



REDESIGNING AND REIMAGINING LIBRARIES IN NEW TECHNOLOGICAL ERA

Editors

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**Redesigning and Reimagining
Libraries in
New Technological Era**

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Preface

“We can and must do better and these metrics should be our baseline in what we bring back in the Post-COVID-19 technology advancements & economic recovery as our measure of success.”

In this era of technological advancement, change in the environment seems a constant process, and these changes will shape librarians and information professionals: their responsibility, career opportunities, sense of self, eagerness to know more about the unknown, or the emerging. There will never be an easy solution or a quick recipe, and this will undoubtedly not be a short-term mission. Without denying the significance of core curriculum and instructional design, the purpose is to bring forth ideas on using creativity and our "sixth sense" as an additional dimension in organizing librarians and information professionals to assess innovative roles in time. We live in a highly advanced informative society where the expansion of information technology and telecommunication system is accompanied by an equivalent increase in knowledge, with a swift flow of information. This new information atmosphere requires new brains working on skills in seeking, processing, and using information. The base for individual ability to recognize, understand, and apply information in a qualitative, ongoing learning process. Learning and education are the central areas in the information society and the educational condition is shifting day by day due to advancement in its core idea of adaptability and applicability, which develop from the social, cultural, political, and economic changes in the society. The function of librarians and information professionals in this new environment has been powerfully influenced by these changes. The new era librarians are becoming the guardian of digital information and are the vehicle to safeguard and preserve the democratic access to information. With this highly skilled advancement, the librarian will serve as an embodiment of digital information professional or digital knowledge worker, who will ensure that the digital libraries are used effectively

and with ease. As said, Vision plays a key role in producing useful change by helping to direct, support, and inspire actions on the part of large numbers of people; the new digital transformation brings to our educators and librarians a new insightful vision, the research papers to uncover this book.

This book consists of all chapters authored by prominent library specialists and the academicians, who have touched upon all the aspects of library and information sciences like the importance of digitalization, online database, transfer of knowledge management, use of social media tools for broadcasting data, standard research methods applicable in ICT, digitalization of libraries, data mining application, online information searching patterns for the students, library data security, and the predatory publishers.

Editors

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Study of Library Usage And Behavioural Pattern Among Users of the Dhanvantri Library, University of Jammu: A Case Study

*Sahil Bains**

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*Neha Rani****

*Dr. Meghna Dhar*****

Abstract

Libraries play a very crucial role in the betterment of the individual and the society as a whole. To enhance the services offered by the library, it is important to understand the usage pattern and behavioural pattern of the users. The image of any library is greatly reflected by the type of services offered by the library and how it caters the information needs of its users. This paper tries to depict the library usage and behavioral pattern of users of the Dhanvantri Library, University of Jammu. For this study, a survey has been conducted using questionnaire developed using the google forms due to the situation that is prevalent due to COVID-19. The results obtained indicates that how users approach Dhanvantri Library to get their information needs fulfilled.

Keywords: Library Usage Pattern, Behavioural Pattern, Library services, Dhanvantri Library, University of Jammu.

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Introduction

Information is very crucial in day to day life. It is the basis for the progress of the individual and the society as a whole. Information plays an important part in human life and is considered as the backbone for progress. The way we acquire, use and apply information is generally refer to as Information seeking behaviour.

The libraries are considered as the most important source of providing information to the individual and to the society. Libraries have to deal with different kinds of users having different information needs. It is very important for the librarian to understand the Library usage and Behavioural pattern of the users visiting the library to satisfy their information needs which can further be employed for the betterment of the society.

University of Jammu: An Introduction

The University of Jammu is situated at the foothills of Trikuta Mountains, besides the Tawi river at an altitude of 1030 feet. It provides state of the art facilities and chances for growth in academics and to carry out research in various fields. The University of Jammu was set up in 1969 vide Kashmir and Jammu Universities Act,1969 succeeding separation of the erstwhile University of Jammu and Kashmir. It is accredited as A+ Grade University by NAAC, India having CGPA 3.51. It offers more than 40 courses in various streams like Arts, Sciences and other fields of learning. There are various offsite campuses also offering various courses. Besides Departmental Libraries, there is a Central Library known as “Dhanvantri Library”.

