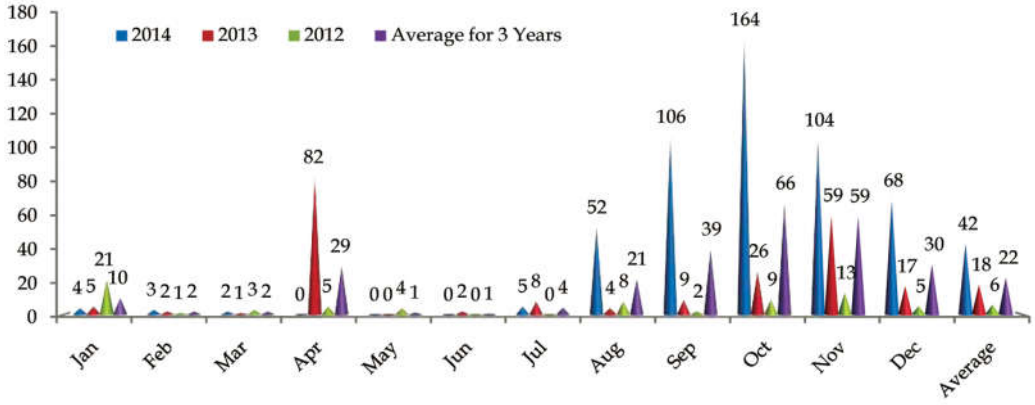

Fig. 7: Institute of Physics: Month-wise detail of downloaded articles during 2012-2014

A peep on the table shows that total 794 articles have been downloaded in 3 years at an average of 22 articles per month and 265 articles per annum. During 2012, maximum 21 articles have been downloaded in January whereas no article has been downloaded in the months of June and July. In total 71 articles have been downloaded with a monthly average of 6 articles, which is observed as lowest one amongst all the three years. Total 215 articles have been downloaded in the year 2013 with an average of 18 articles per month, which is three times more than the last year. During this year maximum 82 articles have been downloaded in the month of April and no article was downloaded in May.

Table 5: Month-wise detail of downloaded articles during 2012-2014

Institute of Physics														
Year	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Average**	**Total**
2014	4	3	2	0	0	0	5	52	106	**164**	104	68	**42**	**508**
2013	5	2	1	**82**	0	2	8	4	9	26	59	17	18	215
2012	**21**	1	3	5	4	0	0	8	2	9	13	5	6	71
Average	10	2	2	29	1	1	4	21	39	66	59	30	22	265
Total	30	6	6	87	4	2	13	64	117	**199**	176	90	66	794

The use of this database is increased drastically in the year 2014, particularly after the month of August. A peep on the Table 5 shows that out of total 794 articles downloaded in three years, 508 articles i.e. about 64% have been downloaded in this year. Out of these 508 articles, only 14 articles have been downloaded from Jan to July 2014 and 494 articles i.e. more than 97 % have been downloaded in last five months of the year.

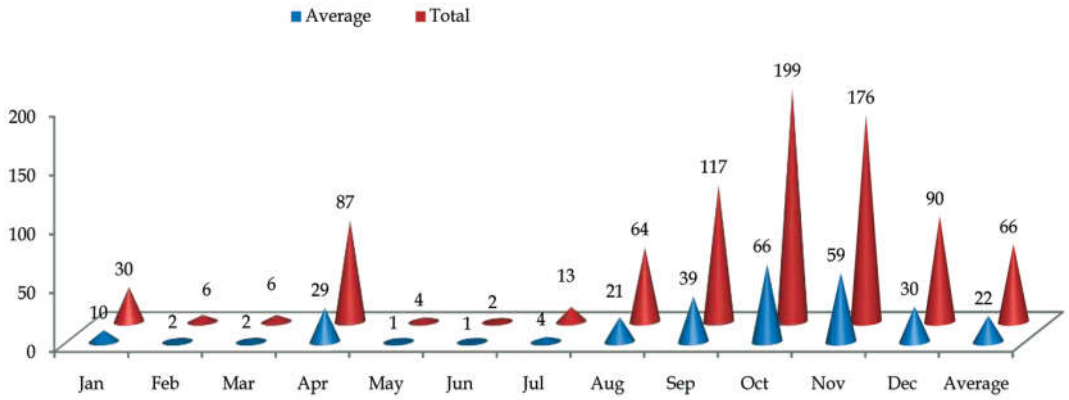

Fig. 8: Institute of physics- month-wise average and total downloads: 2012-2014

The Figure 8 depicts that out of total 794 articles; highest number of 199 articles have been downloaded in the month of October with an average of 66 articles against the overall average of 22 articles. Likewise, lowest 2 articles have been downloaded in three years in the month of June. Thus out of total 794 articles downloaded in 3 years, 148 articles have been downloaded in first 7 months-Jan to July whereas 646 i.e. more than 81% articles have been downloaded from August to December.

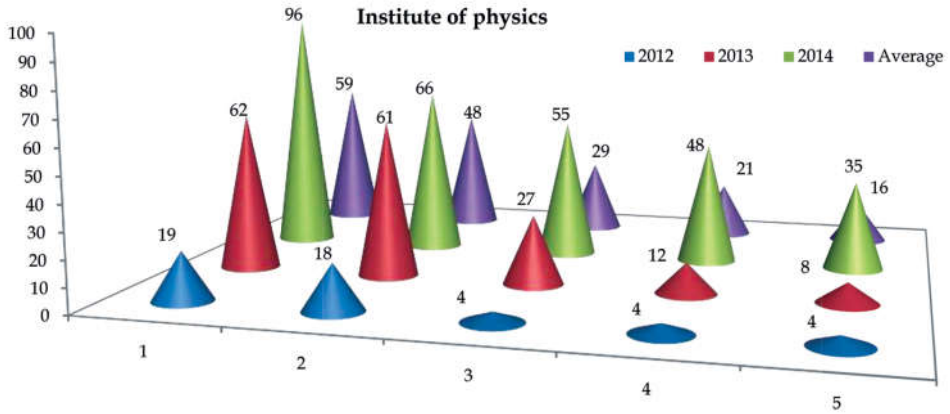

Fig. 9: Institute of physics: downloads of articles from five highly used journals in 3 years

Table 6 and Figure 9 are the witness that the highly used journals among the top five journals during 3 years of 2012-14 is 'Nanotechnology' and number of total downloads have been increased consistently over the years from 19, 62 and 96 respectively. This is the only journal which remained not only at top among the highly used five journals but no other journal remained in this list for all the 3 years. The highest number of 177 articles have been downloaded from this journal at

an average of 59 articles per year against the overall average of 16 articles per year from this database. Table shows that out of 794 articles downloaded during 3 years from the database- Institute of Physics, 300 hundred articles were amongst the top five journals in 2014 only.

Table 6: Institute of physics: list of 5 best used journals during 2012-14

No.	Journals Name 2012	Total
1	**Nanotechnology**	**19**
2	Journal of Physics: Conference Series	18
3	Journal of Physics E: Scientific Instruments	4
4	Nuclear Fusion	4
5	The Astrophysical Journal Letters	4
	Total	**49**
No.	**Journals Name 2013**	
1	**Nanotechnology**	**62**
2	Journal of Semiconductors	61
3	Advances in Natural Sciences: Nanoscience and Nanotechnology	27
4	Semiconductor Science and Technology	12
5	Journal of Physics: Conference Series	8
	Total	**170**
No.	**Journals Name (2014)**	
1	**Nanotechnology**	**96**
2	Journal of Physics D: Applied Physics	66
3	Journal of Physics: Condensed Matter	55
4	Journal of Physics: Conference Series	48
5	Advances in Natural Sciences: Nanoscience and Nanotechnology	35

Table 7: Average of downloaded articles from all 3 databases during 2012-2014

Database	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Overall Average	Yearly Total
AIP	**147**	75	105	90	146	66	70	82	127	89	129	130	**105**	1255
APS	64	46	28	61	**69**	36	35	25	38	26	26	28	**40**	483
IOP	10	2	2	29	1	1	4	21	39	**66**	59	30	**22**	265
Monthly Average	**74**	**41**	**45**	**60**	**72**	**34**	**36**	**43**	**68**	**60**	**71**	**63**	**56**	668
Grand Total	221	123	135	180	216	103	109	128	204	181	214	188	167	2003

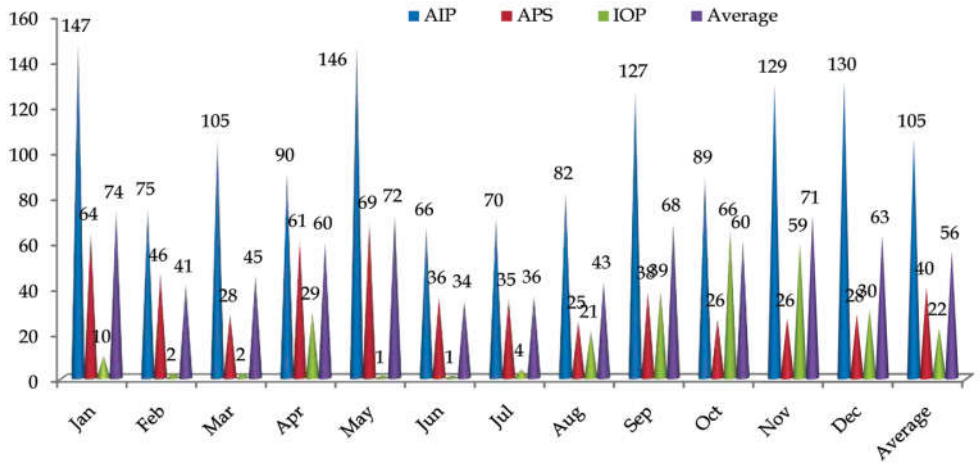

Fig. 10: All Databases: average of downloaded articles during 2012-2014

Figure 10 and Table 7 highlight the monthly and annually average of downloaded articles from three databases. Amongst all databases, maximum average of 147 articles is observed from American Institute of Physics in the month of January against the overall average of 105 articles per month. The minimum average of 22 articles has been observed from Institute of Physics against the overall annual average of 56 articles. Further, the minimum monthly average of 34 articles in June month and maximum of 74 in the month of January have been observed against the overall monthly average of 56 articles.

During the period of 2012-14, total 6009 articles have been downloaded from three databases with an average of 2003 articles per annum. Maximum 3766 articles were downloaded from AIP and minimum 794 articles were downloaded from IOP. It has become evident from Figure 11 and Table 8 that amongst all databases, 442 articles were downloaded from AIP in the month of January and minimum 2 articles from IOP in the month of June. While checking month-wise total downloads, maximum 663 articles were downloaded in the month of January followed by 650 in May against the overall average of 501 articles per month.

Table 8: Total articles sownloaded from 3 satabases during 2012-2014

Database	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Overall Average	Overall Total
AIP	442	226	316	271	438	198	209	245	380	266	386	389	**314**	3766
APS	191	139	84	183	208	108	104	75	115	79	78	85	**121**	1449
IOP	30	6	6	87	4	2	13	64	117	199	176	90	**66**	794
Monthly Average	**221**	124	135	180	217	103	109	128	204	181	213	188	**167**	2003
Grand Total	**663**	**371**	**406**	**541**	**650**	**308**	**326**	**384**	**612**	**544**	**640**	**564**	**501**	6009

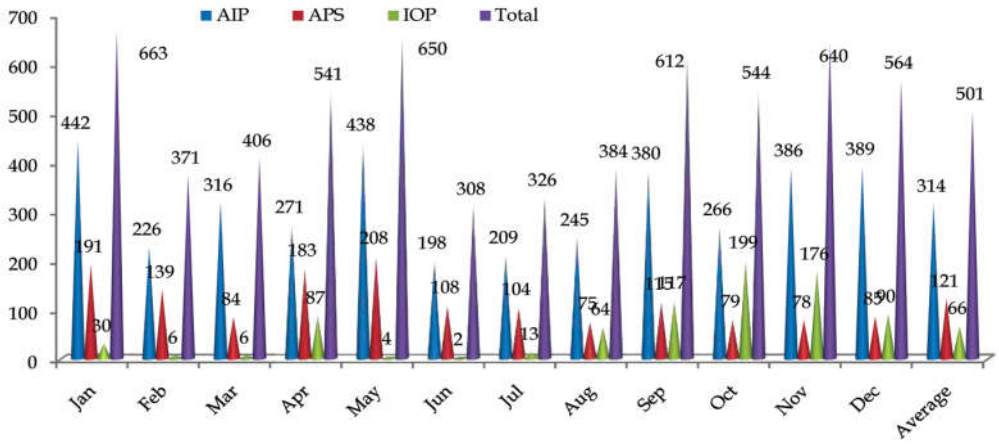

Fig. 11: All Databases: Total Articles Downloaded During 2012-2014

Suggestions

The university has the access of more than 7500 e-journals, prowess and JGateplus databases to meet the informational requirement of the users. The faculty members of the university have been provided computer systems/ laptops with internet connection in their respective rooms in the teaching departments. University has more than 1000 nodes with internet connections and 2 leased lines of IGBPS and 16 MBPS respectively and has Wi-Fi connectivity but there is need to give attention on some points such as:-

- More access point should be made available for the research scholars equipped with latest facility in the respective departments.
- The Wi-Fi connectivity available in the campus need to be strengthened.
- Centralized internet labs need to be strengthened.
- More e-journals databases, including the Science Direct, should be provided in the university.
- There is urgent need for conducting the user awareness program to train the users in searching and downloading the required article. Since good infrastructural facilities are available in the university, there is dire need to motivate the users to use these resources. Such user awareness programs shall be helpful in imparting training and motivating the scholars for using electronic resources.

Conclusion

The use of American Institute of Physics database is slightly considerable but the use of other two databases is very poor, particularly Institute of Physics database. Only 794 articles had been downloaded during a span of 3 years i.e. at an average of 265 articles per year or 22 articles per month. The use of electronic journals should be enhanced by the faculty and research scholars and the library professionals should support them in providing technical skills by conducting user awareness programs.

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Citation Analysis of Ph.D. theses in Sociology Submitted to Ch. Charan Singh University, Meerut

Jamal Ahmad Siddiqui*, Shalini**

Abstract

The present study is the citatation anlysis of Ph.D. theses in Sociology submitted to Ch. Charan Singh University, Meerut (INDIA). It analyses the author pattrenship, the forms of literature used by the research scholars and the distribution of citations according to time. It identifies the leading journal in citations and prepares a list of core journals in the field of sociology.

Keywords: Citation Analysis; Authorship Pattern; Citations; Bibliometrics.

Introduction

Citation analysis is an indirect method to assess the information/sources used by various categories of users. Citation analysis is a worthwhile area of research and refers to references in one text to another text, with information on where that text can be found. Citation analysis is useful for understanding subject relationships, authorship pattern, impact, publication trends, and so on. With citation analysis one can evaluate and interpret citations received by articles, authors, institutions, and other indications of scientific activity. Citation analysis is a major area of bibliometric research, which uses various methods of citation analysis to establish relationships between authors or their work.

The present study analyses the citations appended in the thesis of sociology, accepted by Ch. Charan Singh University, Meerut during 2007-2013. Sociology is the study of human social life. It is an area which uses various methods of empirical investigation and critical analysis to develop a body of knowledge about human social activity. Sociology enables us to understand the structure and dynamics of society, and their intricate connections to patterns of human behavior and individual life changes. It examines the ways in which the forms of social structure-groups, organisations, communities, social categories such as class, sex, age, or race, and various social institutions such as kinship, economic, political, or religious affect human attitudes, actions, and opportunities.

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Literature Review

Various studies have been carried out on citation analysis. For the present study the following studies have been reviewed in the light of the topic.

Zafrunnisha found that foreign journals were the most cited sources as compared to Indian journals. In authorship pattern collaborative authorship is high as compared to single authored papers.

Jadhav, *et al*. in their study reveals that books were most cited documents 1549 (29.39%), and maximum number 3675 (62.61%) of citations were from India. It was found that single authorship is dominant. Jan found that books received more citations as compared to journals, and female (52.34%) contributed more than male (47.66%). Deshmukh reveals that journals were the most cited form of literature. In authorship pattern single authored papers dominated over other type of authorship.

Chikate & Patil in their study reveal that journal articles were found highly cited followed by books, and web resources, and single authored papers were highly cited. Pillai observed that journal articles were found to be the most frequently cited bibliographic items. USA was the leading cited country and Elsevier Science is the leading cited publisher. Okiy found that most students in education used more textbooks (60.3 %), than other forms of documents.

Harwade & Dankhade in their bibliographic form-

wise distribution of citations showed that books accounted for 42.77% of citations, followed by journals (32.81%), PhD thesis (14.70%), newspapers (4.50 %) and others (5.22 %). The results also revealed that the single authored papers were the highest in number and half-life period for journals was found to be 22 years. Buttlar11 observed that about 80 % of the citations were of single authored papers, also

Table 1:

S.No.	Topic	Journals	Books	Conference	C.B.	Thesis	Total
1.	Participation of Dalit and Muslim Women in Gram Panchayat (A Comparative Study of Deoband Tehsil in District Saharanpur)	30	38	–	4	1	73
2.	Constitutional Provisions, Rural Development Programs and Social Change away Scheduled Castes (A Social Inquiry)	30	15	–	5	7	57
3.	Health Problems of the aged in An Urban Setting	60	55	5	5	10	135
4.	Politicization and Commit among College Teacher	155	60	11	15	15	256
5.	Empowerment of Women A Sociological Inquiry	63	50	–	–	10	123
6.	Self Help Group in Sardhana Block a Sociological Study	25	15	4	2	6	52
7.	Employees Motivation and Productivity (A Sociological Study of FMCG Sector)	80	42	7	18	8	155
8.	Women's Decision Making in Child Bearing Practices A Sociological Study	46	12	7	6	6	77
9.	मेरठ जनपद के पशुपालक जातियों का समाजशास्त्रीय अध्ययन	71	21	8	11	10	121
10.	Problems of Working Women : A Sociological Study	9	72	3	–	4	88
11.	Role Conflict and Role Strains and its management among female Doctors in Meerut City	76	53	2	2	4	137
12.	Education and Social Change among Scheduled Castes (A Sociological Inquiry)	5	36	–	4	5	50
13.	नर्सिंग व्यवसाय के परिवर्तनशील प्रतिमान (एक समाजशास्त्रीय विश्लेषण)	42	131	14	10	5	202
14.	Single Women Problems and Challenges (A Sociological Study)	48	65	5	10	20	148
15.	The Family Disassembly and its Impact on Children Family and Society : A Sociological Study of Saman City is Yamen	15	65	1	10	10	101
16.	आरक्षित महिला देवृत्व एक समाजशास्त्रीय अध्ययन (जिला मेरठ के विशेष संदर्भ में)	35	50	5	5	10	105
17.	Consanguine Marriage and Decision Making among Muslim Women in an Urban Setting.	22	24	–	3	1	50
18.	गद्दी जनजाति के सामाजिक संरचना एवं महिलाओं की परिस्थिति (निरन्तर एवं परिवर्तन)	66	30	4	6	10	116
19.	संचार तन्त्र में बढ़ती मोबाइल फोन संस्कृति	40	25	4	–	5	74
20.	Professional Orientation of College and University Teachers : A Social Study in C.C.S. University, Meerut	35	10	4	5	4	58
21.	Role of Voluntary organization in Women Empowerment : A Sociological Study	33	42	5	3	8	91
22.	Politicians, Bureaucrats and Ambedkar Gram Vikas Yojna in Auraiya : A Sociological Study	20	30	–	–	6	56
23.	The Impact of Religion on Public and Private Life of Educated Muslim Women	15	25	5	–	5	50
24.	राजनैतिक सहभागिता एवं महिला सशक्तिकरण (एक समाजशास्त्रीय अध्ययन)	20	30	–	–	10	60
25.	Empowering Scheduled Tribe Women (A Sociological Study of Political Efficacy among Gaddi Women)	95	175	10	15	20	315
	Grand Total	**1136**	**1171**	**104**	**139**	**200**	**2750**

journal articles were cited more than books, book chapters, proceedings, thesis, and other print resources. The most cited journals were *College & Research Libraries and Journal of the American Society for Information Science.*

Anil Kumar *et. al*. (2011), investigated in "Citation analysis of doctoral dissertations at IIMA: A review of the local use of journals. Chen, *et. al*. (2011), in "Analysis of highly cited papers published in Chinese Journal of Endemiology during 2000-2006. Dingyu (2011), made a Quantitative study under the title "Quantitative analysis of research papers on library personalized service in China in 2000-2010. Mahbuba, *et. al*. (2010), analyzed citations in "A scientometric analysis of health and population research in South Asia: Focus on two research organizations. Olatokun *et. al*. (2009), studied master's thesis in animal science and found that journals were the most used reference materials, and that poultry nutrition and agricultural biochemistry and nutrition were the most frequent topics. Vallmitjana *et. al*. (2008), applied the method in "Citation Analysis of Ph.D. Dissertation References as a tool for Collection Management in an Academic Chemistry Library.

Objectives of the Study

The main purpose of the study is the citation analysis of PhD thesis in the discipline of sociology submitted to Ch. Charan Singh University, Meerut during 2007-2013. The objectives of the study are to:

- Study the principal form of literature used by the researchers
- Study the distribution of citations according to the time of period.
- Identify the leading Journal in Citations.
- Prepare a list of core journals in sociology
- Study the authorship pattern of cited references

Methodology

Data for the present study consists of thesis submitted to Department of Sociology, Ch. Charan Singh University, Meerut during 2007-2013. All the references listed in these thesis were noted down from each thesis by the researchers on a specified 'data capturing sheet' designed for this purpose. The collected references were thoroughly analysed and

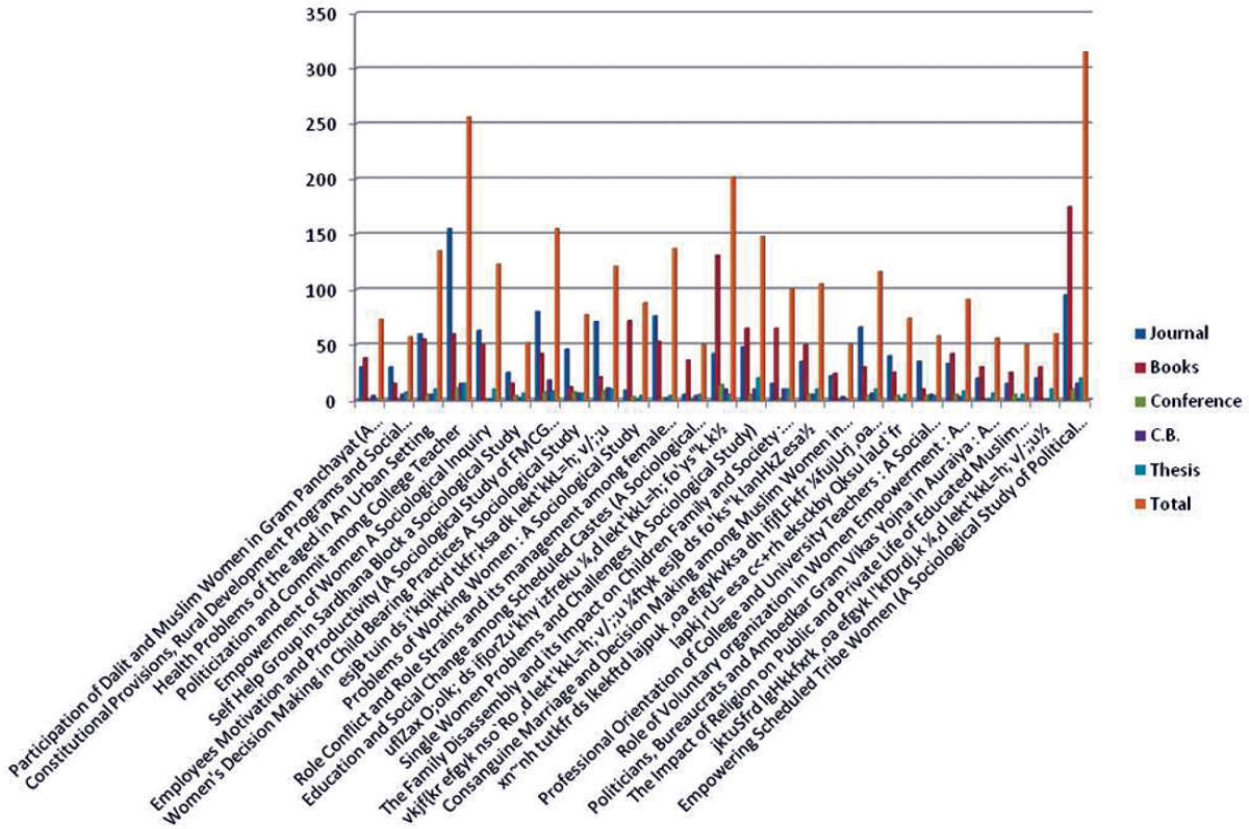

Fig. 1:

segregated into the different categories of documents such as books, journal articles, conference papers, reports, thesis/dissertations, etc. Each reference made at one time has been counted as one citation. If the same reference was repeated using 'ibid' or 'op cit', it has been counted again. The information relating to each citation, i.e., number of authors, bibliographic form, name of the journal, subject, country of origin, language, name of the publisher, and the availability of references in the library concerned. A total of 1181 citations were found in all the PhD thesis. The data was compiled and analysed using MS-Excel software. Finally, a list of core journals was compiled and prepared on the basis of highly cited articles of the journals in sociology.

Data on the type of documents cited by C.C.S. research scholars is presented in Table 1. It indicates that researchers cited five different types of documents. The researchers at C.C.S. cited journals, articles, books, other types of documents like conference proceedings, conference, thesis websites were also cited but less in comparison to books and journal articles.

Date on the pattern of authorship of the cited books is given in Table 2. It indicates that the researchers at CCS University cited single authored books more as compared to two or multi-authored books. The percentage of single authored cited papers is more than two third of the total cited papers.

Table 2:

S.No.	Authors	No. of Citations
1.	Single Author	558
2.	Two Authors	379
3.	Multi Authors	244
	Total	**1181**

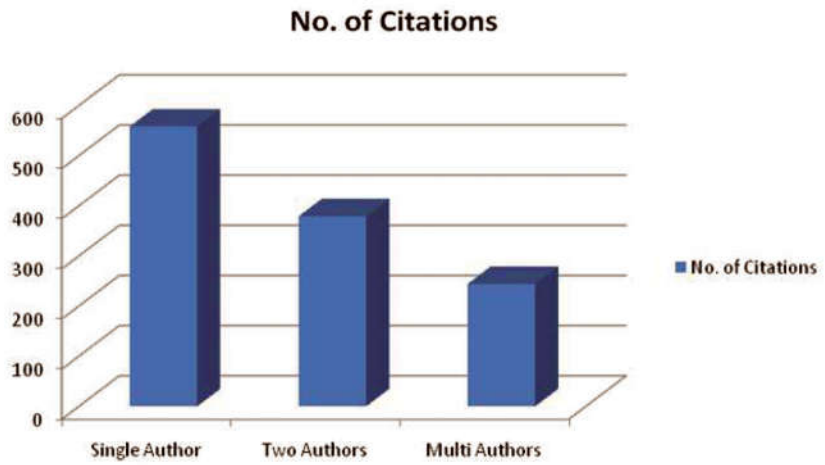

Fig. 2:

Table 3:

Year	No. of Thesis	Journal	Books
2012-2013	8	273 (24.03)	371 (31.68)
2011-2012	4	165 (14.52)	128 (10.93)
2010-2011	7	356 (31.33)	296 (25.27)
2009-2010	5	247 (21.74)	201 (17.16)
2008-2009	–	–	–
2007-2008	1	95 (8.36)	175 (14.94)
Total		**1136**	**1171**

The period of 2007-2013 for which the citations were made has been divided into 3 columns. The data shows that research scholars have used maximum books citations during 2012-2013 which is 371 (31.68%), however the number of Ph.D. is also maximum during this period which is 8. The least number of books cited during 2011-2012 which is only 128(10.93%). Similarly during 2012-2013 the maximum number of journals are cited by the research scholars i.e. 273(24.03%). Whereas research scholars have cited minimum number of journals during 2007-2008 which is only 95(8.36%)

Table 4:

S.No.	Journal Name	Citations
1.	Journal of Social behaviour and Personality	16
2.	Journal of Higher Education	16
3.	Quality of Quantity	16
4.	Indian Journal of Social Work	16
5.	The Indian Journal of Social Work	15
6.	Journal of Applied Psychology	14
7.	Rural Development and Social Changes	13
8.	Journal of Organization Behaviour	13
9.	Rural India	12
10.	The Indian Journal of Public Administration	12
11.	Journal Human Resource Management	12
12.	Journal of Rural Development	11
13.	Community, Work and Family	11
14.	British Journal of Sociology	11
15.	Journal of Vocational Behaviour	11
16.	Kurukshetra	11
17.	Indian Journal of Social Research	11
18.	Indian Journal of Politics	11
19.	Human Resource Management Journal	11
20.	World Journal of Sport Sciences	11
21.	Indian Journal of Social Science	11
22.	Journal of Health and Social Behaviour	10
23.	Journal of Latin America Studies	10
24.	Creativity Research Journal	10
25.	Journal of Social Issue	10
26.	Sociological Abstract–	10
	The Journal of Family Welfare	9
27.	Social Welfare–	9
	Journal of Marriage and the Family	9
28.	Journal of Industrial Relation	9
	– The Social Science Journal	9
29.	The Journal of Modern African Studies	8
30.	Indian Journal of Psychology	8
31.	Journal of Applied Psychology	8
32.	Man in India	8
	– Journal of Social and Economics Studies	8
33.	Indian Journal of Psychology	8
34.	American Journal of Sociology	8
35.	Studies in Social Work	8
36.	Journal of Curriculum Studies	8
37.	Sociology Bulletin	7
38.	International Journal of Sociology of the Family	7
39.	Journal of Social Studies	7
40.	Academy of Management Journal	7
41.	Journal of Evolutionary Economics	7
42.	The Journal of Social Welfare	7
43.	Nursing Journal of India	7
44.	Indian Journal of Social Research	7
45.	Journal of Management	6
46.	Indian Journal of Social Work	6
47.	Rural India	6
48.	Indian Journal of Social Work	6
49.	Man in India	6
50.	Journal of Personality and Social Psychology	6
51.	Indian Journal of Industrial Relations	6
52.	Journal of Personality and Social Psychology	6
53.	Journal of Social Science	6
54.	Human Resource Management Review	6
55.	Indian Journal of Industrial Relation	6
56.	African Journal of Reproductive Health	6
57.	Maharashtra Journal of Extension Education	6
58.	Journal of Kurukshetra	6
59.	International Journal of Social and Human Science	6
60.	Indian Express	6

61.	Journal of Higher Education	6
62.	Journal of Education Psychology	6
63.	The International Journal of Social Psychology	6
64.	Journal of Experimental Social Psychology	6
65.	Journal of Teachers Education and Research	6
66.	Journal of Service Education	6
67.	Social Work	6
68.	American Journal of Sociology	5
69.	Journal of Transcultural Nursing	5
70.	Journal of Gerontology Social Sciences	5
71.	Journal of Social Research	5
72.	Indian Journal of Industrial Relations	5
73.	Indian Journal of Regional Science	5
74.	Journal of Management	5
75.	Indian Journal of Social Work	5
76.	Academy of Management Journal	5
77.	The Journal of Behavioural Science and Community	5
78.	Journal of Extension Education	5
79.	The International Journal of Health	5
80.	Population of India's Development	5
81.	Journal of Bio-social Science	5
82.	American Journal of Nursing	5
83.	Economic and Political Weekly	5
84.	Journal of Counselling and Development	5
85.	Sociological Review	5
86.	Journal Education for Teaching International Research and Pedagogy	5
87.	Indian Journalism	5
88.	Social Forces	4
89.	Journal of Personality and Social Psychology	4
90.	Journal of Health and Population in Developing Countries	4
91.	Sociological Bulletin	4
92.	Journal of Political Studies	4
93.	Journal of Occupational Psychology	4
94.	Indian Journal of Industrial Relations	4
95.	Journal of Economics and Business Modeling	4
96.	Korea Journal of Social and Science	4
97.	Education Quarterly	4
98.	The Journal of Bio-social Science	4
99.	Journal of Youth and Adolescence	4
100.	International Social Science Journal	4
101.	Journal of Education for Teaching	4
102.	Journal of Vocational Education and Training	4
103.	Sociology Bulletin	4
104.	Industrial Relations	4
105.	South East Asian Journal of Social Science	3
106.	American Journal of Sociology	3
107.	Journal of Management and Information System	3
108.	Journal of Occupational Psychology	3
109.	Human Resource of Management	3
110.	Economics and Political Weekly	3
111.	Indian Journal of Extension Education	3
112.	Journal of Security Researches	3
113.	British Journal of Medical Education	3
114.	The Journal of Politics	3
115.	Journal of Gerontology	3
116.	Social Action	2
117.	International Journal aging and Human Development	2
118.	Indian Journal of Social Psychiatry	2
119.	Population Studies	2
120.	European Journal of Work and Organizational Behaviour	2
121.	Journal Management	2
122.	Integrated Management	2
123.	Journal of Rural Development	2
124.	Indian Journal of Home Science	2
125.	Indian Journal of Home Science	2
126.	American Sociological Review	2
127.	Journal of Applied Psychology	1

128.	Journal of Organizational Behaviour	1
129.	Home Economics Research Journal	1
130.	Journal of Abnormal and Social Psychology	1
131.	Journal of this Indian Academy and Applied Psychology	1
132.	International Journal of Comparative Sociology	1
133.	Journal of Gerontology	1
134.	Indian Journal of Gerontology	1
135.	I.R.D.P. Kurukshetra	1
136.	Economics Political Weekly	1
137.	Journal of Psychological Research	1
138.	Journal of Social and Economics Studies	1
139.	Journal of the Anthropological Society of Bombay	1
140.	History of the Dharmshastra	1
141.	A Journal of Research	1
142.	Southern Economist	1
143.	Indian Journal of Medical Research	1
144.	Small Enterprise Development	1
145.	The Journal of Federalism	1
146.	Indian Journal of Agricultural Economics	1
147.	Indian Journal of Political Science	1
148.	European Journal of Innovation Management	1
149.	Journal of Arts and Commerce	1
150.	Journal of Psychological Researches	1
151.	Journal of Occupational Psychology	1
152.	Psychological Bulletin	1
153.	European Journal of Marketing	1
154.	Journal of Vocational Behaviour	1
155.	Indian Journal of Industrial Relation	1
156.	Economics and Political Weekly	1
157.	Indian Psychological Review	1
158.	Journal of Women's Health Issues	1
159.	Journal of Adolesc Health	1
160.	Dimensions of Indian Womenhood	1
161.	Journal of Arts Faculty	1
162.	Lokayan Bulletin	1
163.	Eve's Weekly	1
164.	Arts Journal of Mysore University	1
165.	The Nursing Journal of India	1
166.	International Journal of Women's Studies	1
167.	Journal of Research in Personality	1
168.	The Women's Decade 1975-85	1
169.	Social Science Computer Review	1

Table 4 rank journals that have been cited by the researchers. These journals have been arranged in descending order of the numbers of citations. There are 169 Journals which are cited by the researchers. These journals are published from India and abroad. The study shows that Journal of Higher Education is cited by the maximum number of researchers i.e. 16. The Indian Journal of Social Work comes to next in citation by the researchers which are 15, followed by Rural Development and Change and Journal of Organisational behaviour placed at third position, both are cited 13 times by the researchers.

