

WEB BASED INFORMATION SOURCES AND SERVICES: A CASE STUDY OF M.S.P.MANDAL'S DEOGIRI COLLEGE, DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY OF AURANGABAD

Dr. Sudesh N. Dongare*

* Librarian

Deogiri College, Aurangabad,
Maharashtra, India

QR Code



Abstract: - *With the emergence of the internet and associated technologies, in particular the world wide web has opened up an entirely new medium for providing improved information services and resources for the users. Library services provided by using web technology are referred as web based library services. The present paper mainly discusses that what are the web based library services i.e. library web page , web OPAC, electronic resources have been highlighted.*

Keywords : *Web Based Services; Library Web Page; Web OPAC; Electronic Resources; Ask-a-librarian.*

Introduction :

The college library plays an important role in the overall development of students. Undergraduate students often visit the library to consult previous question papers and syllabi, to borrow books and other material, and to use other services. With the application of information technology and the advent of Web-based services, contents are now available to students on their desktop. Various consortia provide access to digital contents any time and in any place. Students want to see traditional services transformed into digital information services. College libraries provide information that can

help lead students to graduate, post graduate, and research studies (Jefferson and Smith-Burnet, 1978). De Jager (2002) found that use of the library improved student exam results. The main objective of the college library is to provide conceptual information and provide information to students for preparing assignments. Teaching relies more on lectures than on textbooks.

The basic function of the college library is to provide the study material to its users in short possible time to serve the information requirements of the students and teachers. In this digital age, most of the college libraries have started computerization of in-house activities.

Many Integrated Library Management software (ILMS) LIBSYS, SLIM ++, LIBERTY, Trodoon, LIBMAN, and open source software such as NewGenlib, Koha, Weblis, ABCD, Evergreen are also available in public domain to automate the library operations. INFLIBNET (Information Library Network) playing tremendous role in the development of libraries in India, INFLIBNET developed SOUL library automation software to university and college libraries at affordable price. Unquestionably the reputation and status of any college library depends on the quality information services provided to clients but it is rather difficult to ignore the advances in the field of ICT and libraries must adapt the new mode of information services.

About Deogiri College :

In India about 47 central universities, 370 state universities, 123 deemed universities and 282 private universities with 11147 colleges under section 2(f) , 12(B) of UGC Act 1956 are catering the educational needs of the people of India (<http://www.ugc.ac.in>). Deogiri College is one of the premier institutions in India established by the great visionaries like late Shri. Vinayakrao Patil, Shri Dadasaheb Sawant and Others in the year 1960. Credited with the organizational of the 77th “ All India Literary Meet” in Deogiri College Campus inaugurated by Hon. Shri. Sharad Pawar & presided over by Mr. R.G.Jadhav. The Golden Jubilee Ceremony of M.S.P. Mandal was inaugurated by Her Highness, Smt. Pratibhatai Devi Singh Patil, the Honorable the President of

India. Recipient of special assistant of Rs. 50 Lakhs from the state Govt. on completing 50 years. A leading institute in the NAAC reaccreditation receiving 5 A Grade and 5 B grade college with respectable CGPA. Receipt of UGC College with potential for excellence status for 3 colleges. Continual guidance and inspiration from Shri. Satish Chavan , the Secretary, has been invaluable in shaping this institution. M.S.P. Mandal is an organization of Agriculturists, Industrialists, Freedom fighters, Social workers, Businessman, MLAs, Contractors, Doctors, Advocates having a high career profile, committed to the social development and are dedicated to their work. The organization of a mega Blood Donation Camp collecting more than 5000 blood bags was one of the greatest social contributions of the institution.

The M.S.P. Mandal, lead by the Secretary , Shri, Satish Bhanudas Chavan , President, Shri. Prakash Solunke and their able colleagues with new vigor and zeal , has achieved fast fast academic development and emerged as genuine centre of knowledge and wisdom.

College has 13 Under Graduate Courses and 20 Post Graduate Departments and presently 288 faculty members who are teaching more than 14000 students in the college. College has receive ‘A’ grade by NAAC with CGPA 3.75 out of 4 in the 3rd cycle of Accreditation.

Deogiri College Library :

Deogiri College has well established library housed in separate wing having approximately

1,30,000 books, 118 journal, 4,34,72,500 online books, 56,886 online journals and a separate archival section which holds records pertaining to the history of the college. Having built over many years and in more spacious time when books were cheaper and grants went further the college library is a resource unmatched by any other under graduate, post graduate institution in Aurangabad. It has also moved with the time, and is fully automated. Separate Audio/Visual CD's/DVD's library section. Specially equipped lab consisting advanced computer systems with full net connectivity loaded with screen reader or talking software's like JAWS, NVDA, OCR for visually impaired student. In the digital section, students can access to information through an online library.