Introduction to Dhanvantri Library

Dhanvantri Library, the Central Library of the University is epicentre of academic activities. It is a four storey building having spacious reading halls and compact stack areas. It has a collection of about 4.5 lakhs documents which includes rare as well as the current and there are more than 250 periodicals with back numbers. The Library has

various facilities like photocopying machines, CD-ROM databases, projectors and interconnected computer terminals as well as the INFLIBNET.

Dhanvantri Library offers access to DELNET Union catalogues and other databases. The library uses Radio Frequency Identification(RFID) for the circulation activities.

Objectives

- To find out the usage pattern among the users.
- To find out the behavioural pattern of the users.
- To find out the awareness about the services offered by the library.
- To find out the various sources consulted by the users.
- To find out the awareness about the library resources and how to access them.

Scope of the study

The study is focused on the Library usage and behavioural pattern among the users of the Dhanvantri Library, University of Jammu. The data collected will be analysed and tabulated which can serve as a policy and proposal for future recommendations for the development and management of the library.

Research Methodology

For the data collection about the present study, survey method was followed. The questionnaire was framed using the Google forms keeping in view the present scenario of the COVID-19. The questionnaires were distributed online to the users of the Dhanvantri Library and a total of 93 responses were collected.

The data collected from the responses was analysed to understand the Library usage and behavioural pattern among the users and the level

up to which their needs were satisfied by the library sources and services.

Data Analysis

1. Age of the respondent

Out of the 93 respondents 97.8% fall in the age group of 21-30 years. The rest were of the age below than 20 years.

Table No.1 Age wise distribution of the respondents

Age group of the users	Percentage (%)
Below 20	2.2
21-30	97.8
31-40	Nil
41 or above	Nil
Total	100

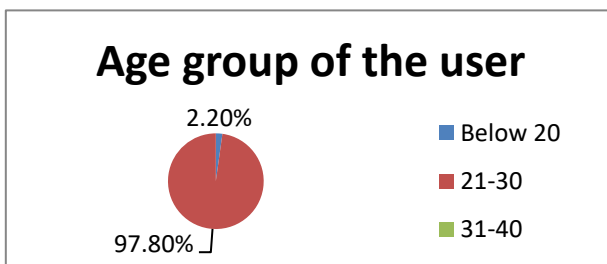


Fig.1 Age wise distribution of respondents

2. Gender

The below table no.2 shows the gender wise distribution of the users of the Dhanvantri Library where female users participation is high(52.7%) than that of males(46.2%).

Sex	Percentage (%)
Female	52.7
Male	46.2

Prefer not to say	1.1
Total	100

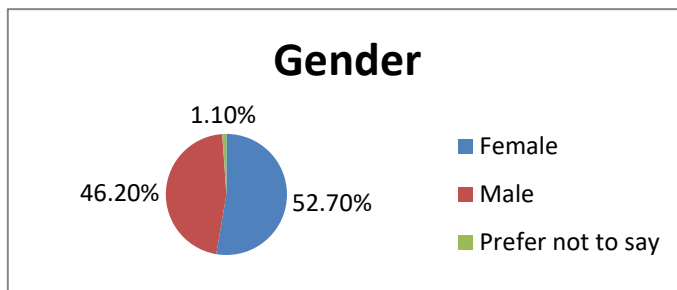


Fig.2 Gender wise distribution of the respondents

3. Purpose of Library visit

In response to purpose to the library visit, the respondents were allowed to tick more than one options. Table no. 3 shows that the main purpose for visiting the library is for academics purpose and for knowledge updation (66.7% & 48.4% respectively) followed by current awareness, research work, internet browsing and to borrow audio visual material.