The least number of the Journal which are cited only once by the researcher include – Social Science, Computer Review, Lokayan Bulletin, EV's Weekly. Journal of Women, Health Issues, Journal of Adaloc Issues, Dimensions of Indian Womenhood, Journals of Art Faculty, The Women's Decade 1975-85, The Nursing Journal of India, Intervention Journals of Women Studies, Indian Psychological Review, Economic and Political Weekly. Indian Journal of Intestinal Relation, European Journal of Marketing, Psychological Bulletin, European Journal of Innovation Management, Journal of Art and Commerce, Journal of Psychological Researches, Journal of Occupational Psychology, A Journal of Research, History of the Dhramshastra Southern Economist, India Journal of Medical Research, Small Enterprise Development.

Findings and Conclusion

In the present study 1181 citations were analysed from 26 PhD thesis in sociology. On the basis of the above study the following conclusions are drawn:

- Highest numbers of citations (31.68%) were

recorded from books followed by journal articles, book chapters, encyclopedias, reports, etc.

- Analysis on distribution of country-wise scattering of citations reveals that Indian literature received citations and ranked first.
- The analysis of authorship pattern in Sociology thesis reveals of citations were to papers written by single authors, which implies that social sciences are less collaborative as compared to science and technology.
- The analysis of citations indicates that most cited authors in the thesis are Indian authored.
- In the rank list of journals, India's Economic & Political Weekly occupies the first rank accounting of total journal citations followed by Indian Journal of Psychiatry.

During the study it was found that citations are not in standard format. Researchers have not used any Uniform pattern/sequence while citing the research materials. It is observed that somewhere year is missing, somewhere publisher's name and place. This kind of study will definitely help the libraries in selection of useful sources as there is explosion of information and documents in the form of books and journals. The ranking of journals can be used by librarians and researchers to select the journals of greater importance in a particular subject area.

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Use of Electronic Resources by the Dental Science Professionals in Bilaspur City

Kundan Jha

Abstract

Libraries in dental sciences are not just collecting or licensing the information resources. They have various task to match the needs like curriculum based learning, research and point of care. The present study aims to describe the awareness and uses of electronic resources to the dental science professionals (DSP) in Bilaspur city.

Keywords: Information Uses; Dental Science Library; Dental Science Professionals.

Introduction

Today, Technology is becoming a powerful tool for communication with the development and growth of Information and Communication Technology (ICT) and its impact and uses in libraries, present day a new type of library resources i.e. non conventional document popularly known as electronic resources have entered into the library collection. The paper is attempted to study use of e-resources by the dental science professionals in Bilaspur city.

Objectives of the Study

1. Find out the accessibility (uses) and use of internet by the dental science professionals (DSP) in Bilaspur city.
2. To find out the purpose of browsing electronic resources using ICT.
3. Find out the awareness of electronic resources.
4. To find out frequency of uses of electronic resources.
5. Find out which type of electronic resources are uses by dental science professionals (DSP).
6. To find out the problems faced by the user while accessing and using of electronic resources.
7. To find out the satisfaction and dissatisfaction level of users about available of electronic resources.
8. To suggest suitable recommendation to improve services related to use of electronic resource.

Methodology

This paper attempts to find out the use of electronic resources using ICT by the dental science professionals of Bilaspur city. In this study using questionnaire method was use for data collection. For this purpose total number of 150 Questionnaire ware distributed to the dental science professionals (Student & Teacher) in, New Horizon Dental College & Research Institute, Bilaspur (C.G.) and Triveni Institute of Dental Sciences, Hospital & Research Centre, Bilaspur (C.G.), and out of which 136 Questionnaire ware received. The collected data were then analyzed, tabulated, interpreted in the form of this paper.

Scope and Limitation

In this study covers the dental science professionals in Bilaspur city. It includes students and teachers of dental science.

Analysis and Data Interpretation

Table No 01 (Uses of Internet) show that 96.32% dental science professionals are use internet and its resources, 03.68% dental science professionals do not use internet or its resources and 00.00% dental science professionals no answer for use internet and its resources.

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Table 1: Uses of internet

S. No.	Response	Number of DSP	Percentage (%)
1.	Yes	131	96.32
2.	No	05	03.68
3.	No Answer	00	00.00
	Total	**136**	**100.00**

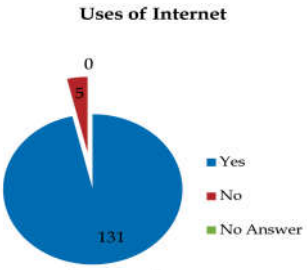

Fig. 1

Table 2: Frequency of uses of internet

S. No.	Frequency	Number of DSP	Percentage (%)
1	Daily	128	94.11
2	Weekly	03	02.21
3	Monthly	00	00.00
4	As and when required	05	03.68
5	No uses of Internet	00	00.00
	Total	**136**	**100.00**

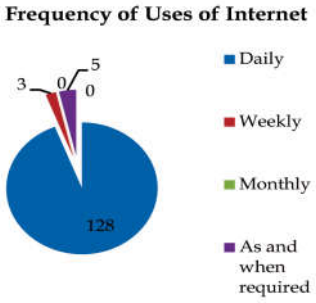

Fig. 2:

able 2 (Frequency of Uses of Internet) shows in frequency of uses of internet the majority of 94.11%, dental science professionals are used internet daily, 02.21% weekly, 00.00% monthly, 03.68% as and when required, and 00.00% dental science professionals no uses of internet.

Table 3: Awareness of e-resources

S. No.	Response	Number of DSP	Percentage (%)
1.	Yes	132	97.06
2.	No	04	02.94
3.	No Answer	00	00.00
	Total	**136**	**100.00**

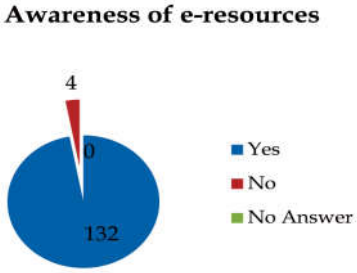

Fig. 3:

Table 3 (Awareness of e-resources) shows awareness of e-resources of among the dental science professionals. 97.06% dental science professionals ware aware about the e-resources, 02.94% dental science professionals was not aware about the e-resources and 00.00% dental science professionals no answer about the e-resources.

Table 4: Types of e-resources being used

S. No.	Types of e- resources	Number of DSP	Percentage (%)
1.	E-Database	08	05.88
2.	E-Books	18	13.24
3.	E-Journal/Magazines	56	41.18
4.	Electronic news paper	46	33.82
5.	E-Thesis/ Dissertation	05	03.68
6.	CD-ROM	00	00.00
7.	Other/Web page	03	02.21
	Total	**136**	**100.00**

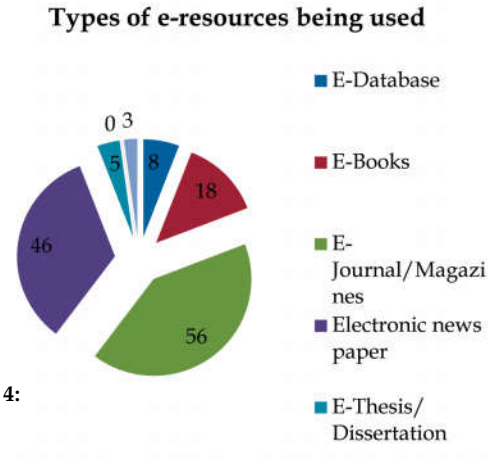

Fig. 4:

Table 4 (Types of e-resources being used) shows the various types of e-resources used by the dental science professionals, most of 41.18% dental science professionals used E-Journal/Magazines, 33.82% dental science professionals used Electronic news paper, 13.24% dental science professionals use E-books, 05.88% dental science professionals used E-Database, 03.68% dental science professionals used e-thesis/dissertation, 02.21% dental science professionals used other/web page and 00.00% dental science professionals used CD-ROM.

Table 5: Purpose of using e-resources

S. No.	Purpose	Number of DSP	Percentage (%)
01	Studying for course materials	98	72.06
02	Research Work or Paper writing for publication	38	27.94
	Total	**136**	**100.00**

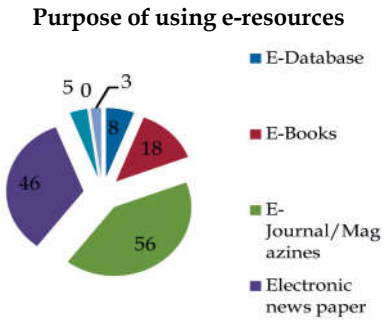

Fig. 5:

Table 6: Satisfaction on available e-resources in library

S. No.	Response	Number of DSP	Percentage (%)
1.	Yes	126	92.65
2.	No	10	07.35
	Total	**136**	**100.00**

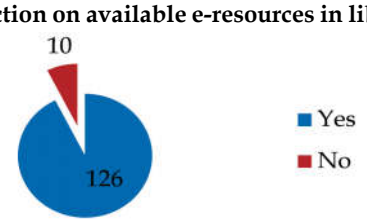

Fig. 6:

Table 7: Problems faced by dental science professionals using of electronic resources

S. No	Response	Number of DSP	Percentage (%)
1.	Poor training provision	02	01.47
2.	E-resources are not as per need	86	63.24
3.	Library timing not suitable	05	03.68
4.	Less number of subscribe e-resources	14	10.29
5.	Lack of printing facility	22	16.18
6.	Technical problem	03	02.21
7.	Availability of hardware and software are not update	04	02.94
	Total	**136**	**100.00**

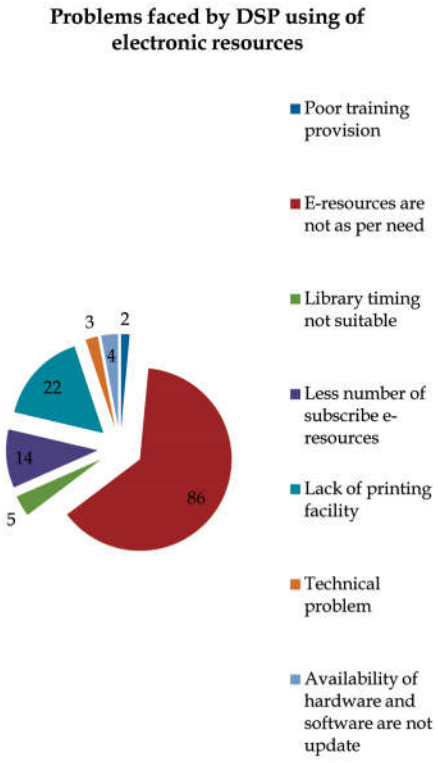

Fig. 7:

Table 5 (Purpose of using e-resources) shows that 72.06% dental science professionals used e-resources for studying for studying for course materials, and 27.94% dental science professionals used e-resources for research work or paper writing for publication for using e-resources.

Table 6 (Satisfaction on available e-resources in library) shows that 92.65% dental science professionals are satisfied with the resources provides by the library, and 07.35% dental science professionals are not satisfied with the resources provides by the library.

Table 7 (Problems faced by dental science professionals using of electronic resources) 63.24% dental science professionals say that the main problem faced by dental science professionals is e-resource are not as per need, 02.94% problem faced by dental science professionals due to availability of hardware and software are not updated, 02.21% problem faced by dental science professionals due to technical problem, 16.18% Problems faced by dental science professionals to lack of printing facility, 10.29% Problems faced by dental science professionals due to less number of subscribed e-resources, 03.68% Problems faced by dental science

professionals due to library timing not suitable and 01.47% Problems faced by dental science professionals due to Poor training provision.

Findings

1. Table 1 clearly shows that 96.32% dental science professionals uses internet. This shows that our dental science professionals are aware about using internet for case studies.
2. Table 2 clearly shows that 94.11% dental science professionals uses internet on regular basis.
3. Table 3 clearly shows that 97.06% dental science professionals are aware about the e-resources
4. Table 4 clearly shows that 41.18% dental science professionals used E-Journal/Magazines.
5. Table 5 shows that 72.06% dental science professionals mostly use e-resources for their studying course materials.
6. Table 6 shows that 92.65% are satisfied by the data provided by internet.
7. Lacks of printing facility, technical problems, and lack of availability of latest update are some major problems faced by dental science professionals which have to be overcome.

Conclusion

Now a day internet and e-resources has emerged as most powerful medium for use, access, storage and retrieving the information. Many dental science professionals access their studying for curriculum based learning, class room presentation, research work and other related work using e-resources because e-resources are very easily available through internet and databases and it saves the important time. So much time can be saved for their professional work.

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Need of Continuing Education Programs (CEPs) for LIS professionals of Management Institutes in Mumbai

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Abstract

The constant changes, owing to technological developments in the academic libraries and changing perceptions of users have compelled Library Information Science (LIS) professionals to provide responsive and advanced information services using latest technology. Changes in users' needs and expectations for information obviously change the provision of information by libraries. These changes leave no alternative but make LIS professionals to acquire, maintain and enhance their knowledge, skills and competencies. LIS professionals need to remain current and keep updated. In this context, continuing education is the key. Continuing Education for LIS professionals is one of the chief means of making library and its services effective. LIS professionals also need to fill the gap in learning through attending continuing education programs (CEPs). Academic scene in India is set to change. In future, LIS professionals need to attend CEPs more fervently to catch up the galloping speed of technological development. Hence, in order to face the challenges posed by ICT suceessfully, LIS professionals need to equip themselves with necessary skills and knowledge. This situation calls for determining the future needs of CEPs for LIS professionals. Present paper tries to identify the prospective need of CEPs and describe the preferred structure of CEPs for LIS professionals working in Management institutes in Mumbai.

Keywords: Academic Libraries; Continuing Education Programs; LIS Professionals; Lifelong Learning; Management Libraries; Training Needs.

Introduction

The constant changes, owing to technological developments in the academic libraries and changing perceptions of users have compelled Library Information Science (LIS) professionals to provide responsive and advanced information services using latest technology. Changes in users' needs and expectations for information obviously change the provision of that information by libraries. These changes leave no alternative but make LIS professionals to acquire, maintain and enhance their knowledge, skills and competenciesContinuing Education (CE) for LIS professionals is one of the chief means of making library services effective. With changing situation of library and information services, LIS professionals employed in academic libraries not only think how to keep up with such changes, buthow to incorporate new learning to deal with the changes. Continuing professional education must change with changing circumstances. In order to meet the challenges of changing needs, LIS professionals should get chance to attend the CEPs as per their job requirements. This triggers the need of addressing the needs of CEPs which will be required in future.

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Continuing Education: Concept

Dictionary of Human Resource Management (2008) [1] defines Continuous Learning as 'The process through which employees and managers meet the challenge of perpetual change that faces many contemporary organizations in a highly competitive, turbulent environment. Knowledge and skills quickly become obsolete, so there is requirement to update them constantly through training and development. Learning becomes an important feature of the organization, and contributes at the least to its competitive survival and, at best, to its competitive

advantage. Continuous learning is a vital component of the learning organization. There is no specific definition of Continuing Education (CE) inHarrod's Librarian's Glossary and reference book(2000) [2]. However, it describes the lifelong learning as 'The process whereby people continue their own education by formal or informal means-training courses, academic courses, reading, evening classes, work based activity, discussion groups etc. which will be increasingly essential in an age of technological advance and an employment situation in which short term contracts'. As continuing education is for lifelong learning, the description is significant from the point of view of the topic of the paper.

Weingand (1999) [3] has sub-divided the phrase 'continuing professional education' into its components, in order to better understand its origins.

- Continuing... To go on with a particular action or in a particular condition; persist; to exist over a prolonged period;
- Professional... Of, relating to, engaged in, or suitable for a profession; engaged in a specific activity as a source of livelihood; performed by persons receiving pay; having great skill or experience in a particular field or activity.
- Education... the knowledge or skill obtained or developed by a learning process
- Continuing education... An educational program that brings participants up to date in a particular area of knowledge or skills.

Thus, continuing professional education for academic LIS professionals can be summarized as the continuing educational activities primarily designed to keep practicing academic LIS professionals abreast of their particular domain in the library and to provide them with training in new fields.

Need of Study

The students of management institutes are graduates and aspiring to pursue post-graduation degree in Business and Management. They have multiple sources of information such as internet, commercial information service providers etc. They can obtain the information overcoming the geographical barrier and can access the worldwide information across the globe through their desktops or laptops or mobile gadgets like phones and tablets without any time limitation (24 x 7). As recommended in AICTE norms, the library of management institutes subscribe to various e-databases including bibliographic and full text databases, online journals and e-books. Hence they have access to various information resources. They are better educated, better informed, more knowledgeable about technology and mature than student community in other types of colleges and therefore, they have pressing demands from the service providers .The technological factors and alternative channels available to the users are forcing librarians to equip their libraries with better facilities and services to attract users and keep them satisfied.

IfLIS professionals would get chance to attend the CEPs as per their needs, the better results can be achieved. If CEPs meet the needs of participants, they are going to be effective. This will provide opportunity to LIS professionals gain knowledge and implement at their workplace as their needs. Hence it is important to assess future needs of the library professionals for continuing education and professional development in a changing electronic environment of academic library like the library of the management institute. .

Objectives

This study aimed to study the prospective need of Continuing Education Programs (CEPs) of LIS Professionals of Management institute libraries. To achieve this purpose the following objectives are addressed:

- To identify training needs of professionals working in Management Institutes
- To study the opinions on probable structure of CEPs
- To find out the desired structure of CEPs
- To study the role of Library Associations to be played in organizing CEPs

Scope and Limitation

This study focused on the CEP attendance and prospective need of CEPs for library professionals working in Management institute libraries in Mumbai. CEP includes conference, seminar, refresher course, orientation course, workshop, training programs, and online instructions. Library professionals working in the libraries of Management institutes affiliated to University of Mumbai were covered in the study. This study was limited to Librarians and Assistant Librarians of college libraries. The study was based on the self-perceptions of the respondents.

Literature Review

Literature review indicated that the topic 'Need of continuing education for Librarians' was researched

extensively. There are a few major studies surveying CEPs in India and abroad. They cover the areas like CEP attendance, attitude of LIS professionals towards CEP attendance, need of Continuing education for LIS professionals and professional development of Librarians. Academic librarian was most heavily studied.

Due to the advent of technology, importance of training the library staff is stressed comprehensively in the related literature review. Mapulanga (2014) [4] conducted study on staff development and its challenges in the University of Malawi Libraries. The findings revealed that due to financial constraints, the majority of the library staff lacked LIS professional qualifications. The study recommended that libraries should consider budgeting for continuing professional development. Davis and Lundstrom (2011) [5] discussed the challenges of promoting staff development of USU (Utah State University) library. Adams (2009) [6] stressed the need of staff training programs in the University of Auckland Library, UK. Smith (2002) [7] examined the pattern of staff development activity in Australian academic and research libraries. The study indicated staff development in Australian libraries to be in strong and healthy state. Garrod (2001) [8] stressed the need of training to staff as well as end-user in the hybrid library. Prakasan, Swarna and Vijay Kumar (2000) [9] explained the need of Human Resource Development in the libraries and provided insights into its implications in hybrid libraries. Osei (1996) [10] has stressed the need for professional staff development in University of Science and Technology Library in Kumasi Ghana.Conor (1992) [11] provides an overview of the implications of automation for staff training in libraries

The need of assessment of training needs for LIS Professionals working in academic libraries is found to be stressed universally. Sahoo and Pradhan (2013) [12] conducted the study identifying the training needs of LIS professionals. The study was based on three components i.e. Information Technology, sponsorship and training techniques. They have described the Training and Development process required for library professionals working in academic libraries. The training needs, evaluation and techniques are discussed. Cassner and Adams (2006) [13] surveyed distance learning librarians in academic libraries to find out their professional development needs. Respondents were asked to indicate which professional development activities they were participating in and those they were likely to engage in within the next five years. Survey unfolded that List-servs targeting distance librarians, distance learning conferences, and professional journal articles were the most important in meeting professional development needs of distance librarians and instructional design, Web page design, and marketing/public relations were the Professional Development activities desired by respondents within next five years. Kannappanavar and Praveen Kumar (2005)[14] evaluated the training programs pertaining to Library and Information science and their effectiveness of training programs attended by library professionals in selected Agricultural Science Libraries in India. It is found that the workshops organized are generally designed to provide practical training on IT applications, but they are not assessing the training needs of library professionals. Ondari-Okemwa (2000) [15] examined the training needs of practicing professional librarians in the Kenyan public university libraries.

The review of literature indicated that the need of CE for LIS Professionals was strongly stressed. The review of literature indicated that the perception of LIS professionals towards Continuing Education (CE), CE opportunities, problems faced by the professionals and need of technology based training were studied globally. Literature Review conducted from 1992 to 2014 reflects that the need for technology related Continuing Education was felt for a very long time-as long as more than two decades.

Research Method

The study was quantitative and descriptive. The survey method was used to investigate the needs of CEPs of LIS Professionals working in management institute libraries affiliated to university of Mumbai. Structured Questionnaire was used to collect the data of LIS Professionals. Both open and close ended questions were put across. The population of the present study included the LIS professionals employed in Management institute libraries affiliated to University of Mumbai. This is a study of the defined population of 48 LIS professionals. Total 42 respondents responded yielding the response rate of 87.50 %. The Annual Reports of University of Mumbai 2012-2013. Data analysis was carried out using SPSS package (version 16.0).

Major Findings

In order to identify the future needs of CEPs of LIS Professionals, the opinions of LIS professionals on probable LIS areas and LIS topics, duration, medium of instruction, fee structure, type of instruction, and

mode of instruction were analyzed. The opinions on availability of CE opportunities in Mumbai and role of Library Association in regard to CEPs were studied.

Demographic Details

Demographic details i.e. sex, age, qualifications, work experience and designation of LIS professional were analyzed.

Sex

As indicated in Table 1, majority of respondents (62%) were women as opposed to men (38%). Since librarianship in India is a women dominated profession, it is obvious that more number of women were employed in academic libraries. This also confirms that there were more female librarians working in management institute libraries.

Table 1: Sex

Sex (n=42)	Frequency	%
Male	16	38.1
Female	26	61.9
Total	42	100

Age

More than 64% of LIS professionals belonged to Middle –aged group (31-40 years) followed by Young professionals (14.3%). Middle-aged and Young age group constituted larger part of sample (79%) than senior and very senior age group 21.4% (Table 2).

Table 2: Age of LIS professionals

Age (n= 42)	Frequency	%
31-40 (Middle-aged)	27	64.3
21-30 (Young)	6	14.3
41-50 (Senior)	6	14.3
51-62 (very Senior)	3	7.1
Total	42	100

Qualifications

As data reported in Table 3, 93% of LIS professionals areM.L.I.Sc degree holders. Since M.L.I.Sc. degree is the requirement for the post of Librarians, 7.1% of LIS professionals who had not completed M.L.I.Sc were assistant librarians. 21 % of respondents had received M.Phil. 7% of respondents had completed Ph.D degree. Also 14.3% of sample had upgraded their knowledge through continuing education in Computer Applications. This is noteworthy gesture that LIS professionals were keen in continuing education and updating knowledge.

Table 3: Qualifications

Qualifications (n=42)	Frequency	%
M.L.I.Sc.	39	92.9
M.Phil	9	21.4
PGDCA/PGDIT/PGDLAN	6	14.3
Ph.D	3	7.1

Work Experience

More than 45% of LIS professionals were having experience of 6-10 years followed by 1-5 years (19%). 7% of LIS professionals were having 11-15 years of experience. 16.7% of LIS professionals were having more than 15 years of experience. Majority(64%) of them were having experience less than 10 years as most of LIS professionals belonged to Middle and young age group i.e in between 21-40 years.

Table 4: Work experience

Experience(n=42)	Frequency	%
6-10 years	19	45.2
1-5 years	8	19
11-15 years	7	16.7
16-20 years	6	14.3
26-30 years	1	2.4
31-35 years	1	2.4
Total	42	100

Designation

As indicated in Table 5, sample constituted more number of Librarians(52%) as compared to Assistant Librarians (48%).

Table 5: Designation

Designation (n=42)	Frequency	%
Librarian	22	52.4
Assistant Librarian	20	47.6
Total	42	100

Future needs of CEPs

As identifying the training needs of LIS professionals was the prime objective of this study, the opinions of LIS professionals were sought on the potential needs of CEPs. The respondents' views on prospective LIS areas, duration, medium of instructions, fee structure, and type of instruction and mode of CEPs were sought. In order to assess the ratings for the LIS topics, duration and Mode of CEPs given on five point scale of 1 to 5, 3.0 was taken as benchmark of mean .Based on this set benchmark, given options were considered.

LIS Core Areas and LIS topics

Respondents were given the list of core areas and the topics in Library Science and were asked to rate them on five point scale indicating their preferred areas topics for CEPs needed.

As reported in Table 6, majority of LIS professionals wanted CEPs to be conducted in the area of new developments in Library Information Services and procedures. Application of ICTs (74%) was the second most preferred LIS core area in which CEPs was felt to be conducted. The LIS areas like managerialskills (57.14%) and competencies and Library Management (40.48%) followed. The respondents were asked to rate the LIS topics on the five points scale, in which, CEPs were needed by them. As per ratings given by the professionals, open source software packages (4.24),Managing digital library (4.24), Acquiring and managing e-resources (4.14), Database management (4.07), knowledge Management (4), creating and using Electronic information resources (3.98), Networking and consortia (3.9), Developing content for websites (3.86), Marketing of Library and Information Science (3.86) and Website design (3.86) followed in preference list. The next 10 topics preferred by respondents are: Information Services (3.83), Web 2.0 applications (3.81), writing reports, articles and conference papers (3.81), library PR and publicity (3.79), digital copyright Issues (3.79), building Institutional Repository (3.79), user Education and information literacy (3.74), Library automation (3.74), Leadership skills (3.74) and team building. The topics like Soft skills (3.64), cloud computing(3.6), reference services (3.57), negotiation skills (3.5), library design (3.45), human resource management (3.31), financial Management in libraries (3.31), computer hardware and trouble shooting (3.24) and Indexing and abstracting (3.19) received comparatively low rating. The less preferred topics were classification (2.9) and cataloguing-new developments (2.86) (Table 6). Due to automation in academic libraries,indexing and abstracting, classification and cataloguing received low rating.

Table 6: LIS core Areas

LIS Core Area (N=42)	Frequency	%
New developments in library information services and procedures	41	97.62
Application of ICT	31	73.81
Managerial skills and developments	24	57.14
Library Management	17	40.48

Table 7: LIS topics

S.N.	LIS topics(N=42)	Mean	Std. Deviation
1	Open Source Software Packages	4.24	0.85
2	Managing a Digital Library	4.24	0.958
3	Acquiring and managing e-resources	4.14	1.049
4	Database Management	4.07	0.997
5	Knowledge Management	4	1.036
6	Creating and using Electronic Information Resources	3.98	1.199
7	Networking and consortia	3.9	0.983
8	Developing content for Web-sites	3.86	1.095
9	Marketing of Library and Information services	3.86	1.072
10	Web site design	3.86	0.926
11	Information Services	3.83	1.124
12	Web 2.0 applications	3.81	1.065
13	Writing reports,articles,conference papers	3.81	0.994
14	Library PR and Publicity	3.79	1.116
15	Digital Copyright Issues	3.79	1.138
16	Building Institutional Repository	3.79	1.2
17	User Education and information literacy	3.74	1.127
18	Library Automation	3.74	1.345
19	Leadership skills	3.74	1.17
20	Team building	3.67	1.203
21	SoftSkills	3.64	1.303
22	Cloud Computing	3.6	1.499
23	Reference services	3.57	1.107
24	Negotiation skills	3.5	1.215
25	Library Design	3.45	1.131
26	Human resource management	3.31	1.137
27	Financial Management in Libraries	3.31	1.239
28	Computer Hardware and trouble shooting	3.24	1.394
29	Indexing and abstracting	3.19	1.215
30	Classification-New Developments	2.9	1.303
31	Cataloguing -new Developments	2.86	1.28

Duration

The opinions on preferred duration of the CEPs wanted by LIS professionals in future were sought. The most favored duration was one full weekday followed by one full Saturday and then followed by 2-3 consecutive week days and weekend. The rest of the options for the probable duration of the programs were below the set benchmark i.e. (Mean =3.0), thereby, considered as less preferred.