Web Enabled Library and Information Services :

Due to emergence of web based information and communication technologies (ICT) and globalization of networks and exponential rise of new information and the use of traditional tools in information management have been reduced and automation of information services of library and information centre have become imperative. The basic objective of the college library is to support the college objective and basic function is to provide the study material to its user's in short possible time towards reading, study and research. Eventually, role of library and information professionals have changed in managing the information and apply the latest tools and

technology to provide better information services in web based environment.

Web Based Library and Information Services at Deogiri College :

To cater the information needs of students and faculty members a portal was developed (<http://www.library.ststephens.edu>), to access various e-resources by the library.

(www.deogiricollege.org/library)

Apart from e-reference sources, various e-books, indexing and abstracting sources, portal contains the statistical sources of information and various online journals of UGC INFONET and electronic theses and dissertations. Home page of the library website was developed keeping in mind the UG & PG students' information requirements.

Online Catalogue Search :

Library collection development policy should be supported the core mission of the library. A college library must evaluate its collection from time to time in order to check, how well it is supporting the mission of the college to promote utilization of library collection, a library must have online catalogue to search and browse the catalogue of books anytime, irrespective of location. Deogiri College library provides access to its catalogue online as well as mobile catalogue. An online catalogue has been developed by Master Software Co. Nagpur. Catalogue provides access to books, CDs/DVDs and provide basic search and advanced search facility. Books and CDs/ DVDs search can be

made with title and author and keywords. Users can define range of year, up to, after and selected year of publication to precise hits results. Retrieved results can be sorted with title or author. Users of library can check status of books borrowed against their account no. List of new books are also enlisted on the Online Catalogue Page.

E-Reference :

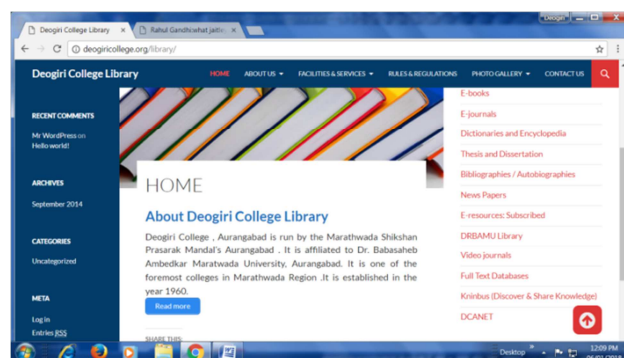
Web based information services as vital alternatives to the traditional face-to-face reference service. In early eighties virtual reference service appeared in the form of e-mail. In recent time with the emergence of chat based e-mail services such as gmail and yahoo, we began thinking of virtual reference via web based chat and web tools provided on library websites such as FAQ or internet resource gateway. Instant messaging (IM) is virtual communication between two people

Access to E-Resources through Library Website :

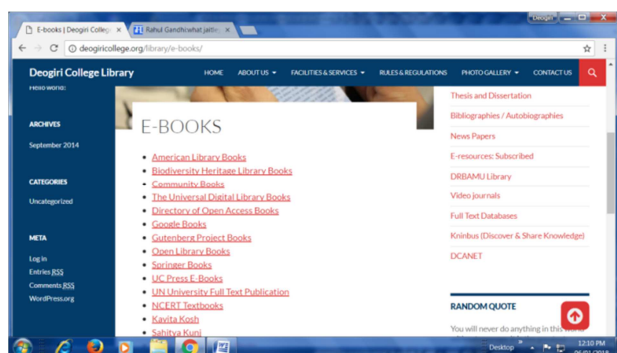
Owing to technological revolution and advent of modern information and communication technology, academic community no longer relies upon the traditional library services. Indeed with presumption that electronic resources can utterly manage their information needs in better way as substitute to print resources. Various studies conducted by researchers revealed the increasing dependence of student's community on e-resources to fulfill their information needs

According to Saye (2001) electronic resources are resources that are generated through some electronic medium and made available to wider range of viewers both onsite or off-site via some electronic transforming machine or internet. Weng – Shung (2008) found that efficiency and capacity of electronic learning could be enhanced through the application of self methods. George et. al (2006) investigated the graduate students' usage of e-resources in Carnegie Mellon University in United States and found that students usually depend on the help of library staff to search the desired information. Ani and Ahiauzu (2008) revealed in their study that there is a high level of developing electronic information resources in Deogiri College libraries through direct subscription for electronic information than conversion of information into electronic form and they had proposed a model of transmission of electronic information sources. The following model can be used to access e-resources.