Table no.3 Purpose to Library Visit

Purpose for library visit	Percentage (%)
For research work	17.2
For academic purpose	66.7
For current awareness	31.2
For internet browsing	6.5
For knowledge updation	48.4
To borrow audio visual material	3.2

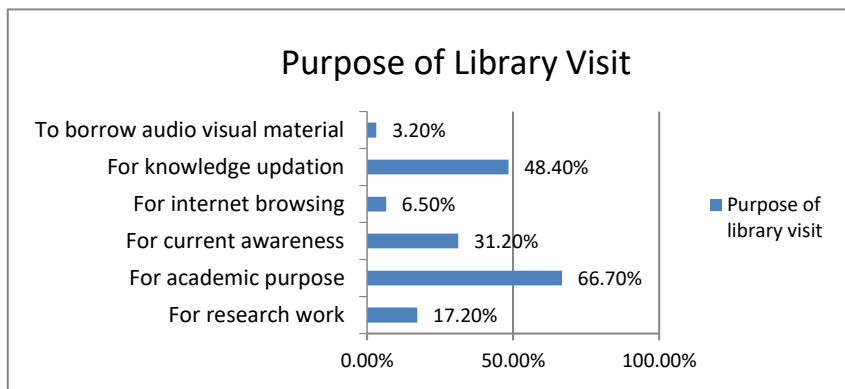


Fig. 3 Purpose of library visit

4. Frequency of library visit

The frequency of library visit is shown in table no. 4. It shows that 37.6% of the users visited the library daily followed by 26.9% users visiting weekly. The users visiting the library fortnightly accounts for the 4.3%, 10.8% visiting monthly and 20.4% of the users visited the library rarely.

Table no.4 Frequency of library visit

Frequency of library visit	Percentage (%)
Daily	37.6
Weekly	26.9
Fortnightly	4.3
Monthly	10.8
Rarely	20.4
Total	100

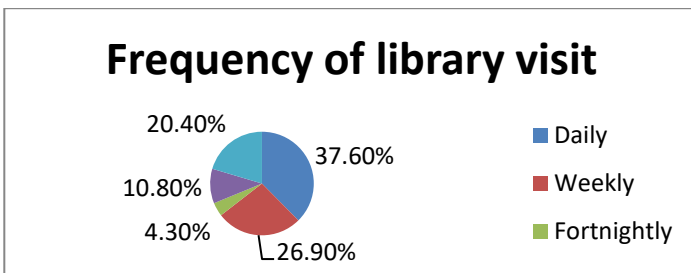


Fig.4 Frequency of library visit

5. Methods/Sources for seeking information

In response to sources for seeking information, the students were given the choice to choose more than one source.

Table no. 5 Methods/Sources for seeking information

Methods/Sources for seeking information	Percentage (%)
Encyclopaedia	19.4
Textbooks	80.6
Periodicals	20.4
Internet	55.9
Others	21.5

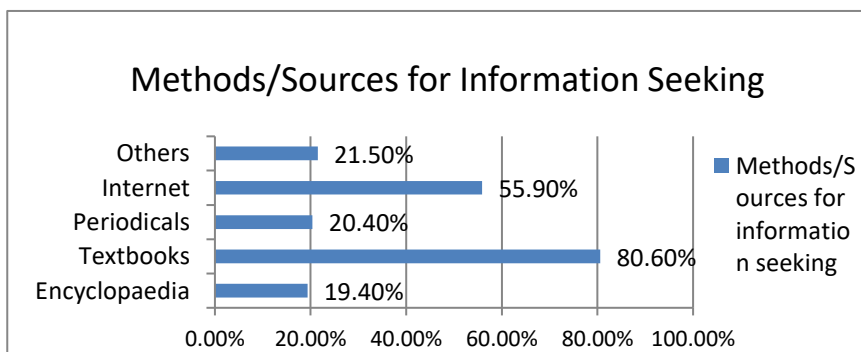


Fig.5 Methods/Sources for information seeking

6. Pattern of usage of library resources and services

Dhanvantri Library offers different services and provides various kinds of resources. The usage pattern of these resources and services has been shown in table no. 6 below

Table no.6 Pattern of usage of library resources and services

Resources and services	Sometimes	Never	Frequently
Reference service(CAS/SDI)	53	23	17
Borrowing	58	21	14
Journals and Magazines	51	25	17
Reprographic service	49	33	11
Thesis/Dissertation/Project report	57	24	12
Audio visual	44	37	12