Table 8: Duration

Duration (N=42)	Mean
One Full Weekday	3.76
one Full Saturday	3.44
2-3 Consecutive Week Days	3.17
Weekend	3.02
2-3 consecutive Saturdays (Full days)	2.93
4days-6 days	2.59
5-6 Consecutive half-days	2.39
One Full Week	2
More than two weeks	1.68
More than three weeks	1.46

Medium of Instruction

The respondents' opinions on medium of Instruction were sought. As indicated in Table 9, 74% of the LIS professionals wanted English as medium of instruction. Combination of English and Local Languages (35.71%) and depending upon the participants (11.90%) followed. The Hindi language, Marathi language and any language with translation in English followed in decreasing order.

Fee Structure

The opinions on fee structure of CEPs were sought. For one day program (83.33%), the preferred fee structure was 'Less than Rs. 1000/-' For two days program, the preferred Fee structure was between Rs. 1000- Rs.2000 (61.90%) . For more than two days program probable fee structuredesired by LIS professionals was 'between Rs.1000-2000' or More than Rs. 2000 (38.10%). For one week (30.95%) ,more than one week program (28.57%) and more than two weeks (26.19%), the fee structure desired by LIS professionals was between Rs. 2000-3000/-.' For more than two weeks, the probable fee structure wanted by LIS Professionals was 'in the range of Rs. 2000-Rs.3000/-'(Table 10).

Table 9: Medium of instruction

Medium of Instruction (N=42)	Frequency	%
English	31	73.81
Combination of English and local language	15	35.71
Depending upon the participants	5	11.90
Hindi	4	9.52
Marathi	4	9.52
Any language with translation in English	1	2.38

Table 10: Fee structure

(N=42)	Less than Rs. 1000		Rs.1000-2000		More than Rs. 2000		Rs. 2000-3000		More than Rs. 3000		Rs. 3000-Rs. 5000		More than Rs. 5000		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
One day Program	35	83.33	7	16.67											42	100
Two days Problem	13	30.95	26	61.90	3	7.14									42	100
More than two days program	3	7.14	16	38.10	16	38.10	7	16.67							42	100
One Week			8	19.05	9	21.43	13	30.95	7	16.67	2	4.76	3	7.14	42	100
More than one week			3	7.14	8	19.05	12	28.57	9	21.43	5	11.90	5	11.90	42	100
More than two weeks			3	7.14	4	9.52	11	26.19	8	19.05	6	14.29	10	23.81	42	100

Type of Instruction

The respondents were asked to rate them on five point scale indicating their preferred type of instruction for CEPs needed. LIS Professionals have given high rating to multimedia (4.68) followed by hands-on-training (4.54) and then web based CEPs (4.20). Class room lectures (3.68) had got lowest rating compared to all other media of instruction (Table 11).

Mode of CEP

The views on preferred mode of CEPs were sought. Majority of LIS Professionals wanted teleconference (88.10%) as mode of CEPs. webinar (83.33%)and face-to-face interaction (80.95%) followed. Online courses (76.19%) and live lecture or demonstration (61.90%) followed in decreasing order (Table 12).

Opinion on Availability of CE Opportunities in Mumbai

The views of LIS professionals on adequacy of CE opportunities available in Mumbai were sought. As shown in Table13, majority of respondents (61%) expressed positive response towards availability of

CE opportunities in Mumbai whereas a few respondents responded negatively. Most of the respondents recommended that universities in Mumbai should take active part in organizing the CEPs.

Opinion on CE opportunities made available by Library Associations

Library Associations

The respondents' perceptions on CE opportunities offered by Indian or Local library associations were sought. Around 52%of respondents stated that adequate Continuing Education (CE) opportunities were made available by Library Associations and 47% of respondents opined that adequate CE opportunities were not made available by Indian or Local Library Associations (Table 14).

Table 11: Type of instruction

Type of instruction (N= 42)	Mean
Multimediabased	4.68
Hands-on-training	4.54
Web based	4.20
Class Room Lectures	3.68

Table 12: Mode of CEP

Mode of CEP (N= 42)	Frequency	%
Teleconference	37	88.10
Webinar	35	83.33
Face-to-Face Interaction	34	80.95
Online Courses	32	76.19
Live Lecture or demonstration	26	61.90

Table 13: Availability of CE opportunities in Mumbai

Availability of CE opportunities in Mumbai (N=42)	Frequency	%
Yes	26	61.0
No	16	39.0
Total	42	100.0

Table 14: CE opportunities made available by Library Association

CE opportunities made available by Library Associations (N=42)	Frequency	%
Yes	22	52.38
No	20	47.62
Total	42	100.0

Work to be done by Library Association

If adequate CE opportunities were not made available by Library Associations, the views of respondents on work to be done by Library Association with reference to CE programs were sought.As reported in Table 15, most of the Professionals (90%) expected Library Associations to organize ICT Training Programs followed by organizing certificate programs in LIS (65%) and then organizing conference/seminar annually and online courses followed. Organizing Refresher courses annually (45%) and organizing webinar (40%) followed in decreasing order.

Table 15: Work to be done by Library Associations

Work to be done by Library Associations (N=20)	Frequency	%
Organizing ICT training courses	18	90
Organizing Certificate programs in LIS	13	65
Organizing conference/seminar annually	12	60
Organizing online courses	12	60
Organizing Refresher course annually	9	45
Organizing webinars	8	40

Suggestions and Recommendations

Based on data analysis of the preferences, the desired structure of CEPs emerged as following. The preferred structure is given serially by the order of preference.

Table 16: Preferred structure of CEPs

	Future CEPs	Prospective structure of CEP
i.	Preferred LIS core Areas	• New Development in Library Information services and procedures • Application of ICT • Managerial skills and competencies
ii.	Top 10 LIS topics	• Open source Software Packages • Managing Digital Library • Acquiring and managing e-resources • Database Management • Knowledge Management • Creating and using Electronic Information Resources • Networking and consortia • Developing content for Website • Marketing of Library and Information services • Web site design
ii.	Top three preferred duration	• One Full Week day • one Full Saturday • 2-3 Consecutive week days
v.	Top three Languages of instruction	• English • Combination of English and Local language • Depending upon participants
v.	Preferred Fee structure	• For one day program-less than Rs. 1000/- • For Two days program- in between Rs. 1000- Rs. 2000 • For more than Two days program- in between Rs.1000-Rs.2000 • For One Week, More than one and two weeks – in the range of Rs. 2000-Rs. 3000
'i.	Top three preferred type of instruction	Multimedia based Hands-on-Training Web based
ii.	Top three preferred medium of instruction	Teleconference Webinar Face-to-Face Interaction

As mentioned in the above table at Sr. No. i, the preferred LIS core areas are new developments in library services and procedures, ICT applications and managerial skills and competencies. The 10 topics indicated at Sr. No. ii, preferred CEP topics inclined towards integration of ICT applications into library services and procedures with exception of Marketing of Library information services and Networking and consortia. This indicates that professionals are also keen in improving marketing skills and networking and consortia management techniques.The need of networking and consortia may have emerged due to financial constraints. Due to budgetary constraints, the single library cannot suffice the diverse information needs of users. This may be the reason why this topic has been preferred by the respondents.The CEPs with short durations are preferred by professionals. Fee structure ranges from Rs. 1000 to Rs. 3000 for various options of duration of CEPs. Professionals preferred English over regional languages. The impact of ICT has been observed on preferences given on LIS topics, type of instruction and mode of CEPs. They preferred Multimedia based CEPs or web based CEPs in the form of teleconference or webinar and hands-on-training in the form of Face-to-face interaction.

The professionals strongly opined that universities in Mumbai should take initiatives to provide more CE opportunities. Professionals expected library associations to take active participation in providing CE opportunities for professionals.

Conclusion

LIS professionals update their knowledge and fill the gap in learning through attending CEPs. In order

to serve the users in digital age, they need to provide responsive and innovative services matching with requirements of users. For the purpose, they need to implement learning onthe job. Based on the working conditions of the institutes in which they are employed, LIS professionals may have specific CEP needs. However, they do not get chance of attending CEPsdesignedas per their needs. If LIS professionals would get chance to attend CEPs as per their needs, better results from CEP attendance could be achieved. If CEPs meet the needs of participants, they are going to be moreeffective. Thus, in order to get desired results from CEP attendance, prospective need of CEPs should be taken into consideration while planning such courses.

As LIS professionals are keen in updating the knowledge, more CE opportunities should be made available to LIS professionals in Mumbai. Universities in Mumbai should take up a leading role in organizing CEPs for library professionals. Library associations should continue to conduct the CEPs on ICTs and also start certificate courses.

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Revised Rates for 2016 (Institutional)

Title	Frequency	Rate (Rs): India	Rate ($):ROW
Dermatology International	2	5000	500
Gastroenterology International	2	5500	550
Indian Journal of Agriculture Business	2	5000	500
Indian Journal of Anatomy	3	8000	800
Indian Journal of Ancient Medicine and Yoga	4	7500	750
Indian Journal of Anesthesia and Analgesia	3	7000	700
Indian Journal of Anthropology	2	12000	1200
Indian Journal of Biology	2	4000	400
Indian Journal of Cancer Education and Research	2	8500	850
Indian Journal of Communicable Diseases	2	8000	800
Indian Journal of Dental Education	4	4500	450
Indian Journal of Forensic Medicine and Pathology	4	15500	1550
Indian Journal of Forensic Odontology	2	4500	450
Indian Journal of Genetics and Molecular Research	2	6500	650
Indian Journal of Law and Human Behavior	2	5500	550
Indian Journal of Library and Information Science	3	9000	900
Indian Journal of Maternal-Fetal & Neonatal Medicine	2	9000	900
Indian Journal of Medical & Health Sciences	2	6500	650
Indian Journal of Obstetrics and Gynecology	3	9000	900
Indian Journal of Pathology: Research and Practice	3	11500	1150
Indian Journal of Plant and Soil	2	5500	550
Indian Journal of Preventive Medicine	2	6500	650
International Journal of Food, Nutrition & Dietetics	3	5000	500
International Journal of History	2	6500	650
International Journal of Neurology and Neurosurgery	2	10000	1000
International Journal of Political Science	2	5500	550
International Journal of Practical Nursing	3	5000	500
International Physiology	2	7000	700
Journal of Animal Feed Science and Technology	2	4100	410
Journal of Cardiovascular Medicine and Surgery	2	9100	910
Journal of Forensic Chemistry and Toxicology	2	9000	900
Journal of Microbiology and Related Research	2	8000	800
Journal of Orthopaedic Education	2	5000	500
Journal of Pharmaceutical and Medicinal Chemistry	2	16000	1600
Journal of Practical Biochemistry and Biophysics	2	5500	550
Journal of Social Welfare and Management	3	7500	750
New Indian Journal of Surgery	3	7100	710
Ophthalmology and Allied Sciences	2	5500	550
Otolaryngology International	2	5000	500
Pediatric Education and Research	3	7000	700
Physiotherapy and Occupational Therapy Journal	4	8500	850
Urology, Nephrology and Andrology International	2	7000	700
SUPER SPECIALITY JOURNALS			
Indian Journal of Emergency Medicine	2	12000	1200
Indian Journal of Surgical Nursing	3	5000	500
Indian Journal of Trauma & Emergency Pediatrics	3	9000	900
International Journal of Pediatric Nursing	3	5000	500
Journal of Community and Public Health Nurisng	2	5000	500
Journal of Geriatric Nursing	2	5000	500
Journal of Medical Images and Case Reports	2	5000	500
Journal of Nurse Midwifery and Maternal Health	3	5000	500
Journal of Organ Transplantation	2	25900	2590
Journal of Psychiatric Nursing	3	5000	500
Psychiatry and Mental Health	2	7500	750

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Foraying into Open Access Journals: The Current Trend in Scholarly Publishing

S. Sudarshan Rao

Abstract

Defines scholarly publishing and Open Access (OA) resources. It explains the importance and methods of scholarly publishing. Discusses the traditional methods of scholarly publishing and their limitations in advancement and spreading of knowledge. Presents the current trend in publishing in open access by the scholarly community. Argues that the publishers and database vendors interests are detrimental to the universally acclaimed ideal of 'Information for All' or 'Universal Access to Information / knowledge'. States that Internet and WWW have thrown up new avenues and new genres of scholarly publishing. The primary objective of the paper is to bring awareness among scholarly community and library & information professionals on the proliferation and availability of open access resources and to sensitize and promote the use of OA resources and publishing in OA by the scholarly community. The study follows descriptive and analytical methods. Discusses the dangerous trend of emergence of predatory O A journals which the scientific community and scholars have to be wary. Presents the current trends in publishing of O A Journals, their access and reachability to wider sections of information seekers, researchers, faculty and scientific community leading to the advancement of knowledge and innovation and also fulfilling the democratic norm of Information For All. Concludes that publishing in open access is fast picking and India stands one among the top five OA publishing countries. Open access journals and social media are the major sources of scholarly publishing and also viable and alternate method of scholarly publishing, in the present times.

Keywords: Open Access Publishing; Scholarly Publishing Trends; Open Access Journals; Open Access Movement; Open Access Publishing Trends; Open Access Resources and Universal Access to Information.

Introduction

All research results whether scientific, technological, social sciences or humanities, culminate in their reporting or publishing for subsequent use by the society. Research is largely funded or sponsored by the government, i.e., funded by the public money. Hence, it is justified that the research results and innovations should naturally reach the public/society for further research, innovations, and advancement and ultimately for the societal development. The research output is the intellect, scholarship, the sweat and toil of the scientific community or the researchers. The print journals, conference papers and monographs are still considered as the strong means or models of scholarly communication even in the present digital era. The research results or the scholarly content is of course, published in journals or databases by the commercial publishers or database vendors who intern sell them to the society at a premium price, as profit making is their prime motto. Whereas, the developing countries like India are unable to afford to subscribe the journals whose prices are increasing year after year by about 20.0% especially in the case of foreign journals, and the library budgets are not increasing at the same proportion, rather shrinking in some instances. Further, unlike the past, there is a rapid increase in the number of journals in the 20th and 21st centuries. This resulted in for the developing countries and their institutions like the libraries, scientific and research centers and individuals constrain to acquire or access the proprietary journals whose prices are shooting up regularly. Since last decade of the twentieth century, a serious thought and initiations were made

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to make available the public funded research output to the public without any financial or legal restrictions, i.e., publishing in open access. A similar recommendation was made by the Governments in various countries, like USA, UK and National Knowledge Commission, India (NKN, 2005). This resulted in the Open Access Movement in world over countries since 1990s, and India at present stands as one among the top five largest open access journals publishing countries.

Methodology

The primary objective of the paper is to bring awareness among the scholarly community and the library & information professionals on the proliferation and availability of open access resources which are free for access to all those interested. Further, OA Journals have been well recognized as the better and viable means of scholarly communication and also for their wider visibility of research findings. It is also aimed at motivating the scholars and the research community to publish their research output in Open Access domain not only for their greater visibility but also to receive more number of citations to their works. The study follows descriptive and analytical methods of presentation of data / information on OA publishing as the current trend in scholarly publishing. Further, it reviews the existing literature on O A with analytical and critical interpretations.

Scholarly Communication

Communication in humanizing sense is a source and extension of imagination which can be learned and shared. It includes the production, perception and understanding of messages as to what is right, what is important and what is related to something else. Hands, brains, eyes, ears and mouths are the chief organic means of communication and intelligence. Speech and language, caves and home arts, skills and implements, writings and printing presses, telegraph, telephone(Mobiles), photography, phonorecords (sound recordings), T V, Broadcasts, films, etc., are all the means of communication, that were evolved over a point of time since the beginnings of human civilization.(Encyclopedia Americana, 2000).

The dictionary meaning of the term 'scholarly' means 'Academic' or 'having lot of knowledge', and scholarly communication means systematic, honest, understandable, reachable and shareable knowledge communication to the intended people with the same spirit and emphasis as desired by the authors or creators of such information.

ACRL (Association of College and Research Libraries) defines Scholarly communication as 'the system through which research and other scholarly writings are created, evaluated for quality, disseminated to the scholarly community, and preserved for future use. It includes both formal means of communication, such as publication in peer-reviewed journals, and informal channels, such as electronic listservs'. The full cycle of Scholarly communication includes discovery and creation of knowledge, its dissemination, preservation, and re-use.

Developments in Scholarly Communication

Till the late 17th century, Communication between scholars depended heavily upon personal contacts and by attending meetings of the learned societies. As the membership of the learned societies and associations grew and since many of them could not attend the meetings, the need for publishing conference / meeting proceedings (usually the record of the meetings held) became important and eventually evolved into scholarly journals. (Tenopir & King, 2000). The *Transactions of Royal Society of London*, and the *Journal Des Scavans*, both published in the same year 1665 were identified as the first scholarly journals, i.e., the tools or means of scholarly communication. Ever since, there is a growth of scholarly communications not only just through the journals but also in other forms such as, reports, theses, dissertations, books, standards, patents, etc. Of course, all these forms of scholarly communications are intended for communication of innovations, new findings, and research results to the society for its development and to accelerate further research and innovations. (Sudarshan Rao, 2014).

There are some revolutionary developments and inventions that have been tremendously impacting the scholarly communication and also the entire society. They are: the Gutenberg's Movable Printing Press, the computers, Internet and www. Further, e-Resources and e-publications which came into the world of communication, at the end of the 20th century have brought in significant transformation as they are characterized for instant, easy and convenient access to the information or knowledge to the entire people on the globe. While emphasizing the importance of electronic resources to the present day society, Harnard (1991) states that electronic communication is the fourth revolution in production

of knowledge after spoken language, written language, and the printing press.

An another subsequent and remarkable development in the communication or scholarly communication is the evolution of Open Access Publishing which is playing a pivotal role in taking the information to the people across the globe without any legal, financial restrictions and geographical boundaries. It is a great step towards democratization of information and knowledge, and an attempt to realize the noble ideals of 'Information for All' or 'free flow of information across the globe without any barriers'.

Every research endeavor culminates with the reporting of its results or findings in the form of publications, mostly as journal articles or reports. This is what we generally mean scholarly communication. If the research findings are not published, they would not reach the expected audience or the scholarly community. Hence, the scientific way of publishing or methodical means of publishing the scholarly information is of great importance to the society in diffusion of knowledge and to gain from it.

Methods / Channels of Scholarly Communication

Journals, conference papers, books (monographs) were the traditional methods of scholarly communication among the scholarly community, since 17th century, and even today, they stand as the strong and popular methods of communication. But now, the advent and use of ICTs, WWW and Internet and proliferation of Digital Resources have thrown open a plenty of communication methods / channels that have been serving the scholarly community instantly / quickly, cheaply and in some instances in an interactive and shareable way. The final report of ARL (Association of Research Libraries, USA) conducted by Ithaka reported by Maron and Kirby (2008) identifies eight principal types of digital scholarly resources / communications. They are:

E-only journals

Reviews

Preprints and working papers

Encyclopedias, dictionaries, and annotated content

Data (data output of scientific research, e.g., Protein Data bank, e-Bird)

Blogs

Discussion forums (message boards, listservs, etc.)

Professional and scholarly hubs (combining content from many genres on digital portals, websites, which provide links or access to reviews, e-journals, conference papers, newsletters, blogs, grey literature, events, etc.)

History of Open Access Movement

The exploitation by the commercial publishers and non-affordability of institutions and libraries to subscribe the high cost journals and the demand for the information led to the movement of Free or Open Access (OA) to research findings or innovations. Open Access means extending free and unrestricted access to online articles published in scholarly journals, through the Internet. There are two distinct ways of open accessibility to scientific research literature. They are: 1. Gold OA (Publishing in online Open Access Journals), and 2. Green OA (Self Archiving in Institutional Repositories, Institutional Portals, Blogs or Social Networks). The other kind of OA could be Hybrid OA which can be partly OA and partly subscription based or keeping the scientific research output into OA domain after an embargo period of one or two years.

Open Access began in its rudimentary form since 1990s with the efforts of individuals and institutions but attained the right status by 2002. The initiations that contributed to O A Movement, according to Peter Suber, an authority on OA, can be traced back to 1990. They are:

- *Electronic Journal of Communication* which was launched in September 21, 1990 **as a**n early free online peer-reviewed journal.
- *Postmodern Culture* which was launched by Eyal Amiran, Greg Dawes, Elaine Orr, and John Unsworth as an early free online peer-reviewed journal in September 30, 1990.
- In October 1990, Tim Berners-Lee wrote first web client and server model (released March 1991). On November 12, 1990, Berners-Lee published *World Wide Web: Proposal for a Hypertext Projec*t, and on November 13, 1990, and he wrote the first web page.
- In November 1990, *Bryn Mawr Classical Review* was launched. (An early free online peer-reviewed journal which is considered to be the second oldest online scholarly journal in the humanities).

Besides the above, the other important landmark contributions of OA Movement are:

1. Public Library of Science (PLoS) (founded in

2000),

2. Creative Commons (founded in 2001)
3. Budapest Open Access Initiative (Feb. 14, 2002),
4. Bethesda Statement on Open Access Publishing (Apr. 11, 2003),
5. Berlin Declaration on Open Access (Oct. 22, 2003),
6. Lyon Declaration on Access to Informational and Development (Aug. 2014),
7. The Registry of Open Access Repository Mandates and Policies (ROARMAP) (2013)
8. Scholarly Publishing of Academic Resources Coalition(SPARC) – An International Alliance of Academic and Research libraries working to create a more open system of Scholarly Communication.
9. ARL / ACRL (The Association of Research Libraries and the Association of College and Research Libraries) jointly sponsored the Institute on Scholarly Communication (ISC) to promote the development of library-led outreach on scholarly communication issues. The institute has hundreds of alumni forming a community.

Lyon Declaration on Access to Information and Development (2014)

The United Nations is negotiating a new development agenda to succeed the Millennium Development Goals. The agenda will guide all countries on approaches to improving people's lives, and outline a new set of goals to be reached during the period 2016-2030. It declares that "We, the undersigned, believe that increasing access to information and knowledge across society, assisted by the availability of information and communication technologies (ICTs), supports sustainable development and improves people's lives. We therefore call upon the Member States of the United Nations to make an international commitment to use the post-2015 development agenda to ensure that everyone has access to, and is able to understand, use and share the information that is necessary to promote sustainable development and democratic societies".

The Registry of Open Access Repository Mandates and Policies (ROARMAP) (2013)

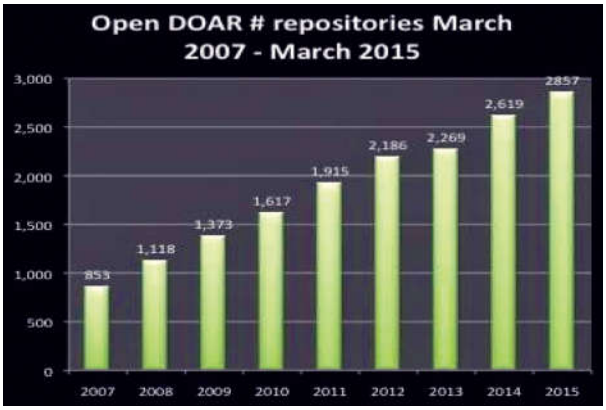
It is an international registry charting the growth of open access mandates and policies adopted by universities, research institutions and research funders that request their researchers to provide open access to their peer-reviewed research article output by depositing it in an open access repository.

Trends in OA Publishing

Since 1990s lot many efforts were made on OA Publishing. The contributions of Public Library of Science (PLoS), Creative Commons , Budapest Open Access Initiative , Bethesda Statement on Open Access Publishing and Berlin Declaration on Open Access, etc are note worthy. In view of its advantages, the OA Publishing is picking up fast in many countries. However, some studies on trends in OA publishing is given below.

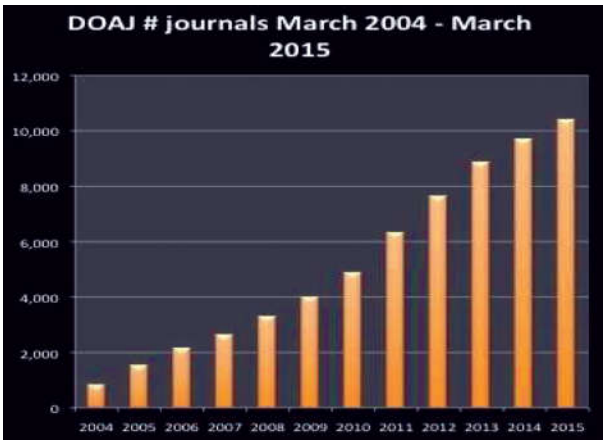
Laakso, et al (2011) from their survey indicate rapid growth of OA during the period 1993–2009. In 2009 the share of articles in OA journals, of all peer reviewed journal articles, reached 7.7%. Overall, results indicate a rapid growth in OA journal publishing over the last fifteen years. Based on the sampling results and qualitative data, a division into three distinct periods of OA publishing is suggested: 1. The Pioneering years (1993–1999), 2. The Innovation years (2000-2004), and 3.The Consolidation years (2005–2009). They also found that direct Gold OA journal publishing has seen rapid growth particularly between 2000 and 2009. In 2000 they observed that there were around 19, 500 articles published OA, while the number for 2009 it was 1,91,850 articles, a multifold increase. These findings support the notion that OA journals have both increased in numbers as well as increased their average annual output over time.

According to Morrison (2015) there is a rapid growth of Open Access Repositories as per the DOAR (Directory of Open Access Repositories) statistics. The growth is more than 300% since 2007 to 2015. There were 853 OA repositories in the year 2007 and it rose to 2857 by the year 2015 which indicates a phenomenal growth of OA repositories.



Source: http://poeticeconomics.blogspot.in/2015/04/dramatic-growth-of-open-access-2015.html (Heather Morrison)

Open DOAR added 129 repositories in 2015 for a total of 2,857. The Bielefeld Academic Search Engine added close to 3 million documents for a total of over 71 million documents. Another 7,690 authors joined the Social Sciences Research Network for a total of over 275,000 authors. *Internet Archive* added 1.7 million texts for 7.8 million. Directory of Open Access Journals (DOAJ) presently includes more than



Source: http://poeticeconomics.blogspot.in/2015/04/dramatic-growth-of-open-access-2015.html (Heather Morrison)

10,000 OA Journals by the year 2015. The growth of OA journals as per DOAJ is furnished in the above graph.

The *Directory of Open Access Journals*, in spite of vigorous weeding and re-organizing over the past year or so, is back to showing consistent strong growth, adding 254 titles in 2015 first quarter for slightly under 3 titles per day. Over the past year, the growth in articles that can be retrieved through a DOAJ article-level search grew by over a quarter of a million articles for a total of over 1.8 million articles!.

As on date, the DOAJ contains

- **8,816** Journals (After remove of approximately 3300 journals for failure to submit a valid reapplication)
- **6,111** searchable at Article level
- **129** Participating Countries
- **1,976,595** Articles

India ranks one among the top four countries that have been publishing OA Journals after, US, Brazil, Canada. It is also observed that largest number of users of DOAJ are from India (30.4%), followed by US (13.7%) and 3.9% from UK.

India's Contribution to DOAJ is given in the following Table. It reveals country wise distribution of journals. A total number of 121 countries have contributed to 8518 journals in the DOAJ. It is found that United States (14.9%) leads the table with a record number of 1269 OA journals followed by Brazil

Table: Countries and their rank in contributing to OA Journals

Country	No. of O A Journal s	World Output	Percentage	Rank
United States	1269	8518	14.9%	1
Brazil	801		9.40	2
United Kingdom	575		6.75	3
India	463		5.43	4
Spain	442		5.18	5
Egypt	350		4.10	6
Germany	260		3.05	7

Source: Mondal, D. (2014). India's contribution to DOAJ with special reference to Computer Science Discipline: A study.

(9.40%) and United Kingdom (6.75%). India ranks number 4 in the DOAJ with 463 (5.43%) journals. The top seven OA Journals contributing countries are given in the table below'

India, since 2003 has been continuously contributing to DOAJ. Indian Journals added into DOAJ in the year 2010 was maximum by 127, followed by 2012 with 95 journals and 2011 with 93 journals. The number of articles published per year has consistently witnessed a positive growth trend. Highwire Press added 9 completely free sites this quarter. The number of journals with immediate free access in PubMedCentral increased by 43 to a total of 1,443.

In the last year, i.e., 2015 20 more publishers joined the *Directory of Open Access Books* (DOAB). As of now, DOAB includes 4661 Academic peer-reviewed books from 154 publishers

Advantages of O A Publishing

OA publishing is likely to bridge the knowledge divide or knowledge gap between the rich and poor nations. The free flow of information across the national boundaries is very much possible through OA publishing. It also supports the IFAP (Information for All Programme) of UNESCO and IFLA and also in taking the Open Access resources / information to the people across the globe without any legal, financial and geographical boundaries. It is a great

step towards democratization of information and knowledge and an attempt to realize the noble ideals of 'Information for All' or 'free flow of information across the globe'. It also achieves the United Nations Millennium Goals and new development agenda and to succeed it. The agenda will guide all countries on approaches to improving people's lives, and outline a new set of goals to be reached during the period 2016-2030 by increasing access to information and knowledge across society, assisted by the availability of information and communication technologies (ICTs), supports sustainable development and improves people's lives. Increased visibility, use and receiving more citations to the OA resources is a well established advantage over the proprietary resources. UK, USA, India and many other countries in the world have been promoting and recommending OA publishing for all the research output generated out of the public funded research.

The surfacing of predatory OA Journals which have come up in unethical manner are becoming detrimental to the OA publishing. Some surveys and studies on predatory OA journals, have revealed that India stands on the top rank with almost 345 Indian OA Journals are under this category. It is indeed an unfortunate situation and needs to be checked. All the scholars and scientific community and faculty members have to be wary of this undesirable trend of so called scholarly publishing in predatory journals.