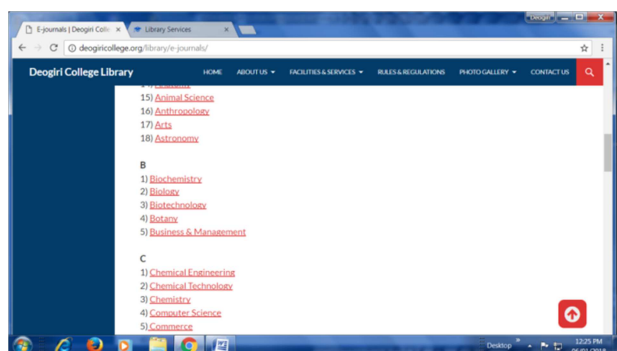
E-sources



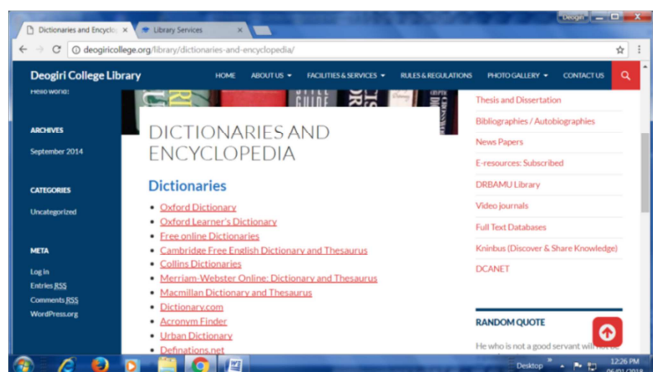
E-books



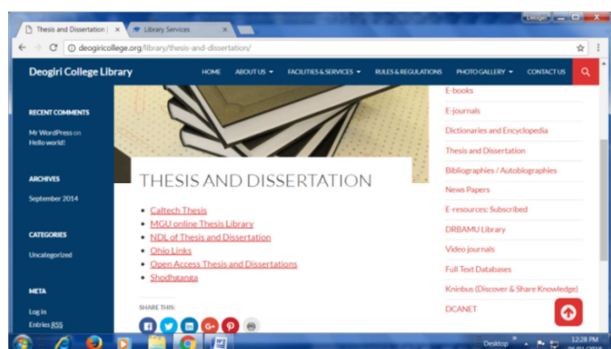
E-Journals



Dictionaries & Encyclopedia E-sources



Thesis & Dissertation



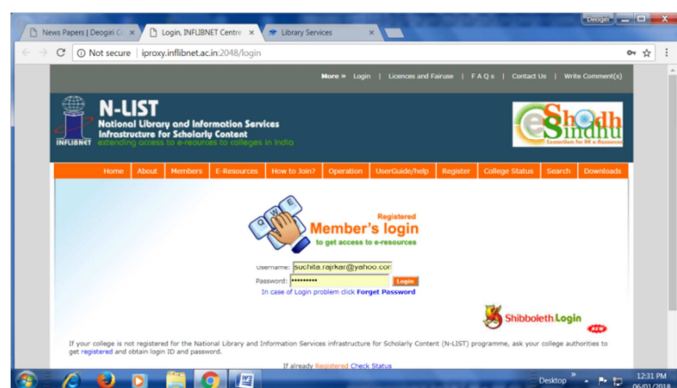
Bibliographies & Autobiographies



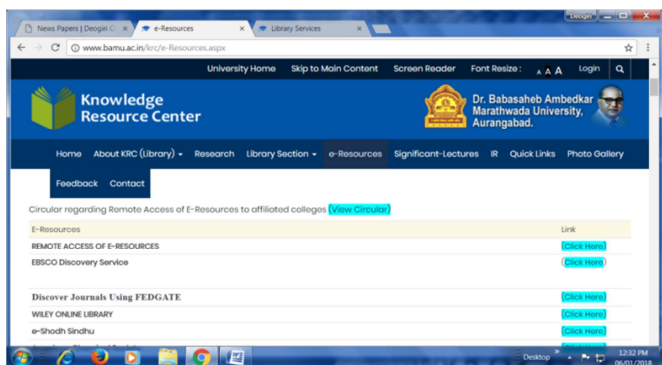
News Papers



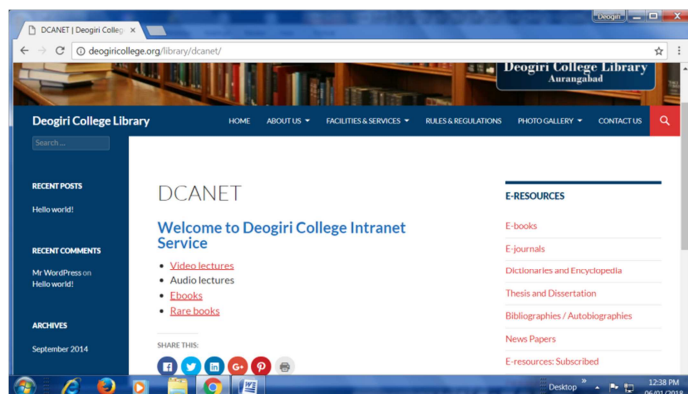
E-Resources: Subscribed



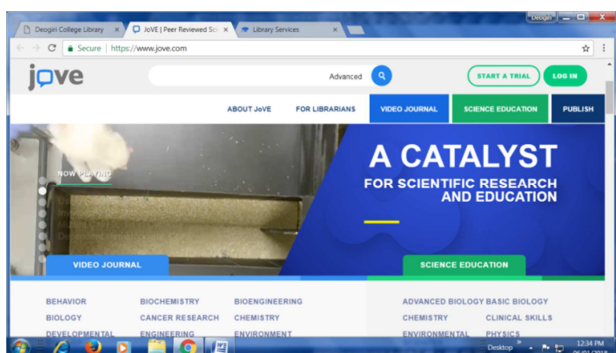