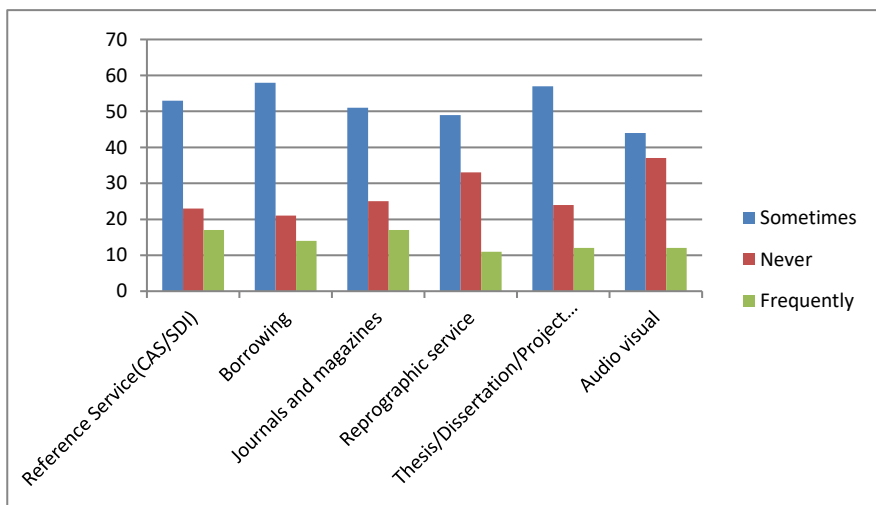


Fig.6 Pattern of usage of library resources and services

7. Average time spent in the library

In response to the average time spent in the library, most of the users spent an average of 2-4 hours in the library(38.7%), 35.5% of the users spent an average of 1-2 hours whereas 16.1% of the users spent more than 4 hours. The users spending less than 1 hour in the library accounts for 9.7%.

Table no. 7 Average time spent in the library

Average time spent in the library	Percentage (%)
Less than 1 hour	9.7
1-2 hours	35.5
2-4 hours	38.7
More than 4 hours	16.1
Total	100

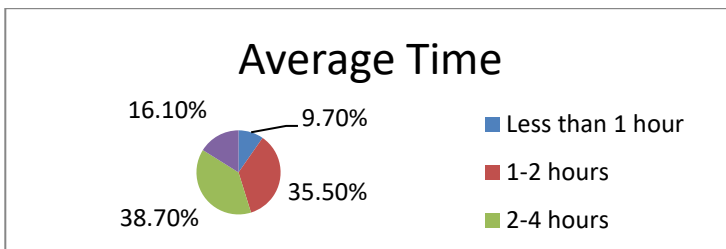


Fig. 7 Average time spent in Library

8. Purpose for seeking information

In response to purpose for seeking information the students were given the choice to opt more than one option. The purpose for seeking information for most of the users is to keep themselves up to date(74.2%), followed by problem solving(57%), for preparing research work(28%) and writing an article(14%).

Table no. 8 Purpose for seeking information

Purpose for seeking information	Percentage (%)
To keep yourself up to date	74.2
Preparing research work	28
For writing an article	14
For problem solving	57

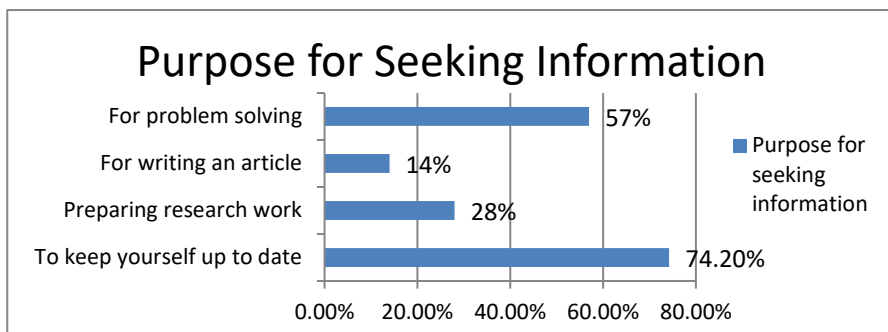


Fig. 8 Purpose for seeking information

9. Satisfaction with library services quality

The below table no. 9 shows the satisfaction level of the users of the Dhanvantri Library with its library services quality

Table no. 9 Satisfaction with library services quality

Library services	Excellent	Good	Poor
Reference service	17	69	7
Collection of library	22	64	7
Reading facility	31	57	5
Behaviour of library staff	19	67	7
Shelving of books	20	64	9
Current collection of library	17	69	7
Reprography service	17	70	6