Conclusion

A phenomenal change is observed in the landscape of scholarly publishing in the 21st century. The ICTs, Internet and WWW are the enablers and promoters of the new genres of scholarly communication. The New genres / methods of scholarly communication have been evolved besides the traditional methods such as, print journals, Conference Reports, Books and monographs which still stand as strong methods of Scholarly Communication. Among the new genres are the e-only Journals especially the Open Access Journals, Open Access Books, Social Media, Blogs, Portals, discussion forums, professional and scholarly hubs which are largely characterized for their being accessed and shared by the end users without the intermediation of the publishers and database vendors. Besides, OA Journals, the Digital Libraries, Institutional Repositories and self archived scholarly content on Social Media and Social Networks such as, Portals, Blogs, LinkedIn, Academic.edu, ResearchGate, etc have been playing important role in scholarly Communication. The O A publishing and Internet has the potential of democratization of knowledge across the globe and to bridge the digital divide or knowledge divide between the developed and developing counties. Every scholar and researcher can now design his / her own website, where he can preserve, share and disseminate the research results and innovations to a wider audience in a short span of time. The stage has come where the authors can become the publishers and communicate their research findings without the intermediation and exploitation of the commercial publishers and database vendors using web 2.0 technologies. Further, authors can also maintain their works in the Institutional Repositories. Out of various forms or methods of scholarly communications, the OA journals are the preferred channels followed by various others such as, blogs, social media, institutional repositories. It is expected that in the coming years, more and more research output shall be published in the form of OA publications, either as OA gold or OA green, making the knowledge accessible freely to all without any restrictions. According to *The status of OA today* by Pinfield "there is a better understanding of OA and it is growing (but still needs to be further developed). A number of different studies have been conducted over the last five years which give us a much clearer idea of the levels of OA, and the available evidence does suggest that open access is now entering the mainstream of scholarly communication. A recent report suggests that 34% of the literature globally is OA within 24 months of publication (43% for the UK). It is important that the librarians can play a role in encouraging the faculty and researchers to publish in the OA, in view of the advantages to both the authors and the society at large, and also to sensitize the scholarly community to wary of the predatory OA journals.

Acknowledgement

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2	Gastroenterology International	2	5500	5000	550	500
3	Indian Journal of Agriculture Business	2	5000	4500	500	450
4	Indian Journal of Anatomy	3	8000	7500	800	750
5	Indian Journal of Ancient Medicine and Yoga	4	7500	7000	750	700
6	Indian Journal of Anesthesia and Analgesia	3	7000	6500	700	650
7	Indian Journal of Biology	2	5000	3500	400	350
8	Indian Journal of Cancer Education and Research	2	8500	8000	850	800
9	Indian Journal of Communicable Diseases	2	8000	7500	800	750
10	Indian Journal of Dental Education	4	5000	4000	450	400
11	Indian Journal of Forensic Medicine and Pathology	4	15500	15000	1550	1500
12	Indian Journal of Forensic Odontology	2	5000	4000	450	400
13	Indian Journal of Genetics and Molecular Research	2	6500	6000	650	600
14	Indian Journal of Law and Human Behavior	2	5500	5000	550	500
15	Indian Journal of Library and Information Science	3	9000	8500	900	850
16	Indian Journal of Maternal-Fetal & Neonatal Medicine	2	9000	8500	900	850
17	Indian Journal of Medical & Health Sciences	2	6500	6000	650	600
18	Indian Journal of Obstetrics and Gynecology	3	9000	6500	700	650
19	Indian Journal of Pathology: Research and Practice	3	11500	11000	1150	1100
20	Indian Journal of Plant and Soil	2	5500	5000	550	500
21	Indian Journal of Preventive Medicine	2	6500	6000	650	600
22	Indian Journal of Research in Anthropology	2	12000	11500	1200	1150
23	International Journal of Food, Nutrition & Dietetics	3	5000	4500	500	450
24	International Journal of History	2	6500	6000	650	600
25	International Journal of Neurology and Neurosurgery	2	10000	9500	1000	950
26	International Journal of Political Science	2	5500	5000	550	500
27	International Journal of Practical Nursing	3	5000	4500	500	450
28	International Physiology	2	7000	6500	700	650
29	Journal of Animal Feed Science and Technology	2	4100	3600	410	360
30	Journal of Cardiovascular Medicine and Surgery	2	10000	8600	910	860
31	Journal of Forensic Chemistry and Toxicology	2	9000	8500	900	850
32	Journal of Microbiology and Related Research	2	8000	7500	800	750
33	Journal of Orthopaedic Education	2	5000	4500	500	450
34	Journal of Pharmaceutical and Medicinal Chemistry	2	16000	15500	1600	1550
36	Journal of Social Welfare and Management	3	7500	7000	750	700
37	Meat Science International	2	5000	4500	500	450
38	New Indian Journal of Surgery	3	7500	6600	710	660
39	Ophthalmology and Allied Sciences	2	5500	5000	550	500
40	Otolaryngology International	2	5000	4500	500	450
41	Pediatric Education and Research	3	7000	6500	700	650
42	Physiotherapy and Occupational Therapy Journal	4	8500	8000	850	800
43	Urology, Nephrology and Andrology International	2	7000	6500	700	650
44	Indian Journal of Emergency Medicine	2	12000	11500	1200	1150
45	Indian Journal of Surgical Nursing	3	5000	4500	500	450
46	Indian Journal of Trauma & Emergency Pediatrics	3	9000	8500	900	850
47	International Journal of Pediatric Nursing	3	5000	4500	500	450
48	Journal of Community and Public Health Nurisng	2	5000	4500	500	450
49	Journal of Geriatric Nursing	2	5000	4500	500	450
50	Journal of Medical Images and Case Reports	2	5000	4500	500	450
51	Journal of Nurse Midwifery and Maternal Health	3	5000	4500	500	450
52	Journal of Organ Transplantation	2	25900	25000	2590	2500
53	Journal of Psychiatric Nursing	3	5000	4500	500	450
54	Psychiatry and Mental Health	2	7500	7000	750	700

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Adoption of Koha Open Source Integrated Library System in Indian Libraries: An Analytical Study

T.K. Gireesh Kumar*, Ramesha**

Abstract

Libraries are the great beneficiaries of utilizing open source software and many professionals from library science also have contributed to the development of the software code to make them bug free to manage all the essential house- keeping operations of a library. Open source software is known for its flexibility, reliability, freedom from vendor lock, freedom to access and modify the source code, zero licence fees and also an effective tool to cope with ever-shrinking library budget. Attempt has been made to measure the rationalities of the adoption of Koha Open Source Integrated Library System (OSILS) users and their level of satisfaction with the functional modules and features in Indian libraries. Study also identified the rate of promotional activities carried out by the Koha users to support and promote the use of Koha software in Indian libraries. The result of the study found that majority of the users is highly satisfied with the facilities, features and the community support available with the software. Though Koha software is getting recognized by the governmental and educational organizations the promotion and use of the software needs to be extended widely.

Keyword: OSILS; Open Source Integrated Library System; Open Source Software; OSS; Koha; Library Automation; India.

Introduction

Libraries need to be automated in the networked societies and the commercial systems are always costly. As an alternative to costly commercial automation systems, application of Open Source Integrated Library System (OSILS) is gaining popularity among the Indian library professionals for the last two decades. Availability of the software free of cost along with its source code and the successful implementation of the software in other libraries encourage even government funded libraries to adopt OSILS. Rather than a cost effective solution, OSILS also offered all the features or better features comparable to the closed source (proprietary) alternative. Among the available OSILS some have drastic number of installations within a short time period with frequent updates. Koha, NewGenLib, Evergreen, ABCD are the major OSILS used in Indian libraries. However, Koha software is found to be more popular and has got highest installation among the Indian libraries. However, usage of Open Source software in South Indian states is higher than other parts of India. Awareness and training programmes on Open Source software are high among LIS professionals in South Indian states (Jasimudeen and et.al 2014).

Koha is the first full featured Integrated Library System in the open source software category. Koha is a web based open source integrated library system distributed under GNU general public licence for automation of libraries at no charge along with its source code, which allows the users to adapt, modify and improve the software. The software was developed in New Zealand by Katipo Communications Ltd under contract with the Horowhenua Library Trust. Koha helps to automate all the housekeeping operations of the library and supports Linux platforms. The ability to handle Indian languages and its wider and active community support has increased the adoption of Koha software among the Indian libraries. Koha is simple, user friendly with attractive modules. Koha is more popular in academic libraries due to its advantages

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like powerful Circulation, Cataloguing, OPAC and other housekeeping features having advanced web2.0 features through which users can participate in knowledge and library resource sharing's, evaluate and suggest the resources. (Mishra, 2015)

Literature Review

Authors had a thorough consultation of online resources on the satisfaction level of users on Koha in Indian libraries. There were no comprehensive literature on the subject from India pertaining to measure the level of satisfaction with its features and advantages. There were few comparative analyses done on Koha software in Indian scenario with other OSILS. Singh and Sanaman in their evaluation study of Koha with NewGenLib software states that Koha has advanced database features and requires very little hardware and the software is easy to install than NewGenLib and also Koha supports more formats and standards than NewGenLib. (Singh and Sanaman, 2011). Bhavsar conducted a survey among the Indian libraries to find out the satisfaction level of Koha users and found satisfactory (Bhavsar, 2011). Another study by Hanumappa and et al in Indian libraries justify that in the OSS ILMS category, Koha stands out with an impressive presence in terms of numbers and satisfaction level of the users and also the software was rated as the most preferred ILMS. (Hanumappa and et. al, 2014). According to Haravu, Koha is better able to be quickly customized to be used in different languages as compared to NewGenLib and allows an item to be transferred to another library configured to be in the network. This is useful and required in public library networks (Haravu, 2008). The author also justified that Koha's presence with support services both in the west and increasingly in developing countries will be a serious challenge to NewGenLib's current position in India and other countries in Asia and the Middle East. Mishra in his personal experience on migration of their legacy software to Koha says web based features of Koha for staff and users helped them in getting uninterrupted services on their Desktop/Laptop without any technical issues and hardware/software requirements round the clock (Mishra, 2015).

It is found from the review of available literature selected by the authors that scholarly literature published on to measure the satisfaction level of Koha users in India is limited.

Objectives of the Study

The main objectives of the study are

- To identify the level of satisfaction of Koha users on its general and advanced features
- To evaluate the level of satisfaction of Koha users with its functional modules
- To identify the activities of Koha users to promote the use of the software in Indian libraries.

Methodology

A preliminary study through distribution of a structured online questionnaire prepared in google docs was conducted to collect data. The target group included in the survey were randomly selected library professionals from Indian libraries using Koha as their integrated library system. Duplicate responses from the same library were eliminated from the analysis based on the level of designation they were holding at the time of response. There were total of 90 responses received from various libraries throughout the country and the analysis was done for 80 responses after eliminating the duplicate and partially filled questionnaire. Among the 80 respondents, 75 (94%) were male and 5(6%) were female respondents.

Limitations of the Study

Present study was conducted only in Indian libraries and focused only on Koha software. The level of satisfaction of the Koha users were measured in terms of general and advanced features and also functional modules only. Multiple responses from the same library were discarded based on the level of position the respondents were holding at that time. The research study looks upon the OSILS from Koha users point of view and the questionnaire is designed to comprehend the awareness and observation OSILS of library professions of India.

Adoption rate of Koha software in Indian Libraries

The availability of source code to customize according to the needs of the library increased the usage of Koha software among the Indian library professionals. However many were thinking that OSS are insecure and don't want to share their data to the public. There were many other issues foreclosed the professionals to adopt open source ILS for their library automation such as lack of technical supports, low development activities, concerns about the existence of the software, difficulties in maintaining and upgrading the software, lack of training programs etc. Other reasons were,

- A shift from the existing commercial software to the new open source application requires adequate time and effort.
- Training is required to learn the changes.
- Integration with the other systems such as RFID devices, Biometrics, Barcoding etc. is another issue.
- Though there is no extra cost for upgrading the software, but sometimes it requires a commercial agency to perform the process.

An attempt has been made to identify the rate of adoption of Koha software among the respondent libraries. The percentage of adoption was 39% in the year range 2009-2011 whereas the installation was increased by 12% in the year of 2012 to 2014. The analysis shows that there was a drastic uplift in the adoption of Koha software among Indian libraries during the last decade (Figure 1).

Among the respondent libraries 36% were College Libraries, 36% were university libraries, 20% were special and research libraries, 4% were non-Profit libraries and the remaining were corporate (3%) and school libraries (1%). The percentage of adoption indicated by the respondents shows that Koha is more popular among the University and College libraries and also indicates that Koha is suitable for any kind of libraries.

Service Providers on Koha in India

Based on the information available on the Koha Community Site, the following are the service providers in India.

Table 1: Satisfaction level of koha users with its advanced features

S. N.	Service Provider	Address
1.	Informatics (India) ltd Contact: Amit Gupta/R Sunil Kumar	Work No 194, R V Road P B No 400 Basavanagudi, Bangalore - 560 004, India Work Phone: +91-80-40387777 Work Fax: +91-80-40387600 Work Email: info@informindia.co.in
2.	Eclat Engineering Pvt Ltd Contact: Mr. Harendrasinh Gohil	Other E-212 Titanium City Center Anandnagar Road Ahmedabad 380015 India Work Email: info@eclateng.com
3.	Jivesna Tech Pvt. Ltd Contact: Utsav Rai, Vikrant Malik	Home A/209, Sector-17, Vashundhara, Ghaziabad (U.P.) 201012, India Work Phone: +91-0120-4266526, +91-8860611657 Work Email: utsav@jivesna.com Work Email: info@jivesna.com
4.	Avior Technologies Private Limited Contact: Mr. Abhishek Kumar Shaw	Home Sukantanagar, Secor-IV Salt Lake Kolkata 700098 West Bengal, India Work Phone: +91 8583963471 Work Email: mail@aviortechnologies.com
5.	OpenLX Inc. Contact: Sudhir Gandotra	Home A-72, Shivalik New Delhi 110017 INDIA Work Phone: +91-93124-65666 Work Phone: +91-11-26684440 Home Phone: +91-11-26684441 Work Email: sudhir@openlx.com
6.	Ecole Solutions Pvt Ltd Contact: Mr Venkatesh L S	Home Ecole Solutions Pvt Ltd, Level 3 Brigade Business Suites, Jayanagar 2nd Block, Ashoka Pillar Bangalore 560011 INDIA Work Phone: +91-80-26571555 Cell Phone: +91 9686576695. Work Email: info@ecoleglobal.com
7.	First Ray Consulting Contact: Vikram Zadgaonkar	Work 6 Akshay Sankul Complex Hanuman Nagar Pune Work Phone: +919370228262 Work Email: vikram@firstray.in
8.	Nucsoft OSS Labs Contact: Savitra Sirohi	Work Phone: +91 97400 22664 Work Phone: +91 80 3201 4436 Website: http://www.osslabs.biz/koha
9.	OrisysIndia Consultancy Services	OrisysIndia Consultancy Services TBIC3, Thejaswini Building Technopark, Trivandrum Kerala 695 581, India Tel : +91 8086 800 203 http://orisys.in/

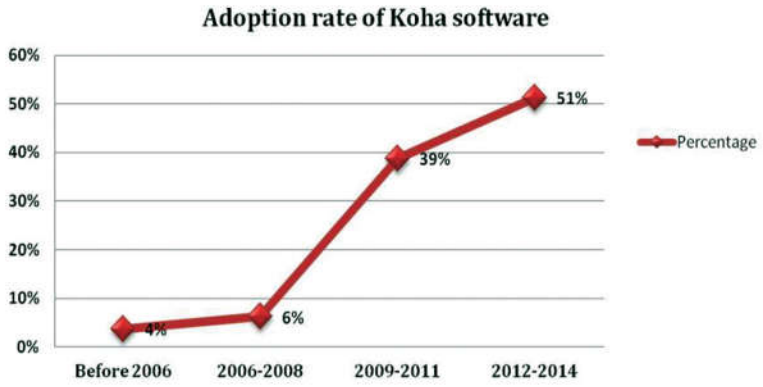

Fig. 1: Rate of Adoption of Koha Software in Indian Libraries

Reasons for Adopting Koha OSILS

An attempt has been made to measure the satisfaction level of the respondents on some of the selected general and advanced features, modules and other external factors involved in the adoption of Koha software.

Satisfaction with the General Features

The general features of the Koha software were categorized under certain selected criteria which were found to be the basics of selection of an open source integrated library system by the literature review. The criteria are as follows;

- Uncertainty in the ownership of proprietary software
- To become part of the consortium
- Concerns about the suppliers of proprietary ILS
- Availability of quality documentations
- Availability of source code
- Easy to install, maintain and modify
- Freedom from vendor Lock-in
- Freedom from maintenance and licensing fee
- Its wider adoption/support/online community
- Its ability to customize to fit the library's needs
- To cut short the costs

Respondents were asked to indicate the reasons why they have chosen Koha as their integrated library system based on the above said criteria and majority and an equal percentage (15%) of the respondents specified that the ability of Koha software to customize to fit the library's needs and to cut short the cost of purchasing proprietary software made them to adopt Koha for their library automation. Koha's wider adoption/support/online community (12%), freedom from maintenance and licensing fee (11%) and freedom from vendor Lock-in (10%) were the other major reasons to adopt. Availability of source code of the software and its simple installation and maintenance options (9%) also equally

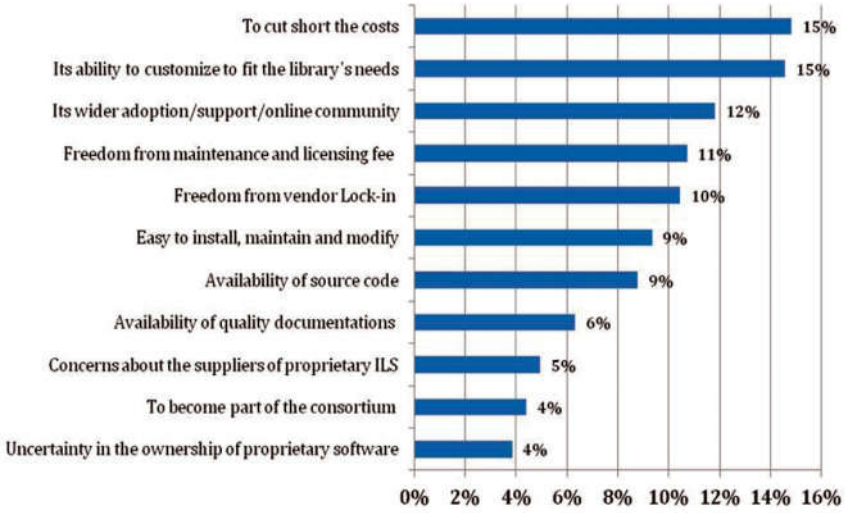

Fig. 2: Satisfaction level of Koha users with its general features

encouraged the respondents to opt for Koha as their library automation software. Availability of quality documentations (6%), Concerns about the suppliers of proprietary ILS (5%), to become part of the consortium (4%), uncertainty in the ownership of proprietary software (4%) are the other reasons observed in the responses (Figure 2).

Satisfaction with the Functional Modules

Koha offers modules to perform the basic functions such as acquisitions, circulation, cataloguing, serials management and the other functions such as OPAC, Patrons details, system administration, stock verification etc. The respondents were asked to rate their level of satisfaction with the major functional modules of the software they dealt in the degree of Excellent, Very good, good, fair, poor and never experienced.

It is ascertained from the responses of the Koha users that they were satisfied with the modules available with the software. Online Public Access Catalogue (OPAC) is the excellent module represented by majority of the respondents (54%) followed by Circulation (48%) and Cataloguing (46%) modules. 41% of the responses indicated that the Patrons details module is excellent in Koha. However 43% of the respondents indicated that the system administration module available in Koha is Very Good, compared to the same degree on Patrons Details module (39%) Cataloguing module (36%), Acquisition module (35%) and Circulation module (34%). There is a higher percentage of respondents agreed that they have never experienced the Stock Verification module (21%) and Serials Management module (18%) available in Koha software. However over all response of the Koha adopters agreed that they are highly satisfied with the modules available (Figure 3).

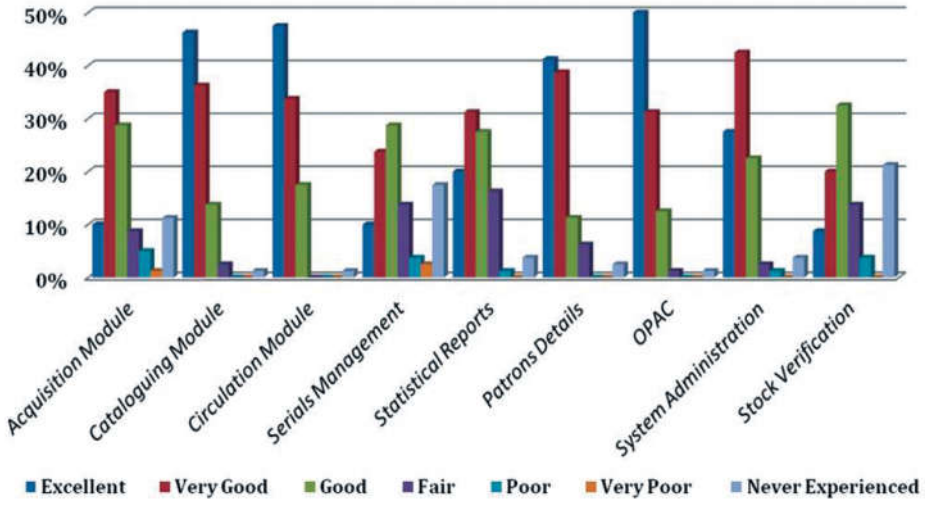

Fig. 3: Satisfaction level of Koha users with its functional modules

Satisfaction with the Advanced Features

Apart from the basic functions and features of the software, users were asked to rate their level of satisfaction with the selected advanced features such as installation of the software, maintenance of database and backups, features and functionalities of modules, customizations and integrations, housekeeping operations, report generations, technical and community supports, availability of documentation, responses of the users, upgrades and enhancements, design and coordination of statistical reports and managing print and electronic resources.

Respondents were asked to indicate their level of satisfaction with Koha software with a set of activities to determine the efficiency of the software. When prompted majority of the respondents (46%) marked as Very Good for the efficiency of the Koha software in having the features and functionalities of all the modules. Comparatively a higher percentage (39%) of respondents were agreed that the upgrades and enhancements features of Koha was 'very good' Respondents were equally (36%) marked as very good for the features such as installation, database maintenance and backups, user's response and the module for managing electronic resources options available in Koha software. However the overall response of the Koha users on all the advanced features of Koha software was highly satisfactory (Table 2).

Table 2: Satisfaction level of koha users with its advanced features

Actions	Excellent	Very Good	Good	Fair	Poor	Never Experienced
Installation	24%	36%	25%	8%	0%	8%
Database Maintenance and Backups	20%	36%	30%	6%	3%	5%
Features and Functionalities of Modules	16%	46%	24%	10%	1%	3%
Customizations and Integrations	10%	34%	43%	10%	1%	3%
House Keeping and Report Generation	16%	25%	43%	11%	3%	3%
Technical / Community Support	16%	30%	25%	20%	4%	5%
Documentation	24%	30%	29%	14%	1%	3%
User's Response	14%	36%	35%	11%	1%	3%
Upgrades and Enhancements	15%	39%	26%	14%	1%	5%
Design and Coordination of Statistical Reports	14%	25%	41%	14%	3%	4%
Managing Print Resources	16%	31%	35%	13%	3%	3%
Managing Electronic Resources	10%	36%	34%	16%	0%	4%

Activities to Promote the use of Koha Software

There is an increasing awareness and uptake of Koha software among the library fraternity in India. Users of Koha software were asked to indicate their effort made to promote the use software in libraries. Majority of the respondents (27%) were pointed that they had conducted workshops where as 25% of them had organised training programs on the software. Some respondents (14%) were organised conferences and seminars where as some were (13%) given lectures on Koha software as a promotional measure. Few among the respondents (8%) were created user groups and forums to promote the software; however 11% of the respondents were agreed that they had not made any contribution to promote the use of Koha software (Figure 4).

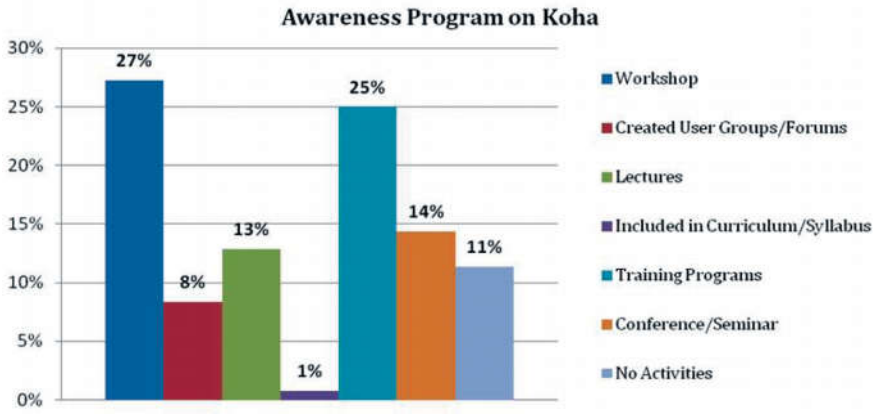

Fig. 4: Mode of promotional activities on koha

Involvement of Government Organizations

Government of Kerala has declared Koha software to be a recognized OSILS which is considered for the automation of all government libraries in Kerala. Institute of Human Resource Development has already adopted Koha for their libraries in educational institutions. Libraries like Delhi Public Library, Central University of Kerala, Assam University, Silchar, Central University of Gujarat, Gandhinagar, Baba Bhimrao Ambedkar University Lucknow, IISER Bhopal have implemented Koha for the wider access of their OPAC. The Kerala State Library Council (KSLC) is embarking on a programme of computerizing its affiliated public libraries. In 2008, Pondicherry University has adopted Koha in the course curriculum of Master of Library and Information Sciences (MLISc).

National Library Automation and Resource Sharing Network (N-LARN), which is funded and supported by the Ministry of Human Resources Development, Government of India under its National Mission for Education through ICT (NMEICT) train LIS professionals on Koha.

Other Reasons

Support from the commercial vendors and other private support agents with low-cost installation and maintenance, support from the ever growing user community to solve the software related problems. Availability of frequent seminars, conferences, workshops, training programs etc. in National and international levels encourage the adoption of Koha software. Some of the common reasons given below are also responsible to choose Koha.

a. Maintenance cost is very low
b. High capacity hardware is not required
c. It works with Linux OS which is available open source
d. Every six month, new version is released with some more new features
e. It is very easy to use even a non-professional can also handle the software with ease.
f. All modules required for housekeeping operation are available
g. It is compliant to International Standard such as MARC21, MARCXML, z39.50, SRU/W, OAI-PMH and many more.
h. It supports multi user and multi security level
i. It supports Server-Client technology which allows to access the interface from different system
j. It supports customizable search and federate search as well
k. Free from dependence on vendor lock-ins
l. Supported by a community of highly motivated individuals

Conclusion

Interest in adoption of Koha open source integrate library system in Indian libraries is growing exponentially. Many organizations in India are seriously considering the adoption of or migration to Open Source Integrated Library System (OSILS) for their Libraries with the result of getting inspired by the fellow libraries that have successfully using it. The very concept of Open Source software encourages library professionals. Chances of detecting and fixing the bugs is comparatively high in open source software than commercial as the source code is open to all and circulated among many professionals. In the same sense OSS are more secure and stable than commercial ones. Koha is found to be the largely used OSILS in Indian libraries as the community participation and collaboration is very crucial in the development of open source software, which makes them bug free. The level of satisfaction of the respondents with the features and modules of Koha software evidenced the increasing number of adoption in Indian libraries.

It is examined from the study that majority of the libraries in India selected Koha as their OSILS to reduce the cost of purchasing proprietary software and its high customization possibilities according to the individual library needs. Indian library professionals expressed positive attitude on adoption of Koha and is very popular and highly supported automation software by various libraries throughout India. Koha has a strong support of professionals through forums and community to know the development and get updated with the software.

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Original Article

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Open Access Resources in Social Sciences

Sarita Rani

Abstract

Present Paper defines open access (OA). Explores and identifies the various open access resources available in the field of Social Science. Explains benefits of open access. Attempts to present the important open access resources such as Social Science Research Networks, directories of open access journals, directories of open access books, open access theses and dissertations and open education consortium, social science open access repositories. Describes brief information regarding access of these resources.

Keywords: Open Access Resources; Social Sciences; Librarians; Scholarly Literature.

Introduction

Journals are important source for dissemination of research findings. In the recent scenario prices of journals are rising exorbitantly day by day. Budget of libraries is either not rising or not being revised proportionately so as to cope with this price hike of journals. It is becoming difficult for the libraries to afford the rising costs of journals in order to maintain the ideal library collection for their users. This situation has led to the phenomenon called "Serial Crisis" where libraries cannot meet information needs of users up to their expectations with existing their library budget (Winter & Sandy, 2012). That's why libraries either keep on switching their budget from books or cancel the subscription to journals. To cope with this situation open access is now looked upon as an alternative way (Jacob, 2006).

Definitions of Open Access

Open access refers to full text accessibility of scholarly literature on internet. Most influential definitions for open access are: The Budapest Open Access Initiative (February 2002), Bethesda Statement on Open Access Publishing (June 2003), and Berlin Declaration on Open Access to Knowledge (October 2003). These initiatives are collectively referred to as BBB definitions (Suber, 2015).

The Budapest open access (2002) initiative states that "By open access to literature, we mean free availability on the public Internet, Permitting any user to read, download, copy, distribute, print, search or link to full text of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal or technical barriers other than those are inseparable from gaining access to the Internet itself".

The Bethesda Statement (2003) and the Berlin Declaration on open access in the same year given the definition to open access as below:

"The author(s) and copyright holder(s) grant(s) to all users a free, irrevocable, worldwide, perpetual right of access to, and a license to copy, use, distribute, transmit and display the work publicly and to make and distribute derivative works, in any digital medium for any responsible purpose, subject to proper attribution of authorship as well as the right to make small numbers of printed copies for their personal use" (Mukherjee, 2010).

According to Suber (2015) "Open access (OA) literature is digital, online, free of charge, and free of most copyright and licensing restriction".

In the light of above definitions it is evident that open access is online availability of scholarly literature without price and most of permission barrier. Researchers can explore, download, copy and use that literature for their study & research by properly acknowledging the sources.

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Why Librarians Should Care about Open Access

Crawford (2011) stated that the librarians should care about open access for below mentioned reasons.

- Libraries certainly cannot provide all the journals other reading material required by their users. Latest research output can be provided to the users by open access in their field of interest without acquiring print or e resources in libraries.
- open access can help the librarians to balance the reduced library budget caused by escalating journals price.

Benefits of Open Access

Advocate of scholarly communication SPARK has given the following benefits of open access.

- Researcher as a reader can access literature everywhere .
- Open access can maximize citations for an author's work.
- Authors can get immediate visibility to their research, hence its impact increases.
- Open access can enhance the visibility to university's and other institute's intellectual output.
- Libraries can increase access for their target audience.
- Teachers and students can get unrestricted access to academic literature.

Objectives

Main objectives of the study are:

- To investigate and identify open access resources available in the field of social science.
- To present the brief information regarding access of these resources.

Methodology

Present study tried to identify the open access resources in the field of social sciences. In order to identify the open access resources, search terms , open access resources in Social Sciences; open access books; open access journals; open courseware and open access theses and dissertations are used. Retrieved websites have been visited personally to see the full text availability of these resources.