DRBAMU Library



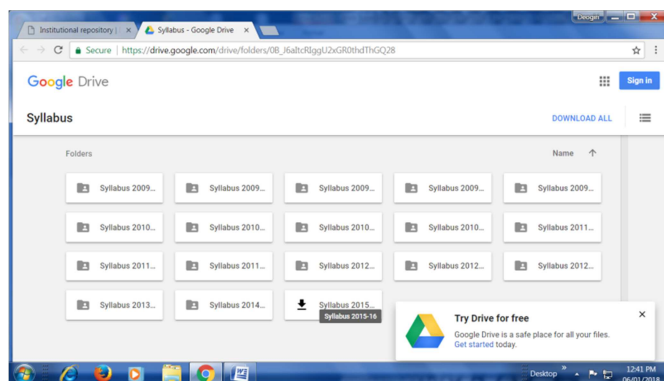
DCANET



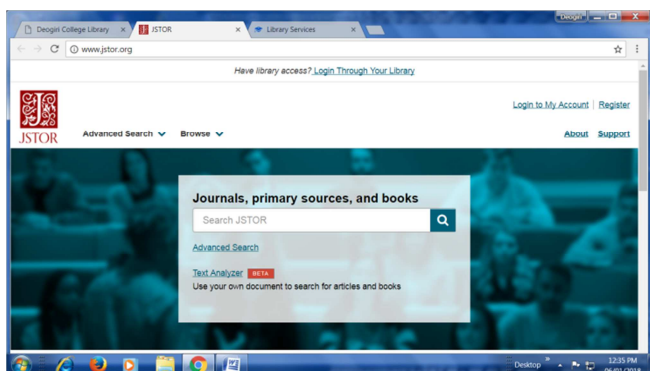
Video Journals



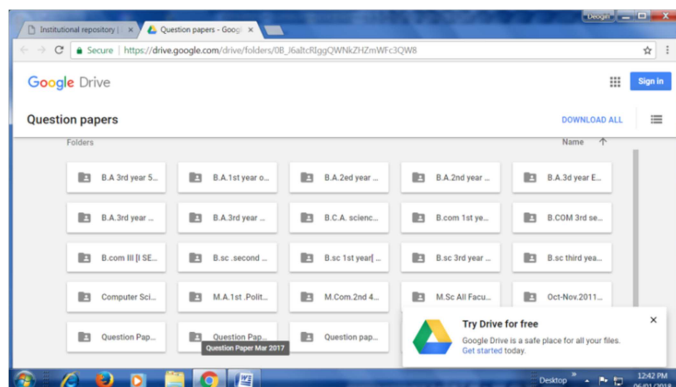
Syllabus



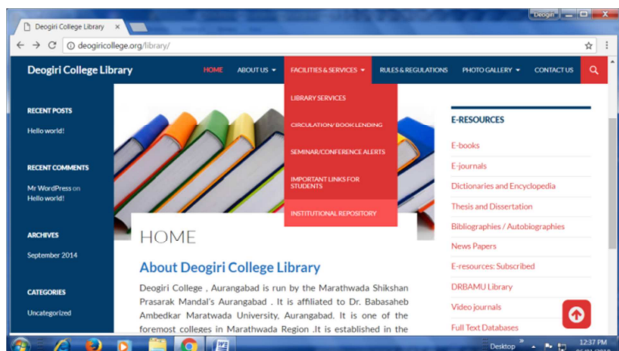
Full Text Database



Question Papers

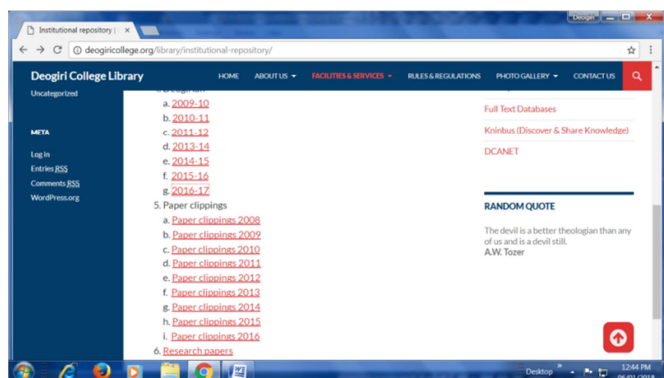


Institution al repository



Deogirian (College Magazine), Paper Clipping & Research Papers

Published by Faculty Member



College Institutional Repository :