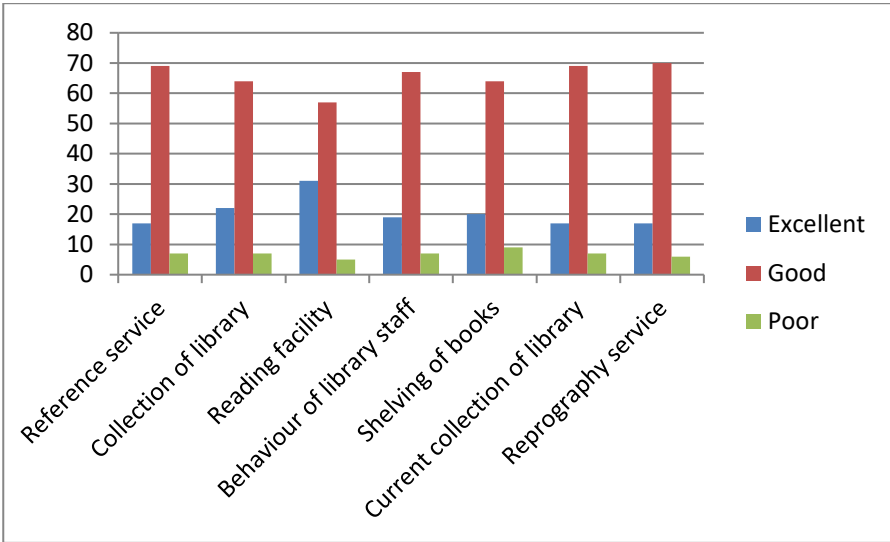


Fig.9 Satisfaction with library services quality

10. Difficulty faced in using the library

Multiple responses were also allowed in response to the difficulty faced by the users in using the library. Table below shows the difficulties faced by users in accessing the library:

Table no.10 Difficulty faced in using the library

Difficulty faced	Percentage (%)
Lack of time	50.5
Lack of knowledge about the how to use library	28
Lack of knowledge to use OPAC	24.7
Lack of support of library staff	21.5
Latest information not available in the library	30.1

11. Score given to various library facilities

Following table reveals the score given by the users to various library facilities offered by the Dhanvantri Library:

Table no.11 Score given to various library facilities

Library facilities	0-3	4-6	7-10
Reference section	18	53	22
Collection of books	8	46	39
Reading facility	11	41	41
Behaviour of library staff	14	52	27
Shelving of books	8	54	31
Reprography service	14	57	22
Journals in print	16	53	24
E-journals/databases	15	58	20
Borrowing facility	12	58	23

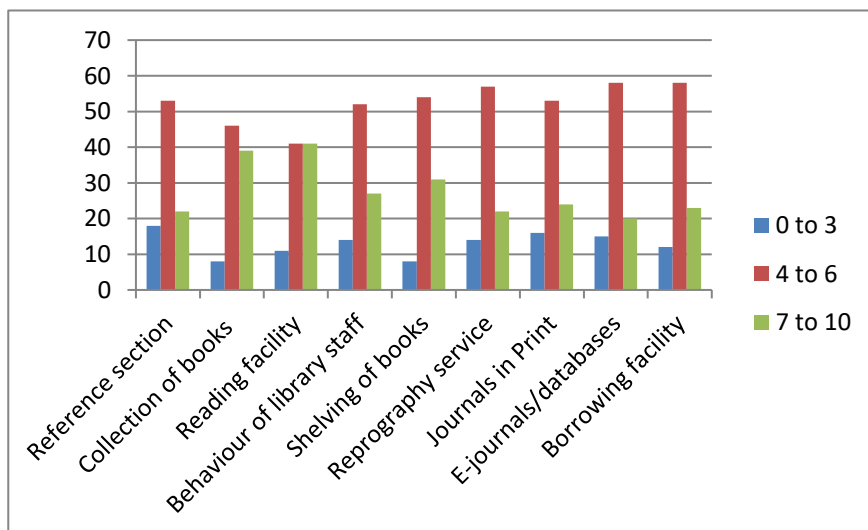


Fig.11 Score given to various library facilities

Conclusion and Recommendations

The study reveals that the users of the Dhanvantri Library, University of Jammu have great amount of interest in the services provided by the library and its various resources. The maximum number of users were found to be in the age group of 21-30 years. The satisfaction level and the score given to various services by the library were found to be moderate. Some users mentioned lack of time to utilize the library services effectively. Most of the users visited the library to keep themselves up to date and for problem solving. Most of the users relied on textbooks and internet to cater their information needs.