Open Access Resources in Social Sciences

Social Science Research Network (SSRN)

Social Science Research Network (SSRN) is devoted to the rapid worldwide dissemination of social science research. The SSRN e- library consist of two parts: an abstract database containing abstracts on 6,68,600 scholarly working papers and forth coming papers and e-paper collection currently contains over 559600 full text documents. This net work is updated daily. (www.ssrn.com)

Social Science Open Access Repository (SSOAR)

Social Science Open Access Repository (SSOAR) is a steadily growing collection of full-text social-science documents which can be accessed free of charge. To search documents, either simple or advanced search facility can be used or users can click on browse and search function. It provides access to 36200 Social Science Documents. (http://www.ssoar.info)

Digital Commons Network

"The Digital Commons Network provides access to free, full-text scholarly articles from hundreds of universities and colleges worldwide. Curated by university librarians and their supporting institutions, the network includes a growing collection of peer-reviewed journal articles, book chapters, dissertations, working papers, conference proceedings, and other original scholarly work." It provides access to 3, 03,495 articles in the field of social sciences and behavioral sciences. (http://network.bepress.com/)

Directory of Open Access Journals (DOAJ)

DOAJ is an online directory that provides access to high quality, open access, peer-reviewed journals. It provides access to 11618 journals and 2,290,898 articles in all the major subject disciplines and languages. Purpose of this directory is make available access to open access scholarly journals. In the field of social sciences it provides access to 1106 journals and 2, 41,866 articles. Article can be searched by title of article, author of the article, title of the journal and keywords also. Users can access full text article. (http://doaj.org/)

Directory of Open Access Books (DOAB)

The primary aim of DOAB is to increase discoverability of Open Access books. It provides

access to 4621 academic peer reviewed books from 151 publishers in English and other language on all the subjects. Books can be browsed alphabetically, by title of the book, by subject and by publisher.1096 books on Social Sciences can be accessed through this directory. (www.doabooks.org)

Online Book Page

The Online Books Page is an index of e-textbooks available on the internet. This source lists over 2 million free books on web .Users can browse the book by author, title and subject. By author they can search by first letter of author's name or for a particular name of the author Similarly title can be searched. It also provides access to archives of serials (magazine, journal, newspaper). Some archives of serials published in 18th century are also available on this site. Numbers of books on social sciences---- are available here.(onlinebooks.library.upenn.edu).

Open Education Consortium

Open education consortium is network of educational institutions, individuals and organizations.

It provides access to freely available electronic publications of high quality college and university level educational material. These materials are organized as various courses These materials are organized as various courses. Mission of this network is to promote and support openness in education. Full text books in the field of social sciences are also available on this website. Anyone can search and access required educational material, scholarly literature at any time.(http://www.oeconsortium.org/)

Open Access Theses and Dissertations (OATD)

This website provides access to theses and dissertation published around the world. Metadata (information about the theses) comes from over 1100 colleges, universities, and research institutions. OATD currently indexes 3,178,293 theses and dissertations. Full text theses on all the social science disciplines can be accessed through this website. Approximately 3234 records were found when searched by the keywod Social Sciences. Theses can also be searched by various disciplines which come under the purview of social sciences. (https://oatd.org/).

OpenDOAR

openDOAR is a directory of academic open access repositories. Repository is an online archives of intellectual output of an institute's academic community accessible to end users within or outside the institute. Aim of repository is dissemination of institution's research output which consists of , thesis and dissertation, course notes, video lectures , conference proceedings, articles in books and journals etc. Users can search repositories by using various options such as subject area, country, language, content type and repository type. 189 repositories on social sciences are available in this directory (http://www.opendoar.org/index.html).

Conclusion

Study shows that the significant number of open access resources are available in the field of Social Sciences. These resources are very useful for students, teachers and research scholars. Anyone can access open access resources as and when required. These are great boon for authors, readers and learners. Libraries should create awareness regarding these resources among the academic community.

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14. https://doaj.org/
15. http://www.oeconsortium.org/
16. http://legacy.earlham.edu/~peters/fos/overview.htm
17. http://network.bepress.com/
18. **https://oatd.org/**
19. www.opendoar.org/search.php
20. **https://opensource.com**
21. onlinebooks.library.upenn.edu
22. www.sherpa.ac.uk/projects/opendoar.html
23. http://sparceurope.org/open-access/benefits-of-open-access/
24. www.ssrn.com
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Review Article

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Managing References and Research with Software and Tools: An Experience on 'Mendeley'

Anil Kumar*, Rishabh Kumar Jain, Shiva Kanaujia Sukula*****

Abstract

In today's modern world, the relevant information has become one of the most essential commodity and the adoption of a systematic approach to serve this need is mandatory in order to save time. . As a matter of fact, the provision of a suitable environment to access and use the information is must and the current information scenario is facing the information burst when it becomes difficult to obtain and organize the right kind of information. The advent of various tools such as originality check software and reference management tools has paved way for better, timely and community-wise information management. The present paper has tried to discuss about the application of reference management software for example, Mendeley reference management software. Mendeley is one such reference management tool that contains all the scholarly knowledge inbuilt in it. Mendeley is a free, ready to use and modern software for giving citations, references and others bibliographical details. Due to its simplicity in handling and multifunctional, it is popular among research scholars for managing their data in a systematic way and other activities also.

Keywords: Reference Management Tools; Mendeley; Bibliographies; Free Software**.**

Introduction

The research work solely depends on gathering of own thoughts and contributions' of others for which the references are sought to support the idea reflected by the researcher. Collecting references, managing and saving for future are few tasks which are well supported by reference management software, thus reference management tool, which is also known as citation management software used by research scholars and writers to be used for recording and utilizing in reference purposes. The citation is recorded and may be utilize over a period of time for the creating bibliographies. These are varied lists of references in scholarly articles and in their books. Creation and utilization of reference management software and tools are being driven by fast expansion of different scientific activities. Reference management tools are generally consist of various databases which contains full bibliographic records and references that may be inserted, and system for creating varied lists of research papers or articles in various styles to be used by the noted publishers and scholarly journals.

The latest reference management software must be combined with word processors so that an appropriate reference styles can be generated as a bibliographical record automatically by reducing the risk if cited resource is not included in the reference list. Such tools have an integrated facility for importing the bibliographic details of publications from their respective databases. Reference management software is different from the bibliographic databases, which locate the list of all articles published by the publishers in a specific subject or group of subjects such as Medline by Ovid Technologies, Web of Science by Thomson Reuters and mono-disciplinary reputed societies such as American Psychological Association (PsycINFO) etc. All the databases are large in its size and should be installed on major server installations. The Reference management package collects very small databases of the publications that can be used or are likely to be used by a particular research scholars or particular group in particular institutions. Such reference management software can easily be installed on an individual's laptop and desktop or personal computer.

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In addition to managing the references, most of the reference management software provide the researchers to browse literature and collect references from the online databases as well as from online libraries. In case of unavailability of related literature or references, the users are encouraged to search, download and organize the searched files in the library provided in Mendeley. The organization of 'bibliographic contents' by using reference management tools gives freedom to researchers to use later or share with colleagues. Following list displays few reference management software that are being used by many universities, institutions around the globe:

Table 1: Reference management tools

Software	Developer	First public release	Latest stable release date	Latest stable version	Free software
Aigaion	Aigaion developers	2005-01	2012-01-18	2.2	Yes
Bebop	ALaRI Institute	2007-11-08	2009-11-10	1.1	Yes
BibBase	Christian Fritz	2005	2013-07	v3	No
BibDesk	BibDesk developers	2002-04	2014-08-11	1.6.3	Yes
BibSonomy	University of Kassel	2006-01	2016-01-29	3.4.1	Yes
Bibus	Bibus developers	2004-06-03	2009–10	1.5.0	Yes
Docear	Otto-von-Guericke University Magdeburg and University of California, Berkeley	2009-05-11	2014-05-21	1.1	Yes
EndNote	Thomson Reuters	1988	2015-08-11	X7.4	No
JabRef	JabRef developers	2003-11-29	2016-01-16	3.2	Yes
KBibTeX	KBibTeX developers	2005-08	2014-05-19	0.5.1	Yes
Mendeley	Elsevier	2008-08	2015	1.15.2	Yes
Pybliographer	pybliographer developers	1998-10-30 (0.2)	2014-11-30		Yes
refbase	refbase developers	2003-06-03	2014-02-28	0.9.6	Yes
RefDB	refdb developers	2001-04-25	2007-11-05	0.9.9	Yes
Referencer	Referencer developers	?	2014-02-27	1.2.2	Yes
Wikindx	Mark Grimshaw	2004-02	2013-08	4.2.2	Yes
Zotero	Roy Rosenzweig Center for History and New Media atGMU	2006-10-05	2015-04-08	4.0.26.4 [9]	Yes

Source: https://en.wikipedia.org/wiki/Comparison_of_reference_management_software

Understanding Mendeley

The 'discovery' of Mendeley in year 2007 by Gregor Mendel, Biologist and Dmitri Mendeleyev created significant buzz in the world of research as research support tool. This discovery was followed by a similar service, launched by the University of Warwick, called Piirus On August 2011. The basic purpose of the Mendeley is to discover research material and collaborating it online, a desktop and web program for managing citation styles and sharing research paper among the registered users. It is a combination of a desktop application and a website that helps to share, discover and manage the contents and contacts in research work. Mendeley manages the literature e.g. saving the data in all formats at one place and performing searching the data.

It also requires the researchers to collect and save all basic citation data on its servers and store copies of related documents at its discretion. It is a mixture of Mendeley Desktop, a PDF and reference management package which is available on the platform for Windows, OS X and Linux including Mendeley Web, an online social network for researchers (Fitzpatrick, 2009). Mendeley is a free reference management tools for the arrangement of bibliography in different styles which organize the citations in different styles within a fraction of second. The current features include the compatibility with Android Mobile Phones and especially with Iphone, Ipad and tablets. The Mendeley is an online application which is free to install and can be used by anyone who have such devices. It provides researchers with free web storage space up to 2 GB, which can be enhanced or increased with some cost involved in it.

The Salient Features of the Mendeley are for Desktop Computers:

- To automate the extraction of bibliographic details such as title, authors, journal, publishers, year of publications etc. from the Mendeley library database. This feature saves the time of the researchers.
- To efficiently manage the research articles: It searches kinds of papers in various formats

supported by bibliographic details that are already stored in the Mendeley library

- To filter the library: Mendeley Desktop also allows filtering library by keywords, authors and journals, document collections, notes and tags etc. It can also be used to organize and export the document in different citation styles.
- Synchronization of data: Sharing and synchronization can be synchronizes data when the users are away doing some other work in different places and they have to sync among a number of devices.

Website Features

- An online backup of the library: backup data can be accessed from anywhere through web browsers.
- Detailed statistics interesting things: users can upload their own publications to their research profiles thus retrieving the readership.
- Besides there are other detailed statistics for each academic discipline and research topic
- Provision of a research network that facilitates in retrieving the scholars' publications, its conference participations and awards etc. It also helps in discovering new people with the same research interests.
- Facility of a recommendation engine that allows users to know the papers which might interest them in future which are not procured in library so far.

How to Use Mendeley

To use the Mendeley, reference management tools user visits the website www.mendeley.com. Then, user will have to create an account to be used for its features. After logging in create user account so that it could recognize user's details.

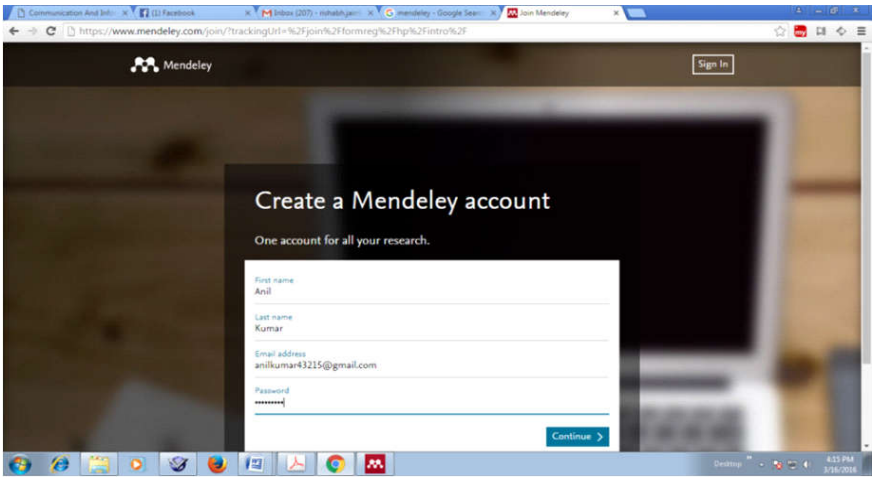

Fig. 1: Creating account on mendeley

After the creation of user's account in Mendeley download application for the desktop version/ iphone/ipad/ so that user can further use the application of this software.

Fig. 2: Login in mendeley on desktop

Remember once user is logging in to the Mendeley makes sure that user checks the sign box as "stayed signed in" for desktop log in screen so that next time user needs not to logging it again as is given below.

Now, Mendeley is ready for user to use it.

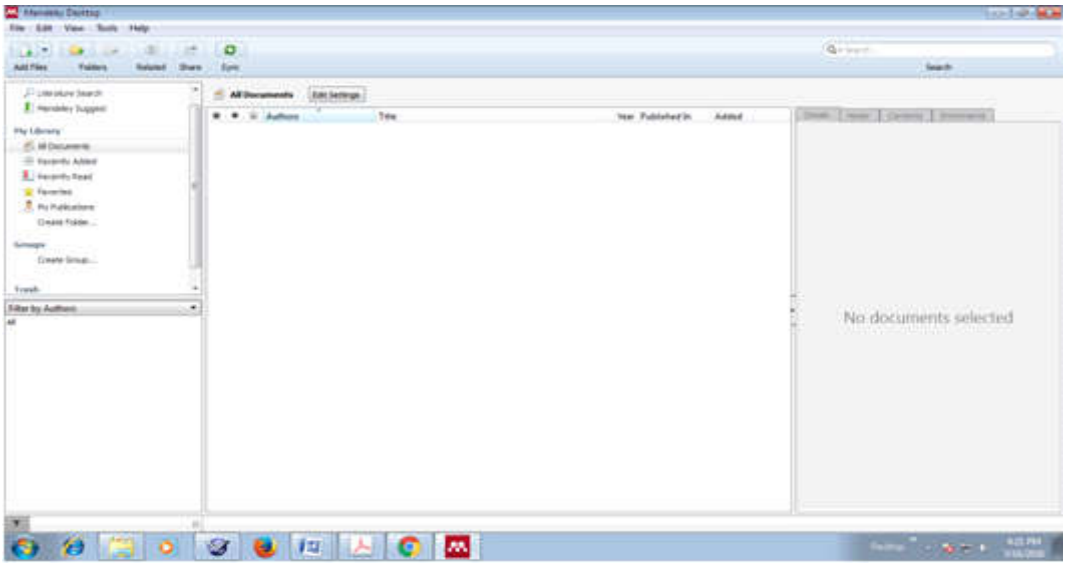

Fig. 3: Mendeley menu toolbar

Once user enters the above screen will appear in user's desktop computer. There are three parts to be used for the sake of bibliographic data, article, author, publication, tag, keywords etc.

These aspects are:

- Menu bar will appear and the following features are ready for use:
  - File, edit, view, tool and help for different task to be perfumed
  - Sub-menu as add files, folders, related, share and synchronization task
- Under the All document menu will be shown for user to look the details of user's articles, author, title papers and other details
- The third part is for bibliographic details of the article etc.

The users can add files, folders, sub-folders, import, and export and manually add the bibliographic details which are not available online. User can fill the details accruing to user's choice from the given open for the refinement of the search. One can also delete, merge, and rename any file to his/her choice. Similar activities can be done with the other menu as well. Users can share with their fellow researchers and synchronies it that can be seen in the website instantly after synchronization.

- Literature Search: It searches all the details of user search in the Mendeley library
- Mendeley also suggests user to give something which is not in the directory of the same
- In My Library Menu:
  - All documents – show all the documents uploaded in user's library
  - Recently added – the latest addition of user's papers, journal titles etc.
  - Recently read – show the details of documents users just read
  - Favorites – one can add his/her favorites items in this folder
  - Needs review – it tells user that user needs review for the papers, articles
  - My publications – it is up to one's to add his /her own publications into it
  - Unsorted – all the documents are added in this menu
  - Create folders – users can create folders, subfolders and other folders of user's choice
- Filters: There are different type of filters user can search the pdf details such as:

Author, title, year of publications, published in, and timing for the same.

- Bibliographic details are the third part:
  - Details regarding the bibliography
  - Notes can be added for instant information
  - Contents can be seen from this option

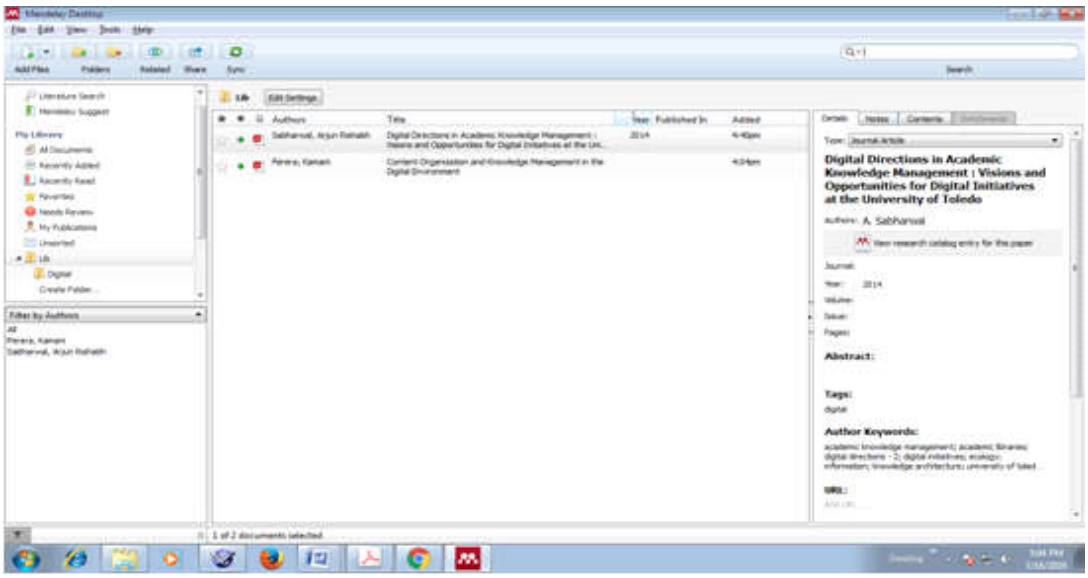

Fig. 4: Showing user's documents on Mendeley library

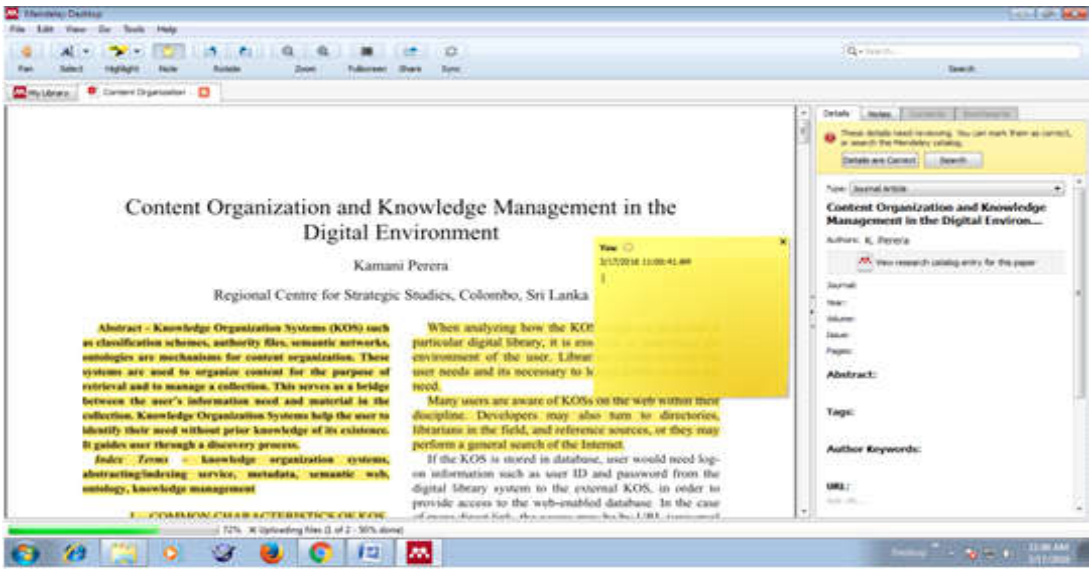

Fig. 5: Showing user's paper on Mendeley library

The above screen shots are the details of the information provided in this menu.

Limitations

- We cannot search sticky notes which are given along with pdf file.
- Users cannot search scanned documents
- MS Office files are not searchable
- Full details of bibliographic record is not available for the researchers, it can be added manually by the users.
- There are some other limitations which can be managed by the user manually.

Awareness and Experience at Central Library, Jnu

The Central Library at Jawaharlal Nehru University (JNU), New Delhi has been instrumental in creating awareness among library users about these reference management tools specially Mendeley. The need of the reference management tools and software has been realized at vast level among a sizeable community of research scholars. The library has endeavored to organize workshops, training programs for academic community and library staff too. Here, it is worth mentioning that training of library staff in using and helping library users for the reference management tools is significant in order to building library relations with research scholars in context with research related services. The library,

thus, is extending its role as research supporting organization in the academic environment. The library has involved faculty members, research scholars and other students in the reference management tools' training programs by organizing these sessions a number of times during last couple of years. Apart from Mendeley, the library has created awareness, use and application of software like EndNote, Zotero etc.

Conclusion

As we all are aware that the Mendeley is a free software and compatible with desktop PC, laptop, ipad etc. very useful for the research scholars as well as state of the art libraries. It is to be kept in mind the maneuverability and other features make this software modern wherein all the latest information and other research and developmental activities can be performed quickly. It can simultaneously be used indoor and outdoor at the same time by sitting anywhere and anytime. Searching inside the Mendeley library is so much fast that user can reach anywhere within no time. Mendeley is very efficient and easy for giving citations, references and easy to understand by its users. Users can modify the styles in different formats such as APA, MLA, Chicago, Turabian, IEEE etc. according to the institutions guidelines. Users are given options to make different type of addition like notes, tag and sticky notes which are very powerful tool for the scholars. Scholars can complete his/her research work efficiently without the help of others.

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Review Article

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Strategies of Human Resource Management in University Libraries

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Abstract

The present article describes strategies of human resource management in university libraries to explore the extent of Human Resource Management (HRM) usually practiced by them. University libraries are currently facing their greatest challenge. For more than a decade, university libraries have been under the pressure to change its way of HRM. Discusses conceptual framework of the human resource management, human resources management in libraries, problems facing university libraries these days, human resource management & organisational development, job analysis, work redesign, team-building, change management, changing roles in libraries

Keywords: Library Management; Human Resources Management; University Libraries.

Introduction

Human resource management is a major consideration in today's competitive knowledge based enterprises including library and information industries. No resource in the world, even in this age of microchips and globalization, is more important than human resource. Human resource is essentially the most important resource in the library. Human resources play a prominent role for the successful management of any library. If the library personnel are rightly motivated, adequately qualified, sincere in their work, serious to achieve the result-oriented targets and feel a sense of belonging to the organization, they can be regarded as the best resources of the library in comparison to all overcome the constraints and limitations of other physical resources. For these reasons the selection and appointment of library personnel should be in accordance with the jobs and responsibilities required in the library. The right person should be in the right situation for the right job requirement. The person must be trained properly for the situations as and when required.

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One of the first questions any one might be tempted to ask is why 'human resource management' rather than 'personnel management'? Is there a difference and, if so, what is it? There are a number of different perceptions of what the two terms mean, with human resource management often being perceived as related more to the strategic management of the oganisation's people to achieve business objectives, while personnel management is seen as placing greater emphasis on the management of personnel systems and procedures. HRM is often viewed as a mechanism for integrating human resource policies and practices into the organisation's business strategy; and also as a more up-to-date description, emphasizing as it does that people are a resource to be managed just as much as any of the organisation's other resources and that they are as asset rather than a cost.

With the rapid technological advances and new freedoms, the workplace presents a dynamic and challenging environment. It is just because of these advances that necessitate a workforce relying on its versatility and adaptability knowing that life–long full–time jobs are a thing of the past. Work is being contracted out, de-structured organizations are emerging and different skills and approaches are required from 'brain-workers' who must solve new and changing problems. All works must become self-motivated, multi-skilled and constantly learning.

For the information professional, the key to success in this potentially destabilizing context is to develop the new skills the workplace demands. Above all, the LIS professional must actively prioritize a

commitment to continuous professional development. The information industry is growing fast and the LIS Profession is experiencing very rapid change.

Conceptual Framework of the Human Resource Management

The modern view of HRM was first gained prominence in 1980 with its introduction on the prestigious MBA course at Harvard Business School (Price, 2004). The term human resources, in its simplest sense, refer to manpower or people resources, who are engaged in any organizational settings to meet institutional goals by virtue of their physical and intellectual capacity. Sarkhel (2003) defines manpower as 'power available from or supplied by the physical as well as intellectual efforts of man.' According to him manpower becomes human resources when these people are competent to be regarded as the strength of a nation and are fitted against opportunities.

Successful planning and management of human resource is critical for over all organizational effectiveness. It is a complex process that ensures the staff are given the opportunity to develop both their personal and professional competencies and maximize their output (Bryson, 1996). Like other organizations, libraries of all types have traditional HRM activities such as recruitment and selection, compensation, benefits, training and development health and safety, employee and labor relations, and in some libraries, student employment or volunteer management (Hawthorne, 2004).

A university library should have planned programmes for the recruitment, orientation and development of the professional staff. According to Wilson & Tauber (1966), some of the considerations are nature and size of the staff, training of the staff, selection of staff members, measurement of staff effectiveness, salaries, hours of service, professional development of staff members, and staff relation. Nasiruddin Ahmad (1994) mentions the necessity of personnel in the libraries of Bangladesh with special reference to education and training of libraries, professionals, sub professionals, and in-service training. deSilva (1997) emphasizes training and development of employees that must be viewed as an integral part of an employee's overall human resource management strategy. The strategy should be one which links selection, recruitment, training, career planning and development, performance appraisal, pay for performance and skills, and employment security. According to him, human resource development includes three basic strategies: developing human resources through education and training, deploying human resources, and providing the incentives to ensure that they are productively deployed. Simmons-Welburn & McNeil (2004) provide comprehensive issues that shape the nature of human resources in academic libraries. They observed that the significant changes in the rule and definition of professionalism, along with demographic and technological challenges had direct impact on the recruitment and retention of staff.

Effectiveness of library and information services depends upon the effectiveness of personnel deployed to perform library functions. Systematic planning for the development of manpower, therefore, constitutes an integral part of the University Administrative program. In fact, human resource management planning in libraries can facilitate the required manpower with requisite capabilities, skills, attitudes, aptitudes, qualifications and work experience in accordance with the changing requirement of the library.

Human Resources Management in Libraries

According to the Society for Human Resource Management (SHRM), human resources management is "the design of formal system in an organization to ensure the effective and efficient use of human talent to accomplish the organizational goals" (SHRM, 2002a, p. 2). Like other organizations, libraries of all type have traditional HRM activities such as recruitment and selection, compensation, benefits, training and development, health and safety, employee and labor relations, and, in some libraries, student employment or volunteer management.

Whatever structure exists to support the human resources management needs of the library, many human resources departments and professional in libraries - like their HR counterparts in other organizations are playing increasingly strategic roles within library organizations by redesigning jobs and work, developing performance management system, managing change, and designing and restructuring organizations. Such a shift from administrative and operational activities like approving job requisitions, reviewing job description, and processing employee requests to these more strategic functions is most evident by the nature of the work of library HR professionals, work that increasingly reflects organizational development activities. In other cases, libraries of all types are working with organizational development consultant who provides services that may not be available in-house.

The shift to more strategic roles means that library

HR practitioners on different kinds of activities and responsibilities. Using job analysis and work redesign tools and method to determine the organization's needs for job and what type of jobs and how to organise the work has taken a higher priority. Developing individual skills in all level of employees to work efficiently and effectively in team structures has become more critical as libraries face the reality of smaller workforces, hiring freezes, pending retirement, and labor shortage. And managing the ongoing, relentless change-the permanent whitewater of the library and information profession-has become the skill most needed and valued. Many organizational development (OD) initiatives within libraries grow out the change management efforts when libraries seek to restructure seek to restructure organization, redesign jobs and work, improve processes and workflow, and increase performance capabilities in order to enhance the organization's ability to survive and thrive in a world of change.

According to the Society for Human Resource Management (2002b, pp. 126-127), the primary intent Organizational Development (OD) is to strengthen the organization. OD strategies fall into three categories: interpersonal, technological, and structural, Interpersonal strategies focus on work relationship between and among individuals and groups and touch on such topics as communication. Technological strategies focus on process and include activities such as job design and analyzing workflow and human factors to achieve coordination and communication among departments. Structural strategies examine how the organization's structures help or hinder the organization in achieving its goals and may examine such issue as span of control and reporting relationships.

Problems Facing University Libraries these Days

Today University Libraries are facing many problems in bringing the change in their systems for satisfying their customers. Some of the problems which are identified are :

1. Lack of IT knowing library staff ;
2. Shortage of IT equipments ;
3. Customers are not aware about new ICT applied in libraries for information transfer ;
4. Limited funds ;
5. Library professionals are not ready to accept the challenge of IT revolution, they prefer traditional system ;
6. Proper training to customers is not provided to access library resources ; and
7. Remuneration to library staff for doing additional work.

HRM & Organisational Development

The basic objectives of management are the maximisation of productivity, the stimulation of creative problem solving, the promotion of morale and satisfaction and the attainment of the parent organisation's goals if these are evident. These objectives express the general purpose and guide the activities of the organisation. The general goals of a University, for example, are teaching, research and public service. The library's objectives in meeting these goals are to provide:

- Materials for undergraduate teaching, term papers, assignments, and general reading;
- Materials for faculty research and postgraduate work;
- Materials for personal self-development;
- A network of academic library resources that will be at the disposal of all users;
- Specialised information on the locality within which the university and its library are situated (Ifidon, 1998).

One of the most important factors that contribute to the realisation of these objectives is human resources. Their management is based on behavioural science and management principles. But in practice the library manager is often confronted with unique situations with which she/he has to deal. Some situations are different in simple and recognisable ways, while others are different in complex ways that are difficult to understand and interpret, and even more difficult to manage.

Human resource management is a strategic approach to the structure, motivation, development and management of an organization's employees, based on four fundamental principles:

- Effective management of human resources is the key to success;
- Success is most easily achieved if personnel policies are closely linked with the objective;
- Managerial behaviour and organizational climate exert a major influence on the achievement of excellence; and
- Total integration of manpower is essential to success.

Human Resource Management is thus concerned with integration: getting all the members of the

organization involved and working together with a sense of common purpose.

According to Peters, Tom (1985), "Trust people and treat them like adults, enthuse them by lively and imaginative leadership, develop and demonstrate an obsession for quality, make them feel they own the business, and your work force will respond with total commitment.

The same view was made by McGregor (1960), who defined his principle of integration as: "The creation of conditions such that the members of organization can achieve their goals best by directing their efforts towards the success of the enterprise."

Beer (1980) defines Organizational Development (OD) as a process that includes data collection, diagnosis, action Paining, intervention and intervention, and change and views the purpose of OD as culture. When defined as such, OD activities can and should be integrated into the HRM activities that support the organization's strategic plan and goals (Medelow & Liebowitz, 1989).

In this new strategic role, developing the ability to capitalize on the strengths of employees and make the workforce and asset to the organization has become a critical focus for HR professionals. The shift in focus has increased the demand for human resources initiatives, strategies, and programs that enhance an organization's ability to recruit and retain highly skilled employees capable of ongoing innovation and able to effectively deal with constant change.