Libraries have always the place for organization to preserve information and in digital era if libraries have to remain relevant then professionals have to respond as per the changing information needs of the users. Before initiating the process of IR we must take certain decision such as a) Who will manage it (b) What platform will be used, what initial policies will be promulgated and what marketing techniques will be used. C) Whether resources will be beneficial to users or not? D) Who will fund IR and e) Selection of software and hardware? IR of the Deogiri College contains the following contents which are quite beneficial to students:

Syllabus

Question Papers

Deogirian - College Magazine

Paper Clipping

Research Papers

Knowledge Gateway :

Building of knowledge gateway was to assist the undergraduate students to locate relevant record with short span of time and full fill the Fourth Law of Library Science i.e save the time of users. Caswell (2004) in his study stated that the purpose behind the federated and gateway is to increase success at early stage of search process. The key feature of gateway is quick search and each of the features represents the starting point of research. James described the gateway as core of teaching and advocated the libraries must take its growing role in teaching and ought to be teaching libraries. Various open access contents relevant to their course curriculum were harvested. The objectives behind designing gateway were as under:

- i. Mechanism for collection, storage and preservation of all relevant material for students and teachers
- ii. Bring together significant resources for education and research on a single platform for easy access to various study material.
- iii. Enable the networking and sharing of resources within different departments of the college.
- iv. Facilitate easy availability of contents to the students and teachers community, hence encouraging interdisciplinary, cross campus learning and research.

N-LIST :

National Library and Information Services Infrastructure for Scholarly Contents (NLIS) is cross subscription of two famous consortiums in

India i.e. UGC INFONET and INDEST, A server is installed in the INFLIBNET centre to provide remote access to students and teachers of the colleges. All Government colleges and aided colleges under 12-B of University Grants Commission can take the membership. St. Stephen's College library got membership of this consortium and distributed login and password to members so that they can access various eresources anywhere.

In NLIST e-brary contains 3434871 e-books and students can view the books with ereader button given on the page. Users can put books in the book shelves and through login and password they can view next time when login the N-LIST. Students and faculty members can access following e-journals anytime, anywhere. Through N-LIST 7043 journals can be accessed anytime, anywhere with login id and password. Each students and faculty members have given login Id and Password to access journals and e-books, students and faculty members have given good feedback about the resources of NLIST (National Library and Information Services Infrastructure for Scholarly Contents). Following e-resources can be access through N-LIST.

E-Journal :

- a) American Institute of Physics (18 titles)
- b) Annual Review (33 titles)
- c) Cambridge Core (224 titles)
- d) Institute of Physics (46 titles)
- e) Oxford University Press (206 titles)
- f) Royal Society of Chemistry (29 titles)

g) Economic and Political Weekly (EPW) (1 titles)

h) Indian Journals (250 titles)

i) JSTOR (2500 titles)

j) EBSCOHOST (H.W.Wilson and NetLibrary) 2800+936 titles

E-books :

- a) Ebook Central SSO
- b) Cambridge books online (1800 titles)
- c) Oxford Scholaship ebooks (1400 titles)
- d) Mylibrary-Mc Graw Hill Books (1124 titles)
- e) Institute for studies in Industrial Development
- f) Hindustan book Agency (65 titles)
- g) Institute of South East Asian Studies Books (382 titles)
- h) Springer ebooks (2300 titles)
- i) Sage Knowledge Ebooks (1000 titles)
- j) Talor and Fracis ebooks (1800 titles) new platform
- k) World ebooks Library (33,00,000 titles)
- l) South Asia Archive
- m) Ebrary-eboos (1,25,000 titles)

Library User Survey :

Undoubtedly, the access of electronic information has changed the role of library and information centre, online electronic information can be stored, accessed anytime, irrespective of location. A study was conducted to find out the usage of electronic information sources with following objectives:

- a) Awareness of electronic information sources by faculty members in Deogiri College.
- b) To know how frequently the faculty members using the electronic information sources.
- c) To know which place is used more for accessing the electronic information sources and difficulty faced by faculty members in using electronic information sources.
- d) To know the usefulness of electronic information and purpose of using electronic sources.
- e) Rating the electronic information available to faculty members and method of search and retrieval.