By analysing the data provided by the users, it is recommended that the library needs to enhance its service in areas like collection of books and reading space needs to be increased. Thus the library needs to improve its service in the above said areas so that the users can be satisfied to a great extent and their information needs be fulfilled which is the ultimate goal of any library.

References

1. Arumugam, R., Krishnan, N.G. & Raghavan, S.S. (2015). Information Access Pattern of Users of Sriram Engineering College Library: A study. *Journal of Library, Information and Communication Technology*.5(34),p.30-34.
2. Gyanchandani, C. & Uraon, A. (2018). Library Usage Pattern among the Users of National Gallery of Modern Art, Mumbai. *International Journal of Research and Analytical Reviews*.5(2), p. 495-502.
3. Mahajan, P. (2011). Information Use Pattern: A survey of T.S. Central State Library, Chandigarh. *International Journal of Information Dissemination and Technology*.1(3), p. 180-183.

4. Pareek, A.K. & Rana, M.S. (2013). Study of Information Seeking Behaviour and Library Use Pattern of Researchers in the Banasthali University. *Library Philosophy and Practice (e-journal)*.887. <https://digitalcommons.unl.edu/libphilprac/887>

Library Collections and Services in Indian Institute of Technology, Jammu: A Users Study

*Asha Rani**

Abstract

This study examines the Collections, Services and facilities in Indian Institute of Technology, Jammu. A total number of 100 respondents (90 students and 10 faculty members) were selected randomly and their responses were obtained with the help of questionnaire. The result of the study demonstrates and elaborates various aspects of the awareness and use of library collections and services, purpose and frequency of using the library collections and services, Preference between print and electronic collections. The paper also identifies the satisfaction level of users regarding library collections, services and various infrastructure facilities and problem faced by the users while accessing library collections. On the basis of the results of the survey some suggestions have been given to make the collections, services and facilities more beneficial for the academic community of the technical institutes.

Keywords : Library collections, library services, satisfaction level, academic community, technical institutes.

1. Introduction

Libraries provide support to engineering colleges for achieving the goals and vision of respective engineering colleges through ensuring

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quality based library and information support services to the students, research scholars and faculty members. Librarians are competently dedicated to update the collection constantly in order to strengthen and enhance the knowledge base for supporting the stakeholders of engineering colleges to achieve excellence in academic, research and development, consultancy, continuing engineering education, and interface with external environment. With the passage of time, the needs of engineering users have been considerably changed. **(Chinna and Reddy, 2014).**

Engineering libraries are meant for the engineers only. Engineering libraries are mostly founded in engineering colleges. Engineering libraries are mostly equipped with new and modern technologies which help the engineering students to make their links with new inventions and discoveries.

In case of Engineering College Libraries, the users are mostly the students, research scholars and faculty members. They require information for learning, research and teaching purposes. The Engineering college libraries contain various kinds of print and electronic information collection and they provide various information services and facilities to meet the information needs of their user community. A study on information collection, services and facilities of engineering college libraries based on the perceptions of users' will help the library establishment in the institute and restructure of their collection to meet the information needs of users. **(Raju and Reddy, 2013).**

2. Information About The Indian Institute Of Technology, Jammu

The Indian Institute of Technology Jammu was inaugurated on 6th August 2016, and welcomed the first batch of students into the campus in Paloura, Jammu. In the initial phases, the establishment of iT Jammu was done under the mentorship of iT Delhi. In 2018, iT Jammu

shifted the primary operations to the Main Campus in Jagti, Nagrota. The campus in Paloura currently houses the PhD scholars and is being developed into a high-end research facility. The main campus of the Institute is located on National Highway 44 and is about 15 kilometres from the Airport.