Four strategies created out of the intersection of traditional functions of human resources management and concepts of organizational development reflect selected examples of when HR initiatives support overall organizational goals. The four strategies discussed here—job analysis, work redesign, team building, and change management provide libraries with methods for enhancing the performance and capacity of the organization and its workforce.

Job Analysis

Libraries are among many organizations where jobs have undergone enormous us change. Labor market shifts, budget constraints, enhanced technology, introduction of new library services and elimination of other services and demands of customers require library HR practitioners to continuously use their expertise to examine the work performed by individuals in liberates to determine if the organizational and individual needs are being met.

Job analysis has long been one of the most basic activities of HRM and is a "systematic way to gather and analyze information about the content and the human requirements of jobs, and the context in which jobs are performed" (Mathis & Jackson, 1997, p. 190).

Job analysis informs recruitment and selection, affects compensation decisions, outlines performance goals, identifies training and development needs, and influences organizational structure (Lynch & Robles-Smith, 2001). The benefits of effective job analysis, according to Mathis & Jackson (1997, pp. 198-200) are the following:

- Knowing what jobs exist, how many jobs exist, and what is being done, as well as what needs to be done, helps to inform HR planning. Jobs can be designed and redesigned to eliminate unnecessary tasks and duties or to combine responsibilities into logical job groups that meet needs and priorities.
- Job analysis ensures that recruitment and selection are based on valid criteria by linking knowledge, skills, and abilities required to the tasks, duties, and responsibilities in the job description. Such information can also help to identify where to recruit for potential employees.
- Job analysis information is often the basis for determining compensation and can help to prevent inconsistencies and inequalities in compensation. In addition, job analysis information is used to help classify positions (exempt vs. nonexempt, represented or not represented, etc.).
- Effective job analysis helps to create job descriptions and performance standards that are useful tools for both training and development and for performance management.
- Information identified in job analysis helps to identify health and safety hazards and working conditions that require special training or accommodation.

Job analysis involves collecting information about the characteristics of a job using one of several methods: observation, interviewing, questionnaires, or more specialized job analysis methods such as position or functional analysis. Organizations sometimes use a combination of job analysis methods (Mathis & Jackson, 1997; McDermott, 1987).

Using systematic job analysis to determine the extract job is far more strategic than simply writing or updating existing job descriptions. Performing systematic job analysis on a regular or periodic basis or under special conditions helps managers ensure that

the jobs being done are the jobs that need to be done.

Work Redesign

While job analysis often focuses on an individual job or job families, work redesign is a broader analytical process that examines work done throughout a department or unit or within the organization at all levels.

An excellent example of work redesign in a library setting was the work redesign project of the North Suburban Library System (NSLS) in Illinois. In the late 1990s the NSLS, an organization of 680 academic, pubic, school, and special libraries in northern Illinois, received a Library Services and Technology Act (LSTA) grant for redesigning work in NSLS libraries.

Working with Organizational Development Consultant Maureen Sullivan, NSLS director Sarah Long and four library directors spearheaded an eight month project that guided work redesign at four different libraries. The ultimate goal was to analyze work and put new structures in place to positively affect member services in the library system and to "build the capacity of the organization" (Hayes & Sullivan, 2003, p. 87). "The work redesign process provides an opportunity for today's library to stop and analyze how time and effort are currently applied in the organization," write Hayes & Sullivan (2003, p. 88).

One major goal of the NSLS project was to be able to recruit and retain the best employees. Analyzing the work performed by staff identified ways to redesign work processes to create a more positive work environment.

Among the benefits evident, according to Hayes & Sullivan (2003, pp. 90-91), "

- Participants demonstrated a new sense of collaboration and cooperative learning that enabled them to learn critical skills and master new processes.
- Trained staff was able to identify key competencies for key programs and services.
- Staff shifted their focus to the big picture.
- Staff re-examined traditional jobs and practices and created new approaches and practices and new jobs.

While the NSLS work redesign project was conceived with a purpose to create a work environment that would attract and retain top-notch talent, work redesign in libraries can occur for a wide variety of reasons. Work redesign can also be used in libraries when units or libraries are merged, when new services are initiated by a unit or library, or when costs need to be reduced.

Team-Building

Teams emerged in libraries several years ago and have rapidly become a key work unit in libraries of all types and sizes. Among Fortune 1,000 companies, the use of Self-Managed Work Teams (SMWTs) grew from 28 percent in 1989 to 72 percent in 1999, (Yandrick, 2001, p. 138). Such a significant change in corporations reflects substantially changed views about hierarchy, management, and employee involvement and contributions and the impact these have on the bottom line, in addition to reflecting a willingness to invest in making major changes in the ways in which work is organised and accomplished within the organization. In corporations SMWTs have become the stuff of legend in areas such as quality improvement, resulting in "production increases, waste reduction and accelerated product-development cycles" (Yandrick, 2001 p.138).

While team contributions can have dramatic positive effects there are also instances where teams sometimes fail to accomplish their objective or to master the process to work together effectively. In addition to organizational support, both Joinson (1999) & Yandrick (2001) emphasize that what can make a difference between success and failure of a team is adequate training for team members in interpersonal skills, effective communications, active listening, problem-solving, and conflict resolution.

Many fail to understand how and why teams are different from other work units such as a department or committee. Teams revolve around six basic concepts as outlined by Katzenbach & Smith (1999). Generally small in number (less than twelve members), "no team performs without the complementary skills required for success. Teams must have a common purpose, common set of specific performance goals, and a commonly agreed upon working approach. Finally, teams must hold one another mutually accountable for their performance" (Katzenbach & Smith, 1999, pp. xix-xx).

As in other organizations using teams, libraries and library workers sometimes struggle with making the transition to teams. Making the successful transition from committees, the most common type of group structure other than departmental work groups in libraries, to teams varies from library to library and with type of library and is dependent on the individuals involved and their receptiveness and willingness to learn new skills. Libraries vary in terms

of how much they use teams and for what purposes. In some cases, the library may have only one team working on a functional area such as collection development or instruction or programming. In other cases, teams may exist within departments. Developing team skills and supporting team building activities within the library requires support from HR in the area of training and development. Using teams capitalize on individual knowledge, skills, abilities and competencies while building organizational capacity and flexibility to solve problems in creative and innovative ways.

Change Management

For more than a decade, libraries have faced new challenges and dilemmas, opportunities and threats, and rapidly changing environments. The response from academic, public, school, and special libraries has led to substantive changes in how libraries deliver services to users and develop collections, manage operations, approach strategic planning, and view organizational structure and culture.

Change management initiatives first introduced organizational development concepts into the organization. Such change increased the demand for HRM activities in the area of training and development as the need for new skills emerged; HR professionals responded by providing such training either directly themselves or by bringing in OD consultants and trainers as needed. The role of the HR professional grew to become more consultative as the demand for managing change effectively across the organization grew.

As a result, HR professionals assisted library administrators and managers in planning and managing such "change initiative" in parts of the organization or for the overall organization, thus engaging in OD work. "OD is change management. Its goals are to improve: productivity (effectiveness and efficiency); people's satisfaction with the quality of their work life; the ability of the organization to revitalize and develop itself over time; and organizational processes and outputs," according to SHRM (2002b, p.121).

Thus change management initiatives in libraries were linked closely to HR and human resource development (HRD), one of the major functional areas of HRM. Such initiatives ran the gamut from merging or consolidating departments or libraries, modifying services and how they are delivered, or introducing new services as well as making changes in organization structure to create more flexible and responsive organizations and workforces.

Most library HR departments have traditionally focused their HRD efforts on providing training and development. More and more libraries of all types and many library HR professionals are enhancing the HRD function to include organizational development. Butteries (1998, p.9) identified seven key ways in which HR can help organizations cope with and manage change in the workplace:

1. Create a common organization-wide vision and value system.
2. Develop a competency-based personnel framework. Provide leadership assessment and development.
3. Move people within the organization for best advantage.
4. Guarantee workplace diversity to ensure success in a global world.
5. Handle the question of change.
6. Reengineer corporate HR functions to a more consultative model by having HR serve as a consultant to management on hiring, training, managing, paying, retaining, and developing the workforce.

The majority of these items reflect the various types of change management initiatives underway in libraries and in organizations today, and each of the seven can be linked to key human resources functions such as strategic planning employment and staffing, classification and compensation, and training and development.

The modern view of HRM is to introduce a new work culture in an organization to achieve desired goals and results, by motivating the staff and enabling them to acquire the necessary new and innovative, skills, giving recognition to best performance and appropriately rewarding such performance. In fact, human resource management planning in libraries can facilitate the required manpower with requisite capabilities, skills, attitudes, aptitudes, qualifications, and work experience in accordance with the changing requirement of the library.

Thus, there is now increasing attention to human resource management and in particular, the role of staff development and training as a means of improving service quality when funding levels are not to commensurate with growing demand.

Changing Roles in Libraries

Changes in the libraries have been consequence of significant societal, educational, and technological forces. Library users are becoming more diverse and

more decentralized. People have greater and more immediate information needs for teaching and learning. They expect more personalized library services to learn about and acquire information. Higher education is expanding its programs, makes new and significant demands on library staff and collections.

Despite increasing service expectations, economic and political realities suggest stronger fiscal support for libraries is unlikely. Libraries face declining or, at best, steady state budget while costs continue to rise. Libraries are experiencing increasing costs due to:

- Library materials costs,
- Need to invest in new technologies to organise and deliver information,
- Need to maintain services and collections in parallel environments (print and electronic); and
- Need to maintain and preserve existing collections.

Library expenses and user expectations increased while the resources to meet them shrink. Libraries cope through modifying services and changing how they are organised to provide these services. Libraries have adjusted and shifted responsibilities continually as they have tried to provide increased service to patrons in times of economics stringency. Unfortunately, this shifted in job responsibilities is due to more external forces than to administrative decisions resulting from serious research into the nature of work roles in libraries (Goud 1985, p. 236). Such terms as client-centered, service-oriented, and user-friendly usually describe a library that makes increasing demands on all staff members because there is no budget for additional personnel. As all staff members are accepted to do more, librarians have more clerical and support duties and library paraprofessionals take on additional level responsibilities.

Automation of library process has affected the type of tasks and level of responsibility assigned. Technology absorbs many routine tasks and causes previously non-routine tasks to become routine. As many clerical tasks are absorbed by computer systems, support positions at all levels assume greater job responsibilities. Increased educational and experience requirements are becoming the norm for staff.

The roles of library professionals have changed, too. They are holding an expanded role in the university teaching and research process and in information policy planning. Librarians are working on the development of strategic plans for the campus information environment, including the integration of communication and information system (Creth, 1991) and predicted both larger institutional and national roles for librarians. The activities of the professional staff has now diverse, focusing on policy development and program design, along with development and application of a variety of new information product and systems.

Conclusion

The success of any university library largely depends on the intellectual, physical and technical infrastructures for effectiveness of library systems. Beside, other factors of HRM issues in libraries including professional manpower, IT facilities, training opportunities and other HRD programmes, job evaluation and performance measurement techniques, etc., were found not at a satisfactory level. Provision should be made to appoint more professionals, trained staff on a regular basis, enhance IT facilities , adapt successful HRD programmes, apply appropriate techniques for ongoing or periodic job analysis and performance appraisal, and so on. Although human resources have been centrally managed by the universities, all libraries should have strong policies of HRM. Management policies regarding strategic planning, organizing, staffing, directing, coordinating, and budgeting must be formulated and implemented with utmost care. The libraries under study must ensure that the skills, knowledge, abilities, and performance of the workforce to meet current and future organizational and individual needs. The proper management of library human resources leads to the effective and efficient library and information services to satisfy library customers. Therefore, the university library should have well equipped with up-to-date collection of information resources, IT facilities, handsome budget, and experience and expertise. Besides governmental assistance, as an autonomous body, a university should take as well as implement a real-life plan for manpower development within limited resources. The authorities should also take initiative to implement suggested measures on priority basis for common interest of better HRM in university libraries.

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Review Article

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Study on ICT Utilization to Library Services in Higher Institution of Learning in Developing Countries: An Overview

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Abstract

This paper seeks to investigate the challenges that hinder the adoption of ICT in libraries with special attention to HILs in developing countries. The adoption of ICT has revolutionized service provision in libraries and their general information management systems. This has transformed most services to digital: e-database (e-resources). e-catalogs,e-library and use of archiving technology like DSpace. Today, within the developing world, most libraries are moving towards transforming their existing traditional library services to digital systems - allowing them to Tap and benefit from the vast advantages of ICT, for example, operation costs reduction, increased efficiency, an on-the-fly availability of information. Even with such numerous benefits, most Higher Institutions of Learning (HILs) in developing countries still lag behind on adoption of ICT in their library service.

Keywords: ICT; Library Information Management (LIM); Developing Countries; Higher Institutions of Learning (HIL).

Introduction

The rapid development in Information and Communication Technology (ICT) infrastructure across the globe has led to transformation in the way we manage information in the information age. ICT is broadly defined as a diverse set of technological tools and resources used to communicate and create, disseminate, store, and manage information. The library as a source of knowledge has not been spared - today, technology has transformed Library and Information Centres such that they have to adapt to these transformation to be able to address end users' ever growing expectations and dynamic needs. Moreover, the 21st century has ushered our society into the information age —where we're witnessing an unprecedented paradigm shift in the rendering of library and information services worldwide.

The ripple effect of the influence of ICT on every aspect of human Endeavour remains colossal and its impact on library and information services has not been exclusive.

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Furthermore, the rapid transformation of the ICT infrastructure has created new opportunities and challenges for traditional libraries such that the new trend is to move towards digital collection. Existing libraries are busy digitizing their traditional collections via online subscriptions and planning, design, deployment and ongoing operations management and technical support of ICT infrastructure.

Today, ICT has revolutionized service provision in all sectors of the economy including education via increase in access to knowledge. Example of such ICT service is Open Distance Learning (ODL) System or eLearning. which has rapidly become a major element in pursuing higher education opportunities: an increase in the number of unique environment where educational opportunities are offered. eLearning refers to using ICT oriented services to provide leaning and training that is dynamic (anywhere and anytime) on an Internet platform. Today Africa is the most dynamic eLearning market on the planet. Ambient Insight has revised its forecasts significantly upward for most African countries. The growth rate for self-paced eLearning in Africa now stands at 15.2% and is projected to increase substantially over the coming years. Revenues reached US $250.9 million in 2011 and will more than double to US S5I2.7 million by 2016. Eleven of the sixteen countries analyzed in this region have growth

rates above the 15.2% aggregate rate. Senegal has the highest growth rate in Africa at 30.4%. followed by Zambia. Zimbabwe, and Kenya at 27.9%. 25.1%and 24.9% respectively. Revenues are growing very fast in many African countries. By 2016. revenues will double in seven countries and will more than triple in four countries (AIR. 2013 B). This massive increase in access to education needs to be matched by equal increase to library funding. ICT infrastructure, resources and services at locations other than main campuses: an increased concern and demand for equitable service for all students in higher education, no matter where the classroom may be: a greater demand for library and information services by faculty and staff at remote learning sites for the Libraries, ICT's has tremendously changed the Management of Resources or House Keeping Operations as well as the way services are delivered. In the specific context of Library Information Services (LIS), one of the implications of use of ICT is that Libraries can reach out globally to provide their services 24-hours a day in very cost effective manner. ICT has enabled users to avail many services without any human intervention, the role of LIS professional is changing from an intermediary to a facilitator and enabler.

Impact of ICT on Library and Information

Services has led to the development of new professional paradigms within the field of librarianship i.e.. meeting the students' needs in fulfilling course assignments and thereby enriching academic programs: meeting teaching and research needs: facilitating the acquisition of lifelong learning skills: and accommodating other informational needs of the distance learning community as appropriate. This is in contrast to traditional library services where the students go to the library to access the range of information services that they need to satisfy their learning requirements. The introduction of social networking: chat rooms, email services, list-servs, fee based or free online databases and reference services have transformed the usage of traditional library to support distance studies and open access such that the students (and staffs) can access the library anytime anywhere whenever they need the services. Since ICT has eliminated the distance between library services and students we can only achieve quality education if ICT adoption in library services is properly and exhaustively deployed

Academic Libraries in the Developing Nations

Play an essential role in terms of supplying society with knowledge and information, as well as being considered an inseparable part of the academic provision. These libraries strive to satisfy a strategic academic mission, which includes positively shaping the goals of academic programmes as well as the general information needs of the community But even as many academic libraries in developing countries strive to incorporate ICT in library services, there are several factors such as financial constraints, technological factors, human factors, cultural factors among others that need to be addressed. Ghuloum et. al. argue that a significant lack of ICT related services in libraries can also be attributed to shortage of qualified staff in these libraries.

Overview of ICT Utilization in Libraries in Developing Countries

The use of ICTs in libraries in the provision of access to information resources and services is resulting in the disappearance of the concept of a library as has been known for centuries - a physical building located in a specific geographic location. ICT has transformed the nature of library services over a period of time. Library "collections" consist not only of physical information resources such as books, periodicals, videos, films, and many more, stored in physical library buildings. They now include digital resources created locally and those accessed over the Internet from computers that are managed by other libraries or information service providers. Further, unlike in a print-based library system, access to digital information resources is not restricted to specified hours and days of the week at one physical library building. Information resources and services are available, throughout the year from any computer connected to the Internet from any place around the world The importance of ICT in libraries particularly in HILs cannot be underscored since ICT enables optimum utilization and sharing of resources among institutions thereby reducing the operational costs. In addition. ICT enables the librarian to concentrate on other tasks such as research and consultancy as it provides opportunities to deploy innovative methodologies to meet the dynamics needs of library users.

Today, there are tremendous opportunities presented by ICTs to libraries. Some of the important changes that developments in ICT have brought about in information services are as follows

1. Changes in formats, contents and methods of production and delivery of information products, and a new business model for use of information products. This requires procedural and

infrastructural changes and cost implications in Libraries.

2. Emergence of Internet as the largest repository of information and knowledge.
3. Extinction or significant transformation of some of the conventional information services such as press clippings, contents pages, company information etc.
4. Use of new tools and technologies for dissemination of information.
5. Transformation of role of LIS professional as the subject specialist and end-user gets directly involved in the information work and consequent need for new skills.
6. Shift from physical to virtual services that offer convenience of time and location for access to services.
7. Institutional repositories (digital local content)

Library is the Heart of the Learning Community

Providing a place for students and faculty to do their research and increase their knowledge and therefore the future of any academic library greatly hinges on its ability to embrace and leverage the potentials of ICT facilities at all levels of their business activities and strategies systems. Though ICT has led to new higher education learning models such as ODL. Electronic learning and blended learning that has provided a good opportunity to learn at any time and place, there have been a number of factors that have impeded the large scale uptake of ICT in HILs. These have included such factors as lack of funding to support the purchase of the technology, lack of training among established teaching practitioners, lack of motivation and need among teachers to adopt ICT as teaching tools.

Today, libraries are using ICTs. especially the Web, to implement online based Bibliographic (or) library use (library literacy) programmes targeting their clients. Among others, these programmes include online or CD-ROM based tutorials on searching online resources and virtual tours of library collections, and these are mainly accessed on intranets, extranets or the Internet. Moreover, use of ICTs enables libraries to avoid problems associated with the use of lecture-based approaches or library orientation programmes. Problems such as dealing with large numbers of students or having a shortage of staff to deliver the programmes or too little time to deliver so much information to students. In addition. ICTs offer studenis an opportunity to follow the programmes at their own pace in their own time.

Hindrance to ICT Diffusion in Libraries in Developing Countries

Chinwe. *el al* points out that ICT use for library operations and services requires library practitioners who are highly skilled both in the traditional library operations and high level of computer literacy, besides being committed and flexible librarians, who are ever ready to engage in sustained reasoning and can manage complex situations.

Librancs in HILs have not been given key attention that they deserve in terms of financial allocations — thus limiting their ability to meet the targeted requirements of supporting the learning process positively. The libraries are. therefore, not able to acquire adequate ICT services (e.g.. access to computers, copies, printers, network/internet and subscriptions to more electronic databases, modern bindery equipment etc.). Technological factors, such as ICT illiteracy is also a bottleneck since many library users in developing countries are not able to utilisation ICT services and their applications in library hence there in need for consistent user training and user support services. Moreover, most of the staffs in the academic libraries in these countries need more experience and training to deal with ICT services as illustrated by (Bader. 2008). Research carried out in shows that some developing countries consider a library as "some place to store books" rather than the key component of academics and research activities. Thus, there is a large segment of society and the decision-makers in government in developing countries who do not understand the critical role that a modern academic library could play in developing the economy of a nation.

Here, we'll attempt to present some of the challenges hindering the diffusion of ICT in libraries in HILs. these are: Political and economic instability in developing countries have negatively impacted the operations of libraries in HILs with external funding agencies taking advantage of this instability to push for their own agenda and priorities. The research carried reports that the rapid growth of student populations has provided enormous challenges to the HILs since the financial support for these institutions have not kept pace with increasing levels of students enrolment &growth. Without substantial support from the government and. in some instances, and the inability to charge tuition fee. universities are struggling to provide the necessary and essential services. More-so. in most cases, there is complete lack of physically facilities adequate enough to provide

education and services for all the students. It's not uncommon to come across lecture halls, hostels, and libraries that are overcrowded with students.

Notably, and in most cases, there is a complete lack of exposure of library staff to international standards and best practices: experience is also a hindrance factor to adoption of ICT in HILs. Most librarians have never have opportunities to attend conferences outside the region and. therefore, have limited access to cutting-edge knowledge — such that the library staffs develop internal standards unaware of the existence of international standards. Inadequate access to technical expertise i.e.. ICT department, that is responsible for the installation, development and expansion of the backbone network (WLAN/LAN) in the institution and in the library has undermined diffusion of ICT in these libraries. Such a team is required to have basic training in troubleshooting skills and support of library hardware and software.

The outdated and bureaucratic procedures in acquisition of ICT equipment and materials coupled with lack of appropriate policies to support development of ICT in HILs is noted to slow down implementation of ICT in developing countries libraries. Inadequate diffusion of ICT in library and information centres can also be attributed to lack of real awareness about the benefits of ICT, and the implications if ICT is not integrated in the library's operations. Moreover, Tasubira el. al. in argues that there is a mindset, fear, and consequent unwillingness to face the changes from the highest decision making levels to the lowest operational levels making libraries and information centres to be uncommitted to joining the information and knowledge society. The process of transforming and integrating ICT in libraries services is a new area in most developing countries and the question of how to adopt it in these institutions is vet to be addressed. HILs need to develop local expertise to plan and manage the change and adoption of ICT in libraries

Digital Library and Archives

Many Libraries traditionally have been repositories of local information and heritage documents such as manuscripts, rare books, maps, photographs and paintings etc. Archives or record management is also part of LIS function, particularly in business and research organizations. In other cases such as university libraries, documents generated in-house such as dissertation and theses, research reports etc represent the intellectual strength of the institution. Libraries are developing digital repositories of such resources, and providing Internet or intranet access to these. Large public and academic libraries also provide up to date local information via internet. Digital libraries are a natural progression from electronic document sharing. The main benefit of digital library is the ability to provide 24-hour, remote access to high-demand or restricted materials for multiple concurrent users. Setting up a digital library can either be done using 'off-the-shelf' digital library products, document management products or library management products capable of digital library management: or in-house system development using open archives software. Some of the off-the-shelf products are from Blue Angel Technologies. CONTENTdm. Crossnel Systems Ltd. Endeavor Information Systems, Fpixtech. ESP. ExLibrls, Fretwell-Downing Informatics. IBM. Sirsi. and Sydney Plus. Greenstone (http://vwvw.greenstone.org) and DSpace (http://www.dspace.org) are the leading open source digital library management software.

Suggestion and Recommendations

In spite of the various efforts being made by most libraries and information centres in developing countries to adopt and use Id's, there are still numerous issues that they must be assisted and guided lo address. Specifically, the central and local governments authorities should provide adequate funding lo HILs library services if they are to deploy appropriate ICTs and play an active role in the provision of access to global information resources in their communities. These libraries need to be assisted to develop formal ICT strategy. In a survey by R. Ondari and C. Kitendo Ondari reports that to take advantage of ICT in the information centres, full automation of circulation control system, online catalogue access, acquisition control, including search of online sources of publications, and online access to booksellers must be embraced. In addition, qualified staffs with up-date skills in managing ICT enabled libraries need to be deployed in these libraries.

Risk Management and its Measures

Needed to be put in place through implementation of secure network, for example, antivirus to protect the digital databases, protection against crackers hackers by installing firewalls at the proxy server. General risk management via backing-up of databases to guard against data lose, protection against general damage due to power failure, natural disaster e.g.. flood, and installation of LPS to cope with the erratic power supply experienced in most developing countries. Standby power supplies i.e.

generators or solar power are also very critical in these libraries, Lack of a clear perception of how ICT resources can be sustainably managed, the operational risks, and likely escalating costs of poor information resource management is another area where local expertise needs to be developed, in order to ensure reliability and efficiency in library and information service provision.

Comprchensive Collection Development Policy

E-resources should be maintained by the libraries, in order to follow a set of standards and best practices for acquisition and management of electronic information resources. There should be specific budget for new resources and the renewal of existing resources. In addition, professional organizations such as the Kenya Library Association and library administrators should organize short-term training programmes for library professionals in computer applications in library and information services, online information retrieval, data processing, electronic publishing, and also software such as Microsoft Office. CDS/ISIS,etc..

General Recommendations Are as Follow

1. ICT facilities should be made adequately available by institutions administration such that academic staffs can utilize them in their offices and classroom. This is necessary because ICTs are regarded as integral parts of teaching and research in academic institutions and within the communities.
2. The national governments and at local authorities levels, should as a matter of priority, fund libraries very well according to the recommendations of UNESCO. This will enable them to pro\ ide more of these ICT facilities and properly maintain the existing ones.
3. Modalities should be set in motion to enable academic staffs to acquire relevant ICT skills through training. This has the tendency of enabling them to enrich their content knowledge through searching for more and new materials, make learning more meaningful and improve students learning outcomes.
4. The financial outlay required in procuring ICT T facilities is enormous to the extent that individual academic institutions may not be able to provide it alone. It therefore becomes imperative for these HILs to enter into partnership with such ICT providing organizations as AfriHl.B. Zino.x. SocketWorks and BusyNet for the purpose of equipping their institutions with ICT facilities. This will enable the academic staffs to acquire necessary ICT skills in order to enhance the quality of their instructional service delivery.

Conclusion

ICT has changed the work of libraries and information centres as users" demand and expects better and efficient services i.e.. electronic online resources and databases. ODL among others. Libraries in HILs in developing countries have gotten itself in a situation where they must embrace ICT in order to remain relevant and also meet future challenges. However, these libraries are experiencing a lot of barriers in adoption of ICT resulting from several factors but majorly inadequate funding, and here is where we expect the governments to meet their obligation to provide libraries with adequate funding - noting that is source of knowledge and an enabler of economic growth. In the future work, we'll investigate the contribution of internet and library websites to improving service provision in these libraries.

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Implementation of RFID Technology in Higher Learning Institutions

S. Barathi*, V.R. Rajan**

Abstract

The impact of new information and communication Technologies has revolutionized every walk of life. During last few decades the dimension and approach of information seeking behaviour of library users have tremendously charged from book materials conventional sources of information to audio – visual modes of information sources and their dissemination and retrieval. The users want any sort of information related to this curriculum or of their areas of interest instantly. Only adopting the new gadgets of information technology, multimedia, CD-ROM & INTERNET connectivity needs can fulfill their information.

Keywords: RFID:Radio Frequency Identification; Higher Learning Institutions.

RFID : An Introduction

RFID stands for Radio Frequency Identification. This technology uses radio waves to track and identify objects. RFID has existed for decades but until recently the technology was too expensive for widespread application

The implementation of RFID in Indian Scenerio is very less that only universities, Institution funded by Central Government and some other private Institutes. The system consists of a RFID transponder and a reader

RFID Transponder Tag

The transponder is affixed to the item you want to track. It consists of an antenna and a microchip encoded with unique information that will identify the item to the RFID Reader. Tags are often embedded in packaging or encased in protective plastic for weatherproofing and greater durability.

RFID Reader

The reader transmits radio signals at a preset frequency. Any transponder tags that are in range of the reader will pick up on this signal and send the information stored on the microchip back to the reader. Because transponders derive their power from the field generated by the reader, they do not operate unless they are in the vicinity of the reader.

RFID systems also require a means for data collection. A computer takes the information received from the reader and converts it into a form that is meaningful to the user.

Usage of RFID

Current Method

The majority of libraries identify their material by barcode.

The barcode is affixed to the book (usually on or inside the cover) and each barcode is individually scanned with a laser beam. The barcode carries only one item of information, usually an identification number that is linked to an item record in an integrated library system.

Contrary to many patrons' belief, the barcode has nothing to do with security. Rather, a magnetic strip (aka tattle tape) is inserted in each individual item and this strip sets of an alarm if the item has not been charged to a patron and desensitized.

RFID can be used for both inventory and security.

Not only is it possible to program an identification

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number into the microchip, other information can be included such as a book's title and call number. The tag could also track if the item is out on loan and the due date In terms of security, RFID readers installed at the library's exit could pick up the signal emitted from the embedded tag. The system could then query the integrated library system to determine if the item has indeed been signed out. Alternatively, a "security bit" embedded in the tag could, like tattle tape, be turned off by circulation staff when the item is charged. When the patron leaves the library, security gates would detect if the patron's items were properly signed out. Upon return, the item's tag would be reset.

Implementation of an RFID system requires a migration of existing information to the new system. A programming station is used to encode the microchip with the old barcode number or any other identifying information a library chooses to include. The tag then has to be physically placed on each book.

Category of RFID Systems

The RFID systems can be categorized into basically four systems

- Electronic Article Surveillance
- Portable Data Capture Systems
- Networked Systems
- Positioning Systems
- One new system of RFID is coming into being is the combination of all the above systems

Advantages of using RFID

Quick Service

RFID systems can read multiple tags at a time. This allows for several items to be checked out at once. Increased use of self-checkout stations could be a consequence because users do not have to carefully line up individual item barcodes for scanning. The self-checkout can be designed to be easy to use and can be programmed to display instructions in multiple languages.

After Hours Service

External book drops can be equipped with an RFID reader. The library patron identifies him/herself with a library card and then returns the books through a slot. The books are automatically discharged and a receipt showing which books were returned is produced.

Tag Lifespan

Compared to barcodes, RFID tags have the potential to be longer lasting. To be read by a laser beam, barcodes need to be placed in a clear line of sight. This makes them vulnerable to peeling and general wear-and-tear. In contrast, RFID tags can be read no matter where they are placed and consequently they can be inserted (or even hidden) inside a book.

Inventory Capabilities

RFID tags can be read while the book sits on the shelf. Staff can use a hand-held reader to walk down the aisles and detect items that are out of order or missing. This makes it much easier to find "lost" books. The reader could also be used for collection development and weeding

Security

RFID systems can track items that are moving out of the library.

Reduced Ergonomic Stress

staff no longer have to sort and discharge each individual item

Increased Efficiency

This technology has reduced the time it takes to get books and other materials back in circulation after they've been returned

Disadvantages of Using RFID

Size

The RFID tag is large, about two inches square. It can be awkward to affix these bulky tags to CDs, sheet music, pamphlets and other delicate materials.

Tag Collision

If journals or other particularly thin items are stacked, there is a risk that the close proximity of the RFID microchips will cancel each others' signal out. If a patron has a stack of materials to borrow, the system might not accurately sign-out each item.