Several studies have been carried out in various universities around the globe to study the use of electronic resources, Wen Shung (2008) in his study found that efficiency and capacity of electronic resources can be comprehensively enhanced through the application of self organizing map/ data mining method. In another study, Solis and Hampton (2009) in their findings expressed students and faculty members appreciate the library resources which are relevant to direct class assignments. Information presented in such as way that undergraduate students can utilize the maximum information available in the library and use minimum information through search engine Google, yahoo, etc. A significant study carried out in 2009 by primary research group, surveyed 400 college students and found the correlation between grades and online research the higher the grade point , the less the information obtained from search engines for

research. Barrett (2005) conducted a study to know the usage of e-resources and reveal that users of the library complaint the lack of electronic version of resources. Ali (2005) in his study conducted in Indian Institute of Technology (IIT) Delhi found that Boolean login truncation were the most used operator and printing facility, computer machine and lack of trained staff are the major hindrances in the use of eresources. Borrego et al (2007) surveyed in the University of Catalan in Spain reveals that teaching staff is aware of the electronic resources and preferred the electronic journals compare to the printed journals. Monopoli et al (2002) conducted a study in University of Patras and expressed that academics used eresources for the purpose of writing research papers and teaching and preferred to read articles on screen. Kelley and Orr (2003) in his study conducted at University of Maryland found that graduate students are more likely to use the e-resources compare to undergraduate students in the university. Min and Yang (2010) in his study described that users' main purpose of using the library is to find and locate information resources and faculty members agreed that their research cannot move forward without library resources.

Objectives of the Study :

Study set up the following objectives

- a) to study the awareness, use, method of using the e-resources among the College Students.
- b) To study the frequency and purpose of using the e-resources by the students.

- c) To identify the search method used in searching the electronic resources.
- d) Identify the method of training to use the e-resources to conduct the training programme in the College.
- e) To rate the quality of library and information services and usage of e-resources through the Library Portal.

Methodology and Analysis of Data:

In order to know the usage of electronic information sources a survey was conducted in 2016. A questionnaire was prepared to collect the data pertaining to objectives. A total of 525 questionnaires were distributed and 76.19 % questionnaires were received.

1) Awareness of E-Resources:

Table depicts below summarizes the awareness of electronic resources by and table shows that 88.5% of the respondents are aware about the electronic resources, whereas only 11.5% respondents indicated they are not aware. However, science faculty students (91.5%) are more aware comparative to Arts & Commerce students (85.71%).

Table: 1 Awareness of e-resources

Awareness of electronic resources	Arts & Commerce N=200	%	Science N=200	%	Total
Yes	171	85.5%	183	91.5%	354 (88.5%)
No	29	14.5%	17	8.5%	46 (11.5%)

2) Frequency of Use of Electronic Resources :

Users were asked to mention the frequency of the usage of electronic resources with four options frequently, occasionally, sometime and rarely. 68.75% of the respondents indicated they frequently use the electronic resources. 17.75% respondents replied that they occasionally use the electronic resources and 8.75% stated sometime, However 3.25% respondents rarely use the electronic resources while 1.5% respondents states that they never used the e-resources. Table shows the slight difference in frequency of usage of electronic resources between faculty members of humanities, social sciences and science.

Table: 2 Frequency of Using e-Resources by faculty members

Frequency of use	Commerce & Social Sci. N=217	%	Science N=183	%	Total
Frequently	141	64.97%	134	73.68%	275 (68.75%)
Occasionally	43	19.81%	28	15.30%	71 (17.75%)
Sometime	21	9.67%	14	7.73%	35 (8.75%)
Rarely	6	2.76%	7	3.82%	13 (3.25%)
Never	6	2.76%	0	0	6 (1.5%)

3) Purpose of Using Electronic Resources:

With the questionnaire respondents were asked the purpose of using electronic resources, in open ended questions, five reasons were enlisted with more than one option to choose. 18% of the respondent used e-resources in research and development activities and 81.25% using for literature search purpose. 20% respondents were in support of study and update. As far as purpose using e-resources in different discipline are concern 85.79% science faculty students use them to do literature search purpose followed by 23.49% for research and development purpose. However 9.83% use them to for study and update purpose.

Table No: 3 Purpose of using Electronic Resources by Arts, Commerce & Science Student :

Purpose of using e-resources	Arts & Social Sci.	%	Science N=183	%	Total
Literature Searching	168	77.41 %	157	85.79 %	325 (81.25%)
Study & Update	62	28.57 %	18	9.83%	80 (20%)
Research & Development Activities	29	13.36 %	43	23.49 %	72 (18%)
Project & Assignments	9	4.14%	19	10.38 %	28 (7%)

4) Method of Learning E-Resources:

In order to understand the method of using e-resources users were given five option i.e. workshop, tutorial, printed manual, one to one or any other, the table depicted below summarizes

that 56.99% of the respondents learnt by own, while 32.31% learnt with the help of friends or colleagues, while 9.16% of the respondents stated they learned with the help of library staff. Interestingly only 1.52% of respondents stated they learnt the use of e-resources by trial and error.