3. Information About it, Jammu, Library.

The Library of iT Jammu, named as Central Library, is an integral part of the Institute's academic and research work. The Central Library of iT is located in inside the Institute building. As an Informatics centre of the Institute, Library provides an enjoyable learning experience with optimum environment for study and learning on all working days from 9am to 5:30 pm. It provides information/knowledge resources through a carefully developed and balanced collection of Books and Journals. The documents in the iT Central Library are classified and organized on the shelves according Dewey Decimal Classification System, by using 22nd edition. The library provides open access to its library collections. It maintains the library catalogue in Web OPAC. The library follows the Anglo American Cataloguing Rules i (AACRII) for cataloguing its documents. The physical stock verification of documents is also done annually by manually method. The category of users visit in library is usually undergraduate students, research scholars, Faculty members and non-teaching staff of the Institute. All the students, faculty members and staff of the Institute can register themselves for the membership of the Library. The number of registered members in the Library is about 400. iT, Jammu has total no. of printed collection of the library is 1703 of books, 105 no. of reference books, 02 no. of back volume of journals/periodicals, 100 no. of list of catalogues and 05 no. of directories. The library also has electronic collections which includes 10 CD-ROMs, 04 Online Database, 3000+ e-Journals, 10 no. of e-newspapers and 01 no. of photographic and illustrations. In addition, the institute also subscribes to various national and international electronic resources related to

Engineering and other useful subjects such as Bibliographic resources – MathSciNet, SciFinder Scholar, ISID (Institute for Studies in Industrial Development), Fulltext Electronic Resources-ACM Digital Library, American Institute of Physics Journals (AIP), American Physical Society Journals (APS), ASCE Journals, ASME Journals, IEEE IEL Online, SIAM Journals, Springer Journals 1700+, Science Direct (5 Subject Collection; Material Science, Chemistry, Mathematics, Engineering, and Computer Science) and Miscellaneous/Individual Journals (Fulltext)-Animation, Communications in Partial Differential Equations, Journal of Fluid Mechanics, Journal of Information Technology, Journal of Plasma Physics, Journal of Technical Writing and Communication, Journal of Turbulence, Nature Journal (Main Title), New Media and Society, The American Mathematical Monthly, Visual Communication, etc.

4. Literature Review

A review of literature helps to identify the established findings on the chosen research problem. There are number of studies published related to various aspects of library collection and services in Engineering Institutes.

Ranganadham and Babu (2013) in their study surveyed that a high percentage of respondents i.e. 35.2% visit library once in a week. More number of respondents i.e. 77.8% is satisfied with current collection of the library. Approximately all the respondents were satisfied with the lighting facility provided in their library. Majority of respondents 85.6% were satisfied with lending service, photocopying and the library automation. Most of the respondents 74.1% were satisfied with the overall facilities and services in their library. Based on the survey, it was further suggested that the respondents advised to increase the collection of materials, new editions instead of old editions, books for preparing service commission examinations. The library authorities should educate the users' regarding the library services like current awareness service,

interlibrary loan service, Newspaper Clipping Services provided to them and to entitle the same. Library Orientation Programme should be conducted regularly to the fresher's to make them about the library. To educate them about how to use of OPAC.

Sharma and Bamnia (2013) in their study “Engineering College Libraries in Doaba Region of Punjab: An Analysis” have found that DAV College of Engineering and Technology at Jalandhar has more manpower, qualified library staff, timing, user and collection. Keeping in mind the user information seeking behaviour, the libraries of two colleges namely DAVIET and CEM have applied ICT in their housekeeping activities. It is need of the hour to adopt open access for exploitation of existing library resources where close access is followed and to apply ICT in all library housekeeping activities and readers services to meet the informational needs of user community

Puttaswamy and Krishnamurthy (2014) observed in their study that majority of senior level teachers and research scholars access the e-Resources for the research work rather than teaching. The study shows that, 94% of the users are depending on e-Resources which are more important for their study rather than print collection. The trend predicts that e-Resources has over taken the print resources and predict that the print collection will be phased out in near future.

Vasishta and Dhanda (2014) in their paper analyzed that the document collection in Punjab Engineering College library is dominated by books. E-journal collection surpassed the print journal collection. Half of the library users' i.e. (51%) visit the library twice in a week and more than a quarter of them i.e. (27%) visit daily. Near about (40%) of users