Interference

RFID signals can be disrupted by the surrounding environment. Metal and fluorescent lights are

potential impediments and as a result library space, such as the sorting room at the Seattle Public Library, must be carefully planned

Lack of standard

The encoding on the transponder tag and the software that processes the information are not always compatible between vendors. This means that if a library wishes to switch vendors, staff may have to retag all items.

Cost

The cost of issuing a new RFID library card to every patron can be prohibitive, especially in larger library systems. RFID tags also cost more than barcodes. There is also the cost associated with paying staff to tag all the library's holdings. Like other emerging technologies, however, the cost could decrease as the RFID technology in libraries becomes more prevalent.

Security

A thief can block the RFID signal by lining a bag with household aluminum foil. While tattle tape has traditionally been hidden, a visible RFID tag could be ripped off and the item stolen without detection.

Vulnerability

The RFID signal is unencrypted. If a library uses re writ able tags, a hacker could potentially overwrite the code on the tag and confuse the system. RFID Implementation: Some things to Consider.

Introducing RFID technology to a library takes dedicated research, careful planning and time.

Expectations

One needs to consider what specific needs this technology will fulfill. Does your library need better security? A more efficient way to inventory a large collection? Will RFID be used with other technology such as an Automated Material Handling System or an Automated Storage and Retrieval System? All of these needs will affect planning and decision making.

Conclusions

Manny modern technologies give the impression they work by magic, particularly when they operate automatically and their mechanism are invisible. The RFID technology has exactly this characteristic and for many people seems a lot like magic. The major advantage of RFID implementation from the security aspect of view is keenly being taken into consideration by decision makers, making better chances for the RFID in Indian Libraries.

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E-Resources Management with Special Reference to Pondicherry University Library

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Abstract

E-resources play a important and essential boon for research scholar in the higher education. particularly E-Journals are online Journals and explains its characteristics, its History, various types of E-journals and detailed steps involved E-journals on the web and benefits of E-journals and finally various e-resources online subscribed by pondicherry library and the benefits gained to the user community and also user statistics reveals the increase the usage of E_resources and created new awareness for the usage of E-Journals in the minds of the user communities.

Keywords: Not Provided

Introduction

Knowledge is expanding at lightening speed. Students need to learn more, better and faster. Teachers should use innovative methods for teaching. Technology playa a crucial role in all the sphere of library activities today. The challenges posed by the advances in the field of information and communication technology, with the exponential growth in the size of storage, a phenomenal increase in the processing speed, decreasing cost of hardware and user friendly software, the technology provides ample of scope for new services and products. Thus E-Journals play a vital role in the changing scenario of libraries and information others. In 2004, Librarian Alireza Noruzi recommended applying Ranganathan's Five Laws to the Web in his paper "Application of Ranganathan's Laws to the Web"

1 Web resources are for use.

2 Every User his or her web resources.

3 Every web resource its user.

4 Save the time of the User.

5 The web is a growing organism.

Type of E-Resources

1 Online e-resources, which may include:

- E-Journals (Full text & Bibliographic)
- E- Books
- Online Databases
- Websites

2 Other Electronic Resources may Include:

- CD Rom –Diskettes
- Other portable computer portable databases.

What is E-Journals?

Definition

Electronic Journals may be defined broadly as any serial publications viz Journal, magazine, newsletter in digital format and made available on CD-ROM, Online systems and in the Internet has become primary medium for e-journals today. Based on the level of content, e-journal can be classified as scholarly research Popular (general public) and Industry or trade Journals.

Lancaster(1995) suggests that the Electronic Journals is created for the Electronic medium and is available only in this medium.

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Characteristics of E-Journals

i. Issue include graphics, multimedia or links to other internet resources.
ii. File Structure is hierarchical and uniform.
iii) E-Journals include personalized service such as e-mail alerts.
iv. E-Journals is accessible on web & online archives
v. E-Journals issues and articles can be used by the user online and Print copies.

History of E-Journals

E-Publishing is two decades old. The American Chemical Society was the first professional body to publish their journals in electronic form in 1983. The American Chemical Society, the Institute of Electrical and Electronics Engineers and the Institute of Engineers offer their prestigious journals in electronic form. The Online Computer Library Centre provides their Journals only through electronic form. The Electronic Journals Online service provides peer reviewed journals online, free of cost. Viz World Scientific, Singapore.

Individuals, Universities and research centers can access e-journals through net on the basis of payment and on agreement regarding the copyright. Viz www.sciencedirect. com

Types of E-Journals

Free Journals

Access to the Journal is not dependant on a subscription membership in an organization. Viz. www. Dlib.org

Subscription based Journals

Require Payment

a) Free online against Print Journals

Viz. American Journal of Physiology. www.ajpcon.physiology.org

Current year access only. Current twelve rolling period. Achieve access.

b) Online only Journals

It indicates online Journals only and there no print counterparts.

Viz. www.jop.org/Journals/it JTI

c) Pay-Peer-View Journals

Any single article can be viewed /downloaded by paying additional amount.

Viz www.ddj.com/store/

d) Virtual Journals

Journals dealing on specific topics are grouped and access to them is provided.

Viz. www.press.unich.edu/jep/

Steps Involved in Accessing E-Journals on the Web

- Connect the Journal website using its site address (URL).
- Select an issue, browse the table of contents.
- Authentication (user id,password/validation).
- Online registration for initiating online access by providing the customer_id
- Range of IP numbers need to be mentioned in the online incense agreement form. .
- Selection of an article for viewing abstract /full text. They may be an text or have format. PDF
- Search Title of Content /Bibliographic record and link to full text article Viz. ISI's Web of Science.
- Many free journals also require registration for online access.

Access requirements: Good ban width, laser printing for taking print copies of select articles in pdf or html formats, access points depend on the size of the organization and the number of users.

Major Publishers of Scholarly E-Journals

Many of the major scholarly societies/publishers have made their journals available online.

- *Viz. American Physical Society:* WWW.aos.org
- *American Chemical Society:* WWW.acs.org
- *American Medical Association:* WWW.amaassn.org
- *Elsevier Science:* WWW.elsevier.com
- *Cambridge University Press:* WWW.cup.org

Benefits of E-Journals

1 The Subscription allows remote access.
2 More than one user at a time can use E-journals simultaneously.
3 Multidimensional features of E-journals encourage the users to use them round the clock.
4 E-journals are flexible and do not require physical processing, storage space and even environmental valuable.
5 Access to archival issues is available.

6 Dual Publishing is another added advantage.

E-Journals Boon for Research Scholar in Pondicherry University Library

Pondicherry University is a Central University established by an Act of Parliament by the GOVERNMENT of India in October 1985 and recognized by the UGC under Section 2(i) and 12(b) of the UGC Act, 1956. It is affiliating University with a jurisdiction spread over the Union Territories of Pondicherry, Lakshwadeep and Andaman and Nicobar Islands. It is first university in the country to introduce choice based credit system(CBCS) with semester scheme. The University has been reaccredited with 'A' Grade by NAAC with regard to the students' friendly learning environment, good infrastructure, modern amenities, excellent teaching and the supportive non-teaching fraternity. The University has three campuses. The main campus is located at Puducherry with 800 acres of lush-green Wi-fi enabled area, housing 15 Schools, 37 Departments, 10 Centres and 2 Chairs, offering over 144 PG & Research programmes. Other two smaller campuses are located at Port Blair and Karaikal (about 150 kms. from Puducherry).

University Central Library

The University Library was established on 11th September on 1986. It moved to an independent building in June 1990 with a carpet area of 31,204 sq.metres. Library functions from 8.30a.m. to 10.00p.m. on week days and from 9.30a.m. to 5.30 p.m. on week-ends.8.30 a.m. to 12 p.m. during period of examinations.

Library Collection

	Library Collection	*Data as on 30.09.2015*
1.	**Total Library Collections (Print + E-Resources)**	**(211082 + 168730)=379812**
	Total Library Collections (Print)	**211082**
	Total no. of Books (including 942 Major Reference Works)	202889
	Total no. of Ph.D. Theses	779
	Total no. of M.Phil. Dissertations	4962
	UN Documents	2452
	Total E-Resources	**168730**
	E-Books (including 4413 Major Reference Works)	144443
	E-Journals	23350
	E-Databases	41
	E-Theses	896
2.	**Total Journals (Print + E-Journals)**	**(12773 + 23350)=36123**
	Total Journals (Print)	**12773**
	Current Subscription	240
	National	101
	International	139
	Back volumes	12533
	Total E-Journals	**23350**
	UGC INFONET	8785
	PU Subscription	14565
3.	**E-Resources Usage:- Jan - Dec 2014**	**1120520**
4.	**Details of Publications** **Source: SCOPUS**	
	a) No. of Publications	**3228**
	b) *h*-index	**57**
	c) Citation Index (CI)	**7.39**

UGC - Infonet e-Journals Archive NEW
▪ American Institute of Physics
▪ Nature
▪ Oxford University Press
▪ Royal Society of Chemistry
▪ ScienceDirect (Basic Science Collection)
▪ SIAM Locus

The Library is fully automated. with the introduction LIBSYS-4 (Rel 5.7.2)Software Package in the year 1997 and now the latest version of 7 which have been modified recently and also last year November, 2012 CCTV and RFID have been introduced in the central library. All the existing housed in the stack and reference section have been tagged and location section have been completely

identified . The University Portal is created for easy access to Electronic information resources for the staff, scholars and student of Pondicherry University. The library is fully equipped with an online public access catalogue for looking into the collections under the intranet and also through website. A good internet browsing hall is available for all on-campus students to access internet resources. A separate web link is available for library users with all details of online resources accessible to authorized users.

UGC Infonet E-Journals

The University Grants Commission has initiated a programme to provide electronic access over the internet to scholarly in all areas of learning to the University sectors in India.

The Programme is wholly funded by the UGC and administered and monitored by INFLIBNET. All Universities which come under UGC's purview will be members of the programme and it will be gradually be extend to college as well. Pondicherry University has been selected as one among twenty two universities whose contents would be included in the JCCC (J-Gate Custom Content for Consortia) for Data interchange/resource sharing through INFLIBNET.

UGC-INFONET Digital Library Consortium

The List of e-resources provided for 2015 are as follows

- American Chemical Society Video Tutorial
- American Institute of Physics
- American Physical Society
- Annual Reviews
- Cambridge University Press
- Economic and Political Weekly
- Emerald Video Tutorial
- Institute of Physics
- JSTOR Video Tutorial
- Nature Publishing Group (NPG)
- Oxford University Press
- Portland Press
- Project Euclid
- Project Muse
- Royal Society of Chemistry
- ScienceDirect | Tutorial |Video Tutorial For Non-available Articles
- Society for Industrial and Applied Mathematics
- Springer Link
- Taylor and Francis Journals
- Wiley Blackwell
- UGC - Infonet e-Journals Archive
- American Institute of Physics
- Nature
- Oxford University Press
- Royal Society of Chemistry
- ScienceDirect (Basic Science Collection)
- SIAM Locus

CD ROM Journals Database Service

The University Library has acquired two numbers of CD-MIRROR server. Both the Abstract/Index CD-ROMs and Full Text CD-ROMs of the Journal Databases are mirrored in the CD-MIRROR servers. Around 2000 journals from various subjects are covered by the CD-ROM databases.

The users can browse the databases through Keywords, Publication, Author, ISSN, etc. This facility can be availed through the campus-wide Intranet also. The following CD-ROM journals databases are available with the Library.

CD-ROM Database	Period
General Periodicals on Disc (GPO)	1988-1997, 2000-2002
Business Periodicals on Disc (BPO)	1991-1997, 2000-2002
Social Science Index	1994-1997, 2000-2002
INSPEC – Physics	1996-1997, 2000-2002
Life Science Collections	1992-1996
Energy and Environmental	1984-1996
Ulrich+	1996
Biological Abstracts	1995-1997

Elsevier Science Direct Online Journals on Payment basis

Thanks to our Ex Vice chancellor Dr.A.K. Bhatnager initiative on the introduction of the science direct in the year 2004, Seven major disciplines have been subscribed. online journals including back files of the same disciplines. namely Computer Science, Mathematics, Physics and Astronomy, Materials Science, Biochemistry, Genetics and Molecular Biology, chemistry and Earth Sciences to 763 current and 623 archival journals provided by Elsevier Science Direct and can be accessed via intranet.

Ebsco Publishing Online E-JOurnals on Payment basis

EBSCO Publishing Ltd.,- an online publishing company of U.S.A. provides access to the electronic journals databases viz. "Business Sources Premiere"(8500 full text) and "Academic Search Premier"(1300 full text) and the total number of 9800 full text and 2300 abstracts supplied by the EBSCO. It is exclusively belongs to Humanities and Social Sciences.

SCOPUS (Payment) – As the largest abstract and citation database of peer review research literature and quality web sources. Abstracts from 16000 + Journals covering the abstract of the discipline from Health sciences (6800 Titles), Life Sciences(4300 titles), Physical sciences(7200 titles) and Social sciences & Humanities (5300 titles)

Annual Reviews Archives (Perpetual Access/Backfiles)

Annual Reviews (Electronic Back Volumes) Archives covering a comprehensive collection of Annual Reviews back Volumes with content spaning from Biomedical Sciences, Physical Sciences and Social Sciences dating back to the very first volume of Annual Reviews in 1932 and upto 2002 on perpetual access.

U.N . Depository

The Dag Hammarskjold library of the U.N. Secretariat in New York has arranged for the distribution for the U.N. Documents and publications to users and Research Scholars around the world through its depository libraries since 1946. There are about 405 depository libraries in 145 countries and 16 of them are in 13 cities of India. Pondicherry University library has the honour of being one of the 16 U.N. Despository libraries in India.

Library Annex

An additional new building with 50,000 sq.ft. is opened recently to offer 24 hour reading facility, a special section for the visually challenged, a children's library. A recent unique addition is a Bookshop cum Souvenir shop to cater to the requirements of the Students, Faculty and other staff.

User Education on E- Journals

Pondicherry Library has been subscribing E-Resources namely E-Books, E-Journals -Science Direct (online) Journals including Subject Back files and EBSCO E-Journals (online) for Humanities on Payment Basis , CD Rom Databases (Offline) and UGC Infonet E-Journals on free of cost from 2004 onwards. In the beginning, the cost of payment online subscriptions have crossed more than 75 lakhs. These E-Resources can be seen not only from University Library but also to all the Schools/Depts/Centre through campus Intranet . But however, we have received poor response from the user Statistics provided by M/s Elsevier India (P) Ltd., New Delhi. Now the cost of E-resources has crossed more than onc crore in the library.

Students should be trained on how to get access to these electronic sources b) search effectively in order to find what they are looking for and c) retrieve the information they need in the education session students could access an electronic journal and learn about document delivery services, the FTP and the printing facilities of the library. They can also access an electronic book database in order to get an idea of what it offers and how it works.

There are methods of creating awareness and training and teaching the users need namely Internet, Orientation Programme methods, Printed Guides, one to one instruction Lectures and courses and online instruction. Library staff is responsible both for management of electronic sources as well as for the support and education of the students. Experience. Librarian must have through knowledge and experience. The continuing education with trainings, conferences and new readings is essential for the academic librarian to stay "alive" and useful in the world of information and library services.

Evaluation should be done to the instruction that is provided to the students on how to use the electronic information sources in order to indicate any possible weaknesses. The suggestion of the students should be written down and be considered as very important for the library's future decision making on electronic sources, about the time they spend the time as well as about the effectiveness of the education and instruction given to the students can be collected the following methods namely opinion leader interview, Electronic statistical data and globally the observation

and experience of the library staff that works at the information desk should be considered as very important for such a research..

Conclusion and Recommendation

Increasing access to information has led to a shift in the traditional role of both the library and librarian. For effective dissemination of information online journals make their appearance on the net much before the print copies reach the subscribers. Therefore E-Journals is such a source, which reaches the user in right time at any place with all information.

On the basis of the above findings, there are few methods to take effective steps for providing electronic information sources to the students. Viz:

1 Find the most appropriate electronic information sources for the educational needs of the students according to university curriculum.

2 Provide the necessary equipment and access to electronic sources for all the Research Scholars of the University.

3 Provide to students the most appropriate educational method (or Orientation Programme) in order to educate them effectively.

4 Evaluate the electronic sources and the education providing to students.

5 Electronic information sources can be a powerful tool for all the members of the academic community if they learn to use it effectively. Electronic sources such as OPAC, online databases, electronic documents and Internet are essential to every student research.

6 The efforts of UGC-INFONET and INDEST-AICTE Consortium are appreciable and will definitely strength higher education system in India free or highly subsidized access to scholarly e-resources will help educational institutions in fulfill their mission into reality.

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Review Article

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Paper Documents to e-Documents: An Empirical Approach towards Digitization for the Novice

Md. Rafiqul Alam*, Sourav Das**

Abstract

This paper deals with the process of digitization of paper documents using mainly available free software. It is necessary not only for library professional but also for the others. Because in the present era of IT any one may have require to digitized their valuable paper documents for preservation digitally. In this paper the digitization process has been discussed in a very lucid manner so that a novice person can do the digitization job using freely available software with ease.

Keywords: Digital Library; E-Document; E-Library; PDF-Searchable; Scanner; Storage Device.

Introduction

E-documents, an abbreviated term for electronic documents, are documents that exist only in electronic form such as data stored on a computer, network, backup, archive or other storage media [1]. Due to the rapid advancement of Information and Communication Technology it becomes very popular to us. When this type of documents are managed and maintained by a library then we called that library as an e-library or sometimes digital or virtual library. Remote access via network or internet to this type of library is possible from any part of the globe.

What is Digitization?

According to Wikipedia Digitizing or digitization is the representation of an object, image, sound, document or a signal (usually an analog signal) by a discrete set of its points or samples. The result is called digital representation or, more specifically, a digital image, for the object, and digital form, for the signal. Strictly speaking, digitizing simply means capturing an analog signal in digital form [2]. For a document the term means to trace the document image or capture the "corners" where the lines end or change direction.

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Why Digitization?

There are so many reasons why digitization is necessary in today's context. Some of reasons are

- Digitally accessible
- Save storage space
- Data preservation

Besides these known benefits, digitization will critically provide you with a great head start in dealing with your documents and plans. It will not only allow you the flexibility and ability to be operable on existing and future digital platforms, it will also allow your digitized information to transform into useful, portable format. It is now commonly adapted universally as it can make a huge difference in many aspects, from information sharing to workflow processes [3].

The Differences between E-Documents and Paper Documents:

1. Variety of electronic documents is larger than paper documents.
2. In terms of accessibility and quick relevant content searching ability e-documents are more efficient than paper documents.
3. Electronic documents are more persistent and more difficult to destroy than paper documents. Throwing away or shredding makes paper documents disappear.
4. Changes or rectification of errors to an electronic document are faster and easier than paper documents.

5. Electronic documents last longer than paper documents and always looks like new document while Paper documents deteriorate with time.
6. Electronic documents may be created by electronic means while paper documents are created by humans [4].

Equipments Needed for Digitization Work

Digital scanner, computer, USB pen drive or other storage device, PDF creator Software, PDF file joiner/ splitter software, digital library software.

Steps of Digitization

Selection of Paper Documents

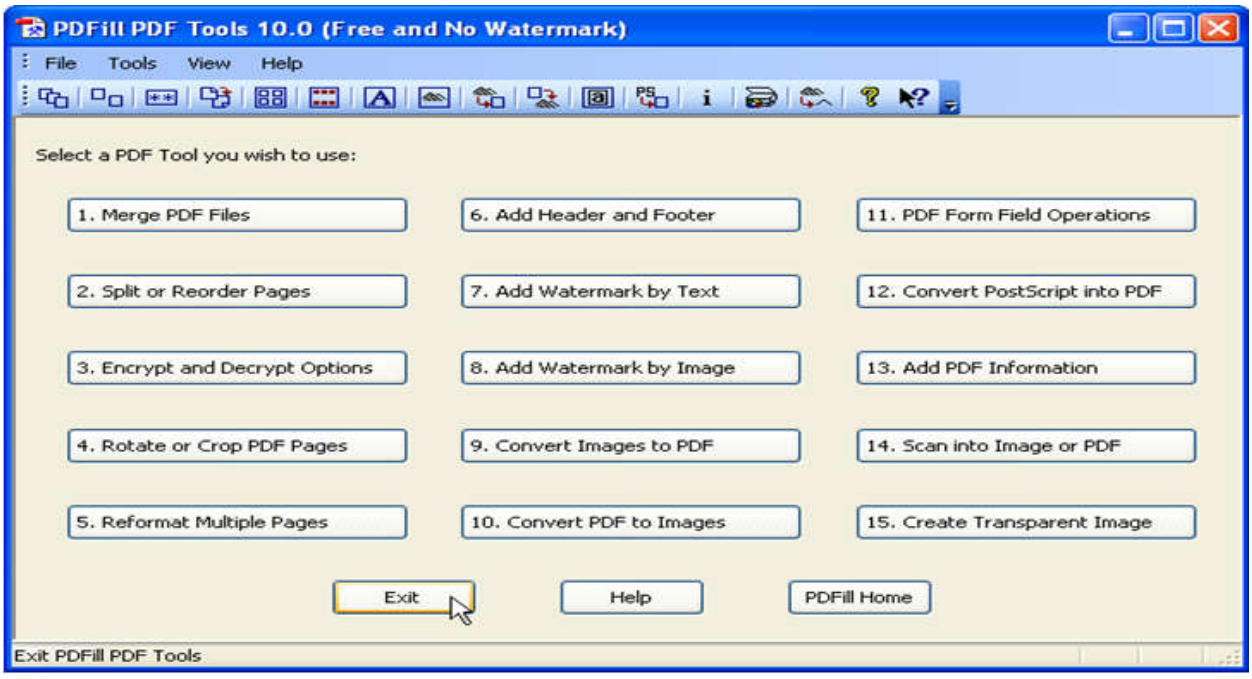
First of all we have to select the paper documents which to be digitized for the future preservation.

Selection of Scanner and Scanning of Documents

In this step the paper documents are to be scanned to convert it into a digital format. The paper documents may be scanned in different file format for example .pdf, .png, .jpg, .bmp, etc. But my suggestion is, if the document is a black and white textual document then it should be scanned directly from the scanner in a PDF-Searchable file format because it occupy less space than that of other file format and it helps the user to find desired document with relevant content very quickly from the digital repository. If the document is a coloured document then only select .jpg or .bmp file format if necessary. But some scanner may not support PDF-Searchable file format. Hence at the time of selection of scanner it should be kept in mind that the scanner whether supports PDF-Searchable file format or not. The scanner should also have the facility of auto feeding of documents.

Software Selection and Joining of pdf Files

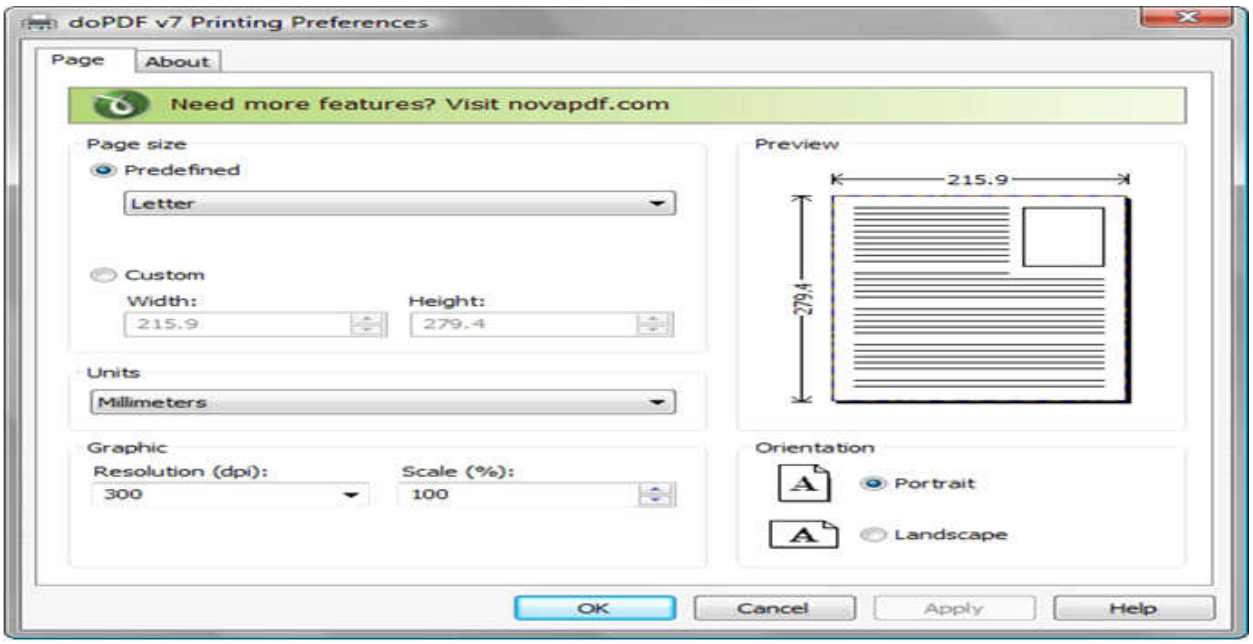
There are so many free software that can join, split, rotate and so many functions of pdf file as and when required. One of among them is PDFill PDF Tools [5] that can be download from the site http://www.pdfill.com/download.html.



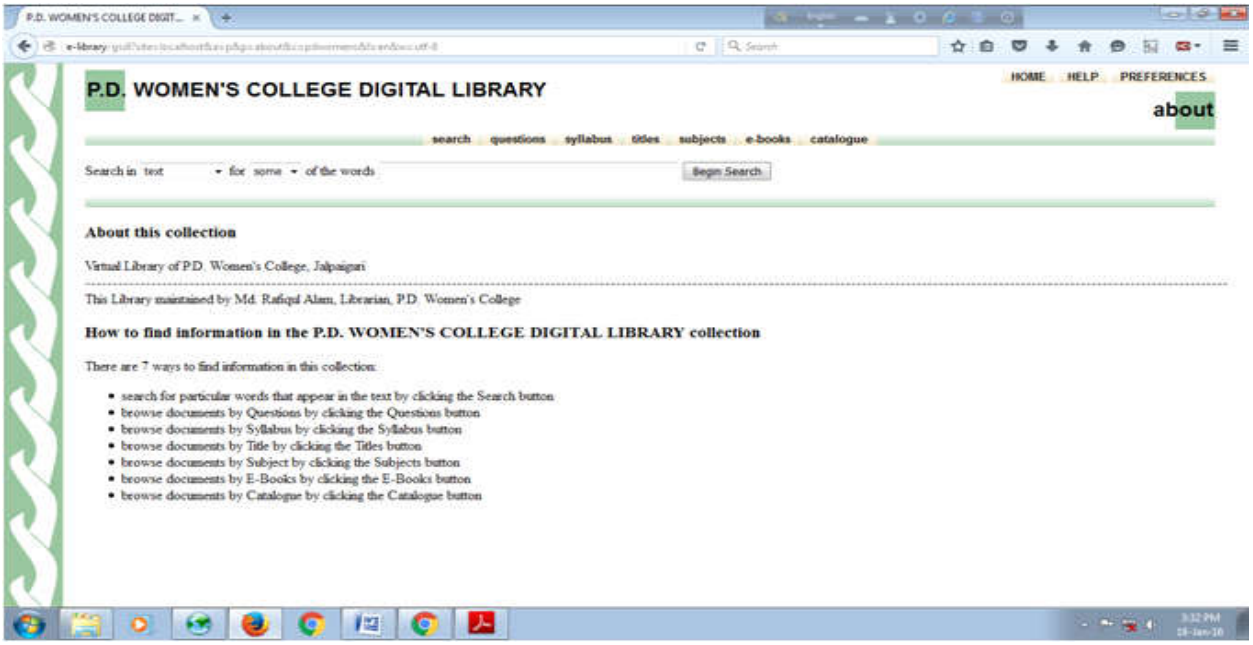
Another one is doPDF [6] that can convert any document into a pdf file format. Suppose if you want to convert a .jpg file extension document into a .pdf file extension. Then you simply select the print option. Then select do PDF as a printer and then the output will come as a pdf file format. DoPDF software can be download from the site http://www.dopdf.com/download.php

Building of Digital Library

Now the digitization process is complete. So the building of digital library is essential in this phase. Because digital library allow us to store, manage and retrieve the documents through search facility. Otherwise we could not be able to find out the required document at a right time. We can build



digital library by using DSpace or by Greenstone [7] digital library software. Greenstone can be download from the site http://www.greenstone.org/download



Advantages of Digital Documents and of Digital Library

1. E-documents never become older and remain always as a new.
2. Multiple accesses.
3. Save space.
4. Allow information retrieval by any search term.
5. Easily accessible.
6. No physical boundary.
7. Round the clock availability.
8. The big advantage of e-documents in context of today's environmental issue is it encourages to 'going paperless, save trees'.

Limitations of Digital Documents and of Digital Library

1. Digitization violates the copy right law as the thought content of one author can be freely transfer by other without his acknowledgement.

2. As more and more computer are connected to the Internet its speed of access reasonably decreasing.
3. The infrastructure cost of digital library is generally very high.
4. Digital library will need high band for transfer of multimedia resources but the band width is decreasing day by day due to its over utilization.
5. With the much larger volume of digital information, finding the right material for a specific task becomes increasingly difficult.
6. Digital libraries cannot reproduce the environment of a traditional library.
7. Due to technological developments, a digital library can rapidly become out-of-date and its data may become inaccessible.[8]

Conclusion

Document preservation in electronic format is the need of time and we cannot ignore this. Are e-documents really greener than paper documents? The debate is still going on. However, e-document encourages us to go paperless and discourage to use printed paper document. By this way we can save trees and at the same time we can manage our valuable knowledge documents very efficiently.

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ICT in Library: Marching towards E-Contents

Narender Kumar

Abstract

The integration of ICTs has put forth so many challenges in front of the academic libraries and information & resource centers. However, due to demand of the hours, the academic library environment is in a state of transition in terms of resources and users and panic to address and adopt the applications of ICTs in its pursuits and ready to develop the e-contents according to the syllabi and according to need of their bonafide users. It has been observed that ICTs increases the transparency, efficiency and effectiveness. Countless benefits have been noticed in the presence of ICTs in the library pursuits. Libraries are being strengthened after adopting information and communication technology (ICT) and are well equipped with state-of-the-art services which seems that the use of information technology i.e. computers, telecommunication, reprography, communication etc. has a indispensable role in the modernization of library practices. Hence, with ICT, the library is accessible 24*7*365 for its users with unlimited time. The present paper will try to elicit that how ICT is responsible for paradigm shift of the annals of library and makes library available round the clock for academic communities.

Keywords: ICTs; Transparency; Effectiveness; 24*7*365; Annals.

Introduction

The applications of ICT are omnipresent and are giving the pace to academic, non-academic, technical, non-technical and social activities which seems that ICT is only the single solution for all teaching-learning system ranging from pedagogy to heutogogy. It is the most effectual mode of information and knowledge exchange among various associates of the society viz. corporate sector, industrial sector, government sector, science, research and academic society. Modern electronic gadgets and high speed internet technology have multiplied its potential and make it versatile and adoptable in nature and making it true i.e. anytime-anywhere-lifelong-life-wide. Some of the common terms are being used as synonymous viz. multimedia learning, technology-enhanced learning, computer based training, computer based instructions, computer-aided instruction, internet based training, computer based training, web-based training, online education and online learning, virtual learning, online courses, management information system, massive open online courses, distance learning and life-long learning etc. All these are the part and partial of the concept e-learning. E-learning has transformed the way of delivery of the contents as video contents and chapters are available through National Programme for Technical-Enhanced Learning-NPTEL- an initiative of IITs and IISCs. Presently, IIT Bombay is looking after the activities of NPTEL Local Chapters.