Table No- 4 Method of using e-Resources by Arts, Commerce & Science Students:

Method of Learning	Commerce & Social Sci. N=211	%	Science N=182	%	Total
Own Learning	114	54.02 %	110	60.43 %	224 (56.99 %)
With the help of friend or colleague	73	34.59 %	54	29.67 %	127 (32.31 %)
Help of Library staff	24	11.37 %	12	6.59%	36 (9.16%)
Trial and error	0		6	3.29%	6 (1.52%)

5) Rating the Quality of Electronic Resources:

Survey listed ten types of e-resources and respondents were asked to rate the quality of electronic resources available through library portal, four options were given excellent, very good, good and poor. Table depicted below shows that majority of respondents 59.58% agreed that quality of N-LIST resources are excellent while 28.34% rated very good. 57.47% respondents rated Institutional repository excellent and 17.01% rated good. 60.62% of the respondents

rated CD/DVDs library as excellent, while 33.33% rated it very good. Some open source e-books listed on the website were rated excellent by 28.08% respondents and 441.99% stated that e-books are good.

Table no. 5 Rating the Quality of Electronic Resources by Faculty Members :

Type of e-Resources	N	Excellent	Very Good	Good	Poor
E-book	388	222 (57.21%)	69 (17.78%)	97 (25%)	
E-Journal	381	213 (55.97%)	93 (24.40%)	75 (19.68%)	
E-Thesis & Dissertation	381	99 (25.98%)	52 (13.64%)	209 (54.85%)	21 (5.51%)
N-LIST	381	227 (59.58%)	108 (28.34%)	46 (12.07%)	
BAMU Resource Centre	198	98 (49.49%)	69 (34.84%)	31 (15.65%)	
Institutional Repository	388	223 (57.47%)	99 (25.51%)	66 (17.01%)	
CD/DVDs Library	381	231 (60.62%)	127 (33.33%)	23 (6.03%)	
Online open access reference sources	381	107 (28.08%)	114 (29.92%)	160 (41.99%)	

Note: Respondents could choose multiple options.

6) Web Based LIS Services used through Portal :

Students of the college were asked to reveal the services they use through the library portal, as shows in the table below 66.94% of the

respondents mentioned that they use online catalogue, while 14.68%stated they use online journals. However, 35.87% respondents indicated they use gateways. As expected 93.22% of the respondents expressed they use internet services and only 34.46% of respondents stated they use the reference service through library portal.

Table: 6 Web based Library and Information Services used by Faculty Members through Portal

Services	Commerce & Social Sci. N=171	%	Science N=183	%	Total
Internet Services	167	97.66%	163	89.07%	330 (93.22%)
Internet Search Engine	99	57.89%	118	64.48%	217 (61.29%)
Library Online Catalogue	95	55.55%	142	77.59%	237 (66.94%)
In House Database	23	13.45%	19	10.38%	21 (11.86%)
Reference Service	58	33.91%	64	34.97%	122 (34.46%)
Journals	18	10.52%	34	18.57%	52 (14.68%)
Bibliographic Databases	35	20.46%	75	40.98%	110 (31.07%)
Ask Librarian	26	15.20%	56	30.60%	82 (23.16%)

7) Training in Use of Electronic Resources:

Data revealed that majority of faculty members i.e. 88.5% of the respondents need training to use journals portals while 11.5% of the respondents replied that they don't need training to use e-resources.

Table: 7 Training to use Electronic Resources by Faculty members

Training Required	Commerce & Social Sci. N=200	%	Science N=200	%	Total
yes	171	85.5%	183	91.5%	354 (88.5%)
No	29	14.5%	17	8.5%	46 (11.5%)

Conclusion

In web based environment, role of library and information professionals have changed altogether, their role is not just as custodian of books but to teach the students how to use the existing resources, frequently organizing workshops, book talks, debates, develop web based contents and provide web based service to its client. Library professionals cannot ignore the changes in the field of ICT and redefining as well as reengineering the library and information services is the need of the hour. Information professionals must change the way of managing documents with latest tools and technologies. Professionals must have competencies to create web pages, how to build up institutional repository. Library staff has to give instruction, training to users to promote optimum use of information sources. In the digital environment, the information seeking pattern of the faculty members and students has changed and through web based library and information services institutional repository, knowledge gateway, web OPAC and other web based services in the Deogiri College Library provide users about latest updates at their desktop. The survey results reveal that majority of the faculty members are aware about the e-resources, most of them desired training to use the available resources through

workshop and lecture methods. Most of the respondents rated N-LIST resources very good. It is observed that most of the students are satisfied with video library contents and half of the respondents rated them excellent. It is the right time for library professional to come forward firmly and convert the traditional library into teaching library providing organized training to use e-resources to users.

References

1. Ali, N. (2005). The use of electronic resources at IIT Delhi Library: A study of search behavior. *The Electronic Library* 23(6): 691-700.
2. Ani, O.E., & Ahiauzu, B. (2008). Towards effective development of electronic information resources in Nigerian university libraries. *Library Management* 29(6/7): 504-15.
3. Arora, Jagdish (2001). Web based digital resources and services: trends and innovations. CALIBER-2001. Pune. <http://hdl.handle.net/1944/105>
4. Barrett, A. (2005). The information-seeking habits of graduate student researchers in humanities. *Journal of Academic Librarianship* 31(4): 324-31.
5. Bhatnagar, Anjana (2005). Web library services. 3rd convention PLANNER 2005, Assam University, Silchar, Ahmedabad.
6. Borrego, A., Anglada, L., Barrios, M., & Cornellas, N. (2007). Use and users of electronic journals at Catalan universities:

- The results of a survey. *Journal of Academic Librarianship* 33(1): 67-75.
7. Bright, G.C., Hurlbert, T., & Linke, E.C. (2006). Scholarly use of information: Graduate students' information seeking behavior. *Information Research* 11(4).
Available: <http://InformationR.net/ir/11-4/paper272.html>
 8. Caswell, J.V., & Wynstra, John D. (2010). Improving the search service: Federated search and library gateway. *Library Hi-Tech* 28(3): 391-392.
 9. De Jager, K. (2002). Impacts and outcomes: Searching for the most elusive indicators of academic library performance. *Meaningful Measures for Emerging Realities, Proceedings of the 4th Northumbria International Conference on Performance Measurement in Libraries and Information Services 2001*. Washington, DC: Association of Research Libraries: 291-7
 10. Deka, Prashant Kumar and Singh, Sanjay Kumar (2007). Web technology for library in digital environment with reference to college libraries of Guwahati, 5th convention PLANNER 2007, Guwahati University, Guwahati.
 11. Dowler, L., & Farwell, L. (1996). A bridge to the library of future. *The Gateway*: 1-19.
Gassman, B. (2009). Key challenges in Web analytics. Gartner Group. Available: http://www.gartner.com/DisplayDocument?doc_cd=169145
 12. Goodall, D., & Pattern, D. (2011). Academic library non/low use and undergraduate student achievement: A preliminary report of research in progress. *LibraryManagement*. 32(3): 159-170.
 13. <http://www.deogiricollege.org/library>
 14. <http://www.deogiricollege.org>
 15. <http://www.ugc.ac.in>
 16. Jewell, T.D. (2001). Selection and presentation of commercial available electronic resources: Issues and practices. Washington, DC: Digital Library Federation and Council of Library and Information Resources. Available: <http://www.clir.org/pubs/reports/pub99/pub99.pdf>
 17. Madhuusudhan, M. and Nagbhushnam, V. (2012). Use of web based library services in select university libraries in India: A study. *International journal of library and information studies*, 2 (1). Retrieved from http://ijlis.org/img/2012_2_issue_1/1_20.pdf
 18. Min, S., & Yi, Y. (2010). E-resources, services, and user surveys in Tsinghua University Library. *Program: Electronic Library and Information Systems* 44(4): 314-327.
 19. Monopoli, M., Nicholas, D., Georgiou, P., & Korfiati, M. (2002). A user-oriented evaluation of digital libraries: A case study

- of electronic journals service of the library and information service of the University of Patras, Greece. *ASLIB Proceedings*, 54: 103-17.
20. Nabe, J.A. (2010). *Starting, strengthening, and managing an institutional repository; A how to do it manual*. New York: Neal-Schuman Publishers Inc: 29-45.
 21. Nokatani, K. (2011). A Web analytical tool selection method: An analytical hierarchy approach. *Internet Research* 21(2): 1-18.
 22. Online Computer Library Center (OCLC) (2002). Academic librarians can influence students' Web based Information choices. OCLC white paper on the information habits of college students. Available: <http://www.oclc.org/downloads/community/informationhabits.pdf>
 23. Pathak, S. K., Mishra, A. and Sahoo, G. (2008). Future of web based library services and information services: an Indian scenario. 6th convention PLANNER-2008, Nagaland University. Retrieved from <http://ir.inflibnet.ac.in/handle/1944/1156>
 24. Sadesh, T., & Ellingsen, M. (2005). Electronic resource management systems: The needs and realization. *New Library World* 106 (5/6): 1-12.
 25. Sampath Kumar, B.T. (2010). Perception and usage of e-resources and the Internet by Indian academics. *The Electronic Library* 28(1): 137-155
 26. Shuva, N.Z., & Banerjee, T. (2010). Implementing instant messaging (IM) reference service in some selected university libraries of Bangladesh. *ISST Journal of Advances in Librarianship* 1(1): 15-24.
 27. Solis, J., & Hampton, E.M. (2009). Promoting a comprehensive view of library resources in a course management system. *New Library World* 110(1/2): 81-91.
 28. Swain, D.K. (2010). Students' keenness on use of e-resources. *The Electronic Library* 28 (4): 580-591. Available: www.emeraldinsight.com/0264-0473.htm
 29. Wilkinson, J. (2008). Using technology in learning. In Dowler, L. (Ed.). *Gateways to knowledge: The role of academic libraries in teaching, learning and research*, MIT Press: 30-50.
 30. Zhang, L., Ye, P., & Qihua, L. (2011). A Survey of the electronic resources in seven universities in Wuhan, China. *Program: Electronic Library and Information Systems* 45(1): 60-69.