E-Learning: Electronic Learning

The literary meaning of learning is knowledge acquired by study. E-learning means the knowledge acquired by using the technological means. Among both terms, the knowledge is common and way is also common but the acquiring technology is different. E-contents are the gateway to access, disperse and preserve the knowledge. Delivery of speed is high in electronic environment. The availability of the high tech gadgets on nominal price and high speed internet connectivity give the pace to electronic learning environment. The Akash Tablets are the example of this revolution. An internet is the land of origin of E-contents. The growth of internet concept gave the

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birth of networking which leads the development of many networks namely DELNET, BONET, ERNET, CALINET, ARPANET, INFLIBNET, MALINET, INFONET and many more. Emerging technologies are responsible to give the birth of Mobile Learning, Classroom Learning and Ubiquitous Learning. The 3G communication technology has proved the miracle for all above learning.

Guiding Principles of ICTs Practices

The guiding principles should be defined for appropriateness of ICT practices. While preparing ICT policy for a library, the following guiding principles may be used as outline.

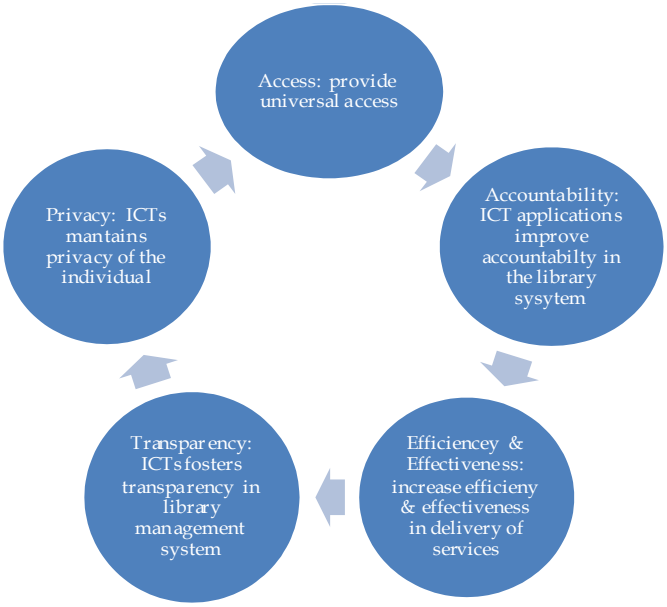

Fig. 1: Guiding principles of ICTs practices

Government of India Initiatives for E-Learning Contents Development

To make available e-contents for all, the GOI has taken initiatives to start major projects so that under-developed and under-budgeted libraries and academic societies can also participate in the rapid changing world with e-learning. Some of them are here:

- Gyan Vahini: It is a collection of intranet based projects which aim to develop interactive multimedia CDs.
- Gyan Sanchar: Internet based project for imparting education services to the widely spread stakeholders.
- Gyan Darshan: It is developed for schools kids, university students and adults in 2000.
- Gyan Vani: It is developed by IGNOU and IITs in 2000 for students who are involved in distance education.
- E-Gyankosh: a digitized learning resource launched by IGNOU in 2005 to facilitate the distance learners.
- NPTEL: National Programme for Technology Enhanced Learning has been started in the year 2001 by the IITs and IISc as a joint venture. Earlier, the programme was looked after by the IIT Madras but now the same is being looked after by IIT Bombay for establishing its Local Chapter and Video Contents in the higher education institutions. The contents are available freely but for use offline and uninterrupted the interested institutions have to send the external hard disks of 10 TB capacities for uploading the local chapters and video contents of Engineering, Humanities and Science & Technology. The aim of this program is to enhance the quality and usability of e-contents among the academic community.
- NMEICT: National Mission on Education through Information and Communication Technology: NMEICT is a mission of MHRD and Cabinet Committee on Economic Affairs. The aim is to develop the qualitative and standard digital contents especially for Indian higher education system with a mission to cater the need of approx. 500 million students which are enrolled in approx. 45000 degrees and diploma institutions.
- NCTEL: National Programme Technology

Enhanced Learning: an initiative of National Institute of Technical Teachers Training, Chandigarh. Through ICT, NITTTR Chandigarh is being organized short term courses in different regions and many courses have been conducted successfully. ICTs proved cost effective for the participants and regional office of NITTTR.

- Under NME-ICT mission nearly 400 universities have been provided 1Gbps connectivity and more than 14000 colleges have also been provided VPN connectivity so far. This program is centrally sponsored to make use of the potential ICT applications in teaching, library and stakeholders activities.
- IIT Madras has taken the initiative to create the e-contents for 996 courses in Engineering, Sciences & Technology, Humanities and Management.
- University Grant Commission has given the green signal to the proposal to publish e-contents for 77 post graduates courses.
- UGC-INFONET: University Grant Commission has started the Infonet programme with the objective to provide the access of scholarly contents to teaching fraternity. The contents are available through INFLIBNET as it is the nodal agency for coordination of the UGC-INFONET and facilitates linkage between ERNET and the universities. But everyone cannot access the contents which are available under the auspices of UGC-INFLIBNET. For free access of scholarly contents of Infonet, the concerned institution or university must be established under section 12(B) 2F. In addition, to enhance the usability of e-contents among the academic colleges, INFLIBNET has started the program i.e. NLIST- a hub of e-journals and e-books. The UGC-INFONET helps higher education system in the following ways:

- It provides the solution to distance learning program.
- It helps the user communities which are situated in the interior areas of the country. It gives the freedom to access the scholarly contents remotely even they can download the contents according to their syllabi. They can easily satisfy their information need.
- Simultaneously, member libraries data is accessible.
- Users can maintain the database of their favorite journals on the home page of the concerned e-resource so that as and when theses are required, the user can access without wasting his/her time.
- Numerous searching tools are available.
- It is the hub of sources and resources for researchers and scholars for getting up-to-date information of their related discipline or area.
- It gives the platform to teachers and students not only locally but also globally.
- It helps the user to participate in rapid changing world.

GOI Initiatives for Electronic Theses and Dissertation

Shodhganga:	It is a reservoir of Indian theses @ UGC-INFLIBNET. The objective of this project is to create the database of the Indian theses on the single platform and provide their access in the public domain. But to participate in this project, the interested university has to sign the MoU with the INFLIBNET for Shodhganga Repository. Thereafter, member universities and their libraries can send the database of their theses for uploading into Shodhganga repository, however the research work should be original one and to check the originality, the anti-plagiarism software viz. URKUND: a pedagogical support system for plagiarism checking has been provided to its member libraries. Currently, 66936 full text theses, 2131 synopsis have been uploaded into ETD Repository up to February 25, 2016 and are available to access in the public domain. Moreover, 231 Universities have been contributed and 249 universities have signed MoU with INFLIBNET for Shodhganga Repository. The repository has the ability to capture, index, store, retrieval, disseminate and preserve e-theses. The beauty of this project is duplicate research work may be avoided and helps the researchers in select their research topics. The Shodhganga Repository @ INFLIBNET is set-up by using the open source digital library software namely DSpace developed by MIT,USA.
Krishi Prabha:	It contains the full text electronic database of Indian Agricultural Doctoral Theses submitted by the research scholars of the state, Deemed and Agricultural Universities. Currently, 7900 doctoral theses with a full text of about 6250 theses. This is very prominent database in the field of agriculture.
Vidyanidhi:	This project has been started by the Department of Library and Information Science, University of Mysore in the year 2000 with the sponsorship of National Information System for Science & Technology, Government of India whose objective is to enhance the quality of doctoral theses in India.

ICT Enabling Libraries to Play with MOOCs Programme

Massive Open Online Courses have recently received the great attention among the academic communities from the media, education professionals and technologically literate sections of the public. The objective of MOOCs is to provide the free access of online courses. In this connection, some major developments are noticed.

Key Developments of MOOCs	
edX (http://www.edx.org)	It is a non-profit platform founded by MIT and Harvard University Institutions to support the project. Under this platform, chemistry, computer science, electronics and public health and 30 to 50 courses are also available on other disciplines.
Coursera (http://www.coursera.org)	It is profit platform. Currently, Coursera has 197 courses in 18 subjects.
Udacitu (http://www.udacity.com)	It is also profit platform start-up founded by Sebastian Thrun. Udacity currently offers 18 online courses in computer science, mathematics, general sciences, programming and entrepreneurship.
Udemy (http://www.udemy.com)	A profit platform founded in 2010. It provides a learning platform which allows anyone to teach and participate video classes. Udemy currently offers 5000 courses.
P2PU (http://www.p2pu.org/en)	It was launched in 2009 as non-profit platform. It offers 50 courses.
Khan Academy (http://www.khanacademy.org)	It is also known as non-profit learning platform. It is started by Salman Khan in 2008, offering 3600 video lectures in academic subjects with automatic exercises and continuous assessment.

Conclusion

The ICT has become the indispensable and will remain exist in present and coming generation education system. In the twenty first century, it won't be an exaggeration to say that the present education system cannot stay without incorporate the ICT applications, in fact, won't be able to address the demands of the modern users. However, it needs utmost care that governing authorities have to ensure proper control, licensing to ensure quality, availability, accountability, affordability, viability, and vitality in higher education. With ICT, the academic libraries are taking new shape. Things are moving globally. Every sector like education, industry, agrarian, corporate, medicine, engineering science and technology are being influenced by the ICT. A significant transformation has been noticed in the activities of every sector, in fact, a common man can also participate in the transforming world up to affair degree. The service provider agencies are also being changed. Due to information and communication technologies some new concepts of library have been emerged i.e. hybrid library, digital library, electronic library, virtual library and mobile library which lead the high-tech environment for their accessibility. In olden days, the library services were available for limited people; limited access and limited time. Now, there is no limit of contents and their access tools because of ICTs and library is available at the finger tips of the users with unlimited contents. But still some challenges are also available in front of the stakeholders which need to be addressed at the earliest. To ensure proper IT infrastructure and maintain 3G communication speed are still challenge. ICT policies need to be defined properly so that everyone can use fairly. We proclaim that the present era is the digital era as education systems are highly influenced by the incredibly rapid technological changes. But still, the education sector is expected to have a well defined ICTs policy for appropriate and effective use in academic and administrative activities. Although things are becoming easier but there are some lacuna on the part of policy frame work.

Last but not least, libraries are being changed and making available round the clock for users and playing a vital role in the development of country in general and research in particular. Information and Communication Technologies are proved mile stone due to their merits. Some issues are still available; nevertheless, the libraries are moving forward and achieve the new heights in the academic with ICT.

Suggestions

After undergoing all issues and policies, the author feels that though online contents are being strengthened the Indian Education System and stakeholders but to make available for under-budgeted and under-developed institutions and libraries is still challenge in front of the GOI and stakeholders. To address all these challenges, some

suggestions have been recommended who may be considered up to fair degree.

- Only few organizations are being benefitted from online interactions as under-budgeted institutions cannot afford the expenses of installation of ICT applications. Hence, GOI will have to provide the subsidized on Online Courses, Contents and Electronic Gadgets for the masses so that everyone can enjoy the online contents, speed of delivery and can give his/her contribution in the development of the nation in general and their own field in particular.
- India is a place where multiple languages culture privilege which demand the quality contents in multiple languages. For 100% implementation of online contents, qualitative contents in multiple languages shall be developed so that the student of every region may participate in the new technical environment and enjoy with e-contents.
- To run the online courses and ensure their continuity, the trained technical staff shall be deployed. Thus, online courses may be strengthened in Indian education system.
- Policies may be defined clearly for effective use of the online contents in the academic pursuits.
- To ensure the delivery of speed of contents and uninterrupted accessibility, proper IT infrastructure need to be developed.
- Every academic institution has to make the provision in annual budget for implementing the ICTs applications and need to start the technical activities in their academic pursuits.
- Every institute has to take the responsibility to develop its own e-repository so that it may be the part of online contents.

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Review Article

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Status of Medical College and Research Hospital Library and Information Centres at Bangalore: A Study

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Abstract

Health Science libraries are prime reservoirs of health information, library plays a vital role to get necessary information for medical practitioners to update the medical knowledge. The purpose of the study is to investigate the status of 10 medical college and research hospital libraries at Bangalore. Study focus on the context of collection, physical infrastructure, usage of ICT tool, library services and problems. For this study survey method was used and distributed questionnaire to collect relevant data. The comparative analysis of 10 medical college libraries have been discussed and based on findings suitable suggestions given to improve medical college services.

Keyword: Library Status; Physical Infrastructure; Services; Usage of ICT Tools.

Introduction

The health care is a very important social service sector, which is essential for achieving the goal of sustainable human development in all the countries. Health is one area where information has played a major role in life saving. Health information is a vital component of public health management. There is a need for constructing a solid platform from which specific health information might flow in a more sustainable way.

Health information is a basic necessity which improves the health delivery system. Improved and standardized methods are also evolved with a view to assess the quality of health information. Health professionals need to maximize the potential benefit of the evolving information technologies as a means of improving public access to health information and care. Library plays a vital role to get necessary information for medical practitioners to update the medical knowledge for better teaching for students, identifying and preventing the disease and curing of those disorders. The first medical library was established in India on 1966 by the Govt. of India it is located at Ansari Nagar, New Delhi. It aims to provide library and information services to the health science professionals in India. The Medical Council of India was established in 1934 under the Indian Medical Council Act, 1933, now repealed, with the main function of establishing uniform standards of higher qualifications in medicine and recognition of medical qualifications in India and abroad. The number of medical colleges had increased steadily during the years after Independence.

Today, medical college libraries status is no longer defined by the collection it housed; it is extended to include online and seamless access to information resources. The right amount of information at the right time has long since been an important factor. The greatest challenge for the medical library professional today is to create an organization that can share knowledge; they have more opportunities to expand from their traditional role to organize the digital content. In this regard present study aims to analyse the status of medical college's libraries at Bangalore.

Minimum Standards Requirements for Medical College Library in India

Medical Council of India has made minimum standards for medical college library in India. According MCI there shall be a Central Library (1200 Sqm) with seating arrangement for at least 150 students for reading and having good lighting and ventilation and space for stalking and display of books and journals. There shall be minimum one room

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for 150 students inside and one room for 75 students outside. It should have not less than 10000 text and reference books. In a new medical college the total number of books should be proportionately divided on yearly basis in five years. The number of journals shall be 100 out of which one-third shall be foreign journals and subscribed on continuous basis. The number of copies of textbooks in each subject of undergraduate teaching shall be ten. There shall be provision for –

- Staff reading room for 30 persons;
- Rooms for librarian and other staff;
- Room for daftaries and book binders;
- Microfilm reading room;
- Journal room;
- Room for copying facilities;
- Video and Cassette room (desirable)
- There shall be a Departmental library with at least 80-100 books; and
- Air-conditioned Computer room with Internet facility and Database access.

Review of Literature

Abu Waris 2013: A study attempts to identify the situation and infrastructure of medical council of India in Karnataka. The study evaluates the library services, collections and budget. The result of the study is satisfactory but there is a need to adopt new ICT tools to develop libraries, manpower and library has to offer ICT based services to access required information to users.

Manoj K. Joshi July 2015: The study includes 12 university libraries of Haryana state with special reference of ICT tools. The Study attempts to identify the infrastructure, seating capacity, internet connectivity, manpower & collections. Most of the colleges have their own library building with very good collections and seating capacity. All libraries have separate digital section with high speed internet connection. Paper concluded that almost half of the libraries have more than 50 % of assistant Librarian vacant position. The university libraries have good ICT infrastructure with digital resources and offering ICT based services to users.

Objectives of the Study

The Study attempts to analyse the status of medical college and research hospital library and information centre at Bangalore. Aspects like infrastructure, services, staffs, members, budget, collection, IT services and problems.

Scope and Methodology

The Scope of the study was limited to know the status of medical college and research hospital libraries at Bangalore. As a part of the study survey method was used and a structured questionnaire was distributed & personal interviews has been made.

Table 1: Name of responding medical libraries

Name of the medical institution	Abbrev.	Running by,	Year
National Institute of Mental Health & Neuro Science	NIMHANS	Central Govt.	1974
Rajiv Gandhi University of Health Science	RGUHS	State Govt.	1996
Kidwai Institute of Medical Oncology	KIMO	State Govt.	1981
Jayadeva Institute of Cardiology	JIC	State Govt.	1972
Rajarajeshwari Medical College and Hospital	RMCH	Private	2006
Kempegowda Institute of Medical Sciences Hospital & Research Centre	KIMS	Private	1980
Viyedia Institute of Medical Science & Research Centre	VIMS	Private	2002
The Oxford Medical College, Hospital & Research Centre	Oxford	Private	2014
Mahaver Jain Medical College & Research Hospital	MVJ	Private	2001
M.S. Ramaiah medical College and Hospital	MSR	Private	1987

Given below are the analyses of data regarding the ten medical college libraries.

Table 1 Show that out of 10 medical colleges 6 medical colleges running by private management, 3 medical colleges comes under Karnataka state government and NIMHANS is the only medical institution comes under Ministry of Health and family welfare, Govt. of India.

Analysis and interpretations of data

The data collected were tabulated and analysed in

Table 2: Library Staff Details

Designation	NIMHANS	RGUHS	KIMO	RMCH	JIC	KIMS	VIMS	Oxford	MVJ	MSR
Chief Librarian	-	-	-	1	1	1	1	1	1	1
Dy. Librarian / Sr. Librarian	1	-	-	4	1	-	1	1	1	1
Librarian	3	-	-	-	-	-	-	-	-	-
Asst. Librarian	-	2	-	2	1	7	3	2	2	4
Doc. Officer / Inf. Officer	-	-	-	-	-	-	-	1	2	1
Library Assistant	2	-	1	1	1	4	3	4	4	2
FDC / LDC / Clerk	1	-	1	-	-	6	1	1	1	-
Library Attender	2	1	2	6	-	-	2	2	3	2
Total	**9**	**3**	**4**	**14**	**4**	**18**	**11**	**12**	**14**	**11**

the Table 2. The comparative of professional staff strength among the medical college libraries is described in the Table 2.

Table 2 shows the library staff details of medical colleges, among 10 medical KIMS library have the highest number of professionals staffs, data reveals that NIMHANS, RGUHS & KIMO have no Chief Librarian / University Librarian and RMHC library having 4 Deputy Librarians, 8 colleges appointed assistant librarian, 3 medical colleges have Document

Table 3: Library seating capacity

Seating Capacity	NIMHANS	RGUHS	KIMO	RMCH	JIC	KIMS	VIMS	Oxford	MVJ	MSR
Reading hall	120	50	30	550	-	80	800	150	600	450
Periodical Section	80	-	10	30	20	30	100	50	20	250
Digital Library	10	-	5	53	30	20	50	40	50	250
Reference Section	60	-	-	100	-	120	50	60	600	300
Total	**270**	**50**	**45**	**733**	**50**	**250**	**1000**	**300**	**1270**	**1250**

Officer position, most of the medical colleges appointed library assistants. In this regards all the libraries have qualified staff for routine operations of the library.

It is evident from the Table 4 that many libraries have well infrastructural facilities along with good seating capacity in the library building, data reflects that 3 medical colleges have more than 1000 seating capacity, MVJ library has the highest number of seating capacity with 1270 no's. NIMHANS, RMCH,

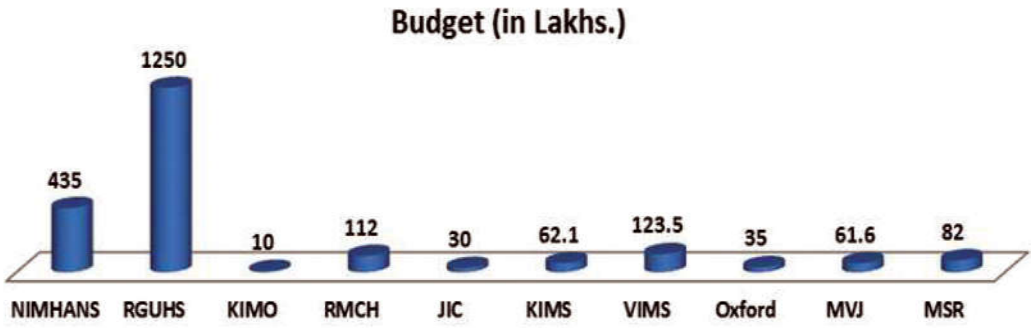

Fig. 1: Library annual budgets

KIMS and Oxford libraries have more than 250 seating capacity. It is observed from the table that RGUHS, KIMO and JIC have very less seating capacity which needs to be increase as per the MCI norms encourage the users.

Budgets plays a vital role in any organizations, budget allocation is a most important factor for medical college libraries in context of collection, infrastructure, ICT tools and other services. Data reveals that 3 libraries i.e. KIMO, JIC & Oxford have received less than 40 lakhs respectively for procurement of books, journals and others annually.

Table 4: Library statistics

Collection	NIMHANS	RGUHS	KIMO	RMCH	JIC	KIMS	VIMS	Oxford	MVJ	MSR
Books	29545	3000	4413	21598	2500	27000	21000	4138	13974	18000
Journals	33	250	20	169	32	120	250	42	132	156
Bound Volumes	19705	800	7182	1480	7500	7000	1980	-	950	7920
E Books	500	5198	-	1500	1000	-	3836	5128	-	700
E Journals	4000	323	-	293	250	90	297	328	359	296
CD / DVD	116	2	-	523	100	300	1237	178	920	400
E-Database	10	-	-	2	4	2	-	-	-	-

NIMHANS, RGUHS, RMCH & VIMS libraries have more than crores of annual budget for library collection and infrastructural development. It is observed form the table that KIMS, MVJ and MSR libraries having less than crores.

Medical Libraries are expected to provide efficient service to its users on demand as well as in anticipation, different libraries having various types of documents in the format of print and electronic resources like books, journals, reports, CD-ROMs, etc. NIMHANS library possess the large number of collection as shown in the table 2 with more than 29545 books, 19, 705 bound volumes and 4000 journals from more than 10 electronic databases. KIMS library having more than 27,000 books, 7,000 journals and 90 E Journals from 2 electronic databases.

Table 5: ICT Tools

ICT Tools	NIMHANS	RGUHS	KIMO	RMCH	JIC	KIMS	VIMS	Oxford	MVJ	MSR
Barcode printer	1	1	-	1	3	2	1	1	1	3
Computers	20	12	19	53	22	30	53	42	50	67
Printer	4	1	2	1	2	2	1	1	2	2
Reprography Machine	1	1	1	1	1	1	1	1	1	2
Scanner	2	1	1	1	2	2	1	1	1	2
Projector	-	-	-	1	2	1	-	1	1	1

RGUHS, KIMO, JIC and Oxford medical colleges have below 5,000 books. Four college libraries have a total collection of print journals below 50 it shows that E-journals are more popular compare to print in context of cost, maintenance and archival facilities.

Good ICT infrastructure leads Medical libraries to enhance the effectiveness of Information services, above table indicates the availability of ICT tools in the library, out of 10 medical colleges 9 colleges have bar code printer except KIMO, all the medical colleges have computers, Printer, reprography and scanner for user access and 6 medical colleges have projector for special function/induction program at library.

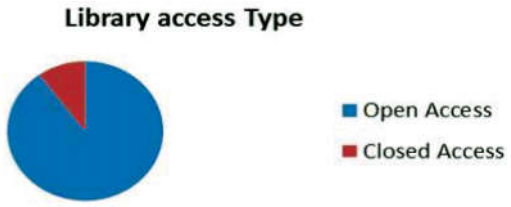

Fig. 2: Library access

Table 6: Classification System

Classification Scheme	NIMHANS	RGUHS	KIMO	RMCH	JIC	KIMS	VIMS	Oxford	MVJ	MSR
Classification	DDC & NLM	DDC	DDC	NLM	DDC	DDC	DDC	DDC	DDC	NLM

Data reflects that Medical libraries have to occupied with well ICT based resources and services to satisfy the diverse information needs of the users.

Figure 2 shows that among 10 except MSR medical college library rest of all libraries have open to access books.

To enable easy information retrieval systems

Table 7: Status of automation

Library Classification Scheme	NIMHANS	RGUHS	KIMO	RMCH	JIC	KIMS	VIMS	Oxford	MVJ	MSR
Classification	YES	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes

different libraries adopts different classification system, NLM and DDC are most used classification system, Out of 10 medical colleges NIMHANS library practice both NLM and DDC classification, RMCH

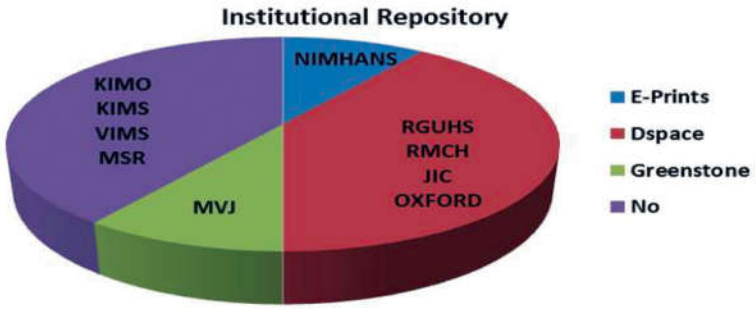

Fig. 3: Institutional repositories

and MSR libraries practice NLM classification and rest of the libraries practice DDC classification scheme.

The Table 7 shows the status of library automation; among 10 medical college libraries all the libraries have automated the library management activities except KIMO library.

Table 8: Subscription of E-resource

Abbrev.	Subscribed E-Resources
NIMHANS	Ebsco Host, Elsevier, Proquest, Psychiatry Online, Wiley, John Wiley, Springer Ovid, Mcgraw Hill, Sage, Thieme, Oxford University Press and other psychiatry and neuro science related databases.
RGUHS	Ebsco, MD Consult
KIMO	Pubmed, MD Consult, Medline Plus
RMCH	Pubmed, Ebsco, MD Consult, Proquest, Delnet
JIC	Ebsco, Proquest
KIMS	PubMed, MD Consult, Medline Plus
VIMS	Ebsco, Proquest
Oxford	Pubmed, Ebsco, MD Consult, Medline Plus, Proquest
MVJ	Ebsco, MD Consult
MSR	Ebsco, Medline Plus, Proquest. MD Consult, Pubmed

Digital library services are provided by only 6 medical colleges and among 6 medical colleges RGUHS, RMCH, JIC, Oxford libraries are using D-Space, NIMHANS using E-prints and MVJ library adopted Green Stone Institutional Repository software. KIMO, KIMS, VIMS and MSR libraries are not having institutional repository software.

Table 9: Consortium membership

Consortium Membership	NIMHANS	RGUHS	KIMO	RMCH	JIC	KIMS	VIMS	Oxford	MVJ	MSR
Consortium	No	HELINET	HELINET	HELINET	HELINET	HELINET	HELINET	HELINET	HELINET	HELINET

Medical college libraries having various electronic database related to health practice, NIMHANS library have access to Ebsco Host, Elsevier, Proquest, Psychiatry Online, Wiley, John Wiley, Springer Ovid,

Table 10: Services

Library Services	NIMHANS	RGUHS	KIMO	RMCH	JIC	KIMS	VIMS	Oxford	MVJ	MSR
Reference Services	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Discussion Room	No	-	-	Yes	-	Yes	Yes	Yes	Yes	Yes
Internet Services	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ILL Services	No	-	Yes	Yes	Yes	-	Yes	-	Yes	Yes
Reprography Services	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes	Yes
Orientation Program	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Mcgraw Hill, Sage, Thieme, Oxford University Press and other psychiatry and Neuro science related databases.

Table 9 shows the consortium membership, except NIMHANS 9 no of medical college libraries have HELNEAT consortium members for web resource access.

All libraries endeavour to provide maximum possible services to their users. In the present study all the libraries are providing reference, internet and orientation program to users. Discussion room and inter library loan services provided by 6 out of the 10 libraries. 9 libraries are provided reprography services to users.

No 11 Advisory Committees

All medical college libraries have advisory committees for library development.

Findings & Suggestions

- Most of the libraries have the main problem of insufficient staffs, majority of the libraries have no librarian and professional staffs.
- VIMS, MVJ & MSR have good seating capacity in the library, Govt. medical libraries like RGUHS, KIMO & JIC libraries have very less seating capacity.
- Lack of budget & trained manpower especially in ICT tools.
- The management should give important to modernize the information service system with ICT facilities.
- It should expand the facilities and recruit trained / qualified staffs to provide better services.
- Study recommendations management should support and reserve adequate funds for the development of library especially automation and ICT facilities.
- It is recommended that the medical libraries should be built need based services / Collection.

Conclusion

Present study was restricted only of medical colleges and research hospital at Bangalore. A library is a collection of sources of information and similar resources, made accessible to a defined community for reference or borrowing. Now a day's most of libraries are concentration on web access for books and journals. Unfortunately most of the medical college are facing problem to get sufficient funds for library management. Three govt medical college libraries are facing problem without professional librarian as head. Most of the medical colleges are not following MCI norms practically and also not maintained staffs hierarchy as per qualification and also not paying salary as per Govt. /MCI norms. The respective management have to concentrate on these issues seriously because information is a vital role for medical practitioners to get up-to-date information for preventing and curing the diseases.

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8. Manoj K. Joshi. University Libraries in North India: Current Status and Information Technology Use Trends., 2015, DESIDOC Journal of Library & information Technology. 2015; 35(4): 258-265.

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[1] Flink H, Tegelberg Å, Thörn M, Lagerlöf F. Effect of oral iron supplementation on unstimulated salivary flow rate: A randomized, double-blind, placebo-controlled trial. J Oral Pathol Med 2006; 35: 540-7.

[2] Twetman S, Axelsson S, Dahlgren H, Holm AK, Källestål C, Lagerlöf F, et al. Caries-preventive effect of fluoride toothpaste: A systematic review. Acta Odontol Scand 2003; 61: 347-55.

Article in supplement or special issue

[3] Fleischer W, Reimer K. Povidone iodine antisepsis. State of the art. Dermatology 1997; 195 Suppl 2: 3-9.

Corporate (collective) author

[4] American Academy of Periodontology. Sonic and ultrasonic scalers in periodontics. J Periodontol 2000; 71: 1792-801.

Unpublished article

[5] Garoushi S, Lassila LV, Tezvergil A, Vallittu PK. Static and fatigue compression test for particulate filler composite resin with fiber-reinforced composite substructure. Dent Mater 2006.

Personal author(s)

[6] Hosmer D, Lemeshow S. Applied logistic regression, 2nd edn. New York: Wiley-Interscience; 2000.

Chapter in book

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editors. Dental caries: The disease and its clinical management. Oxford: Blackwell Munksgaard; 2003. p. 7-27.

No author given

[8] World Health Organization. Oral health surveys - basic methods, 4th edn. Geneva: World Health Organization; 1997.

Reference from electronic media

[9] National Statistics Online—Trends in suicide by method in England and Wales, 1979-2001. www.statistics.gov.uk/downloads/theme_health/HSQ 20.pdf (accessed Jan 24, 2005): 7-18. Only verified references against the original documents should be cited. Authors are responsible for the accuracy and completeness of their references and for correct text citation. The number of reference should be kept limited to 20 in case of major communications and 10 for short communications.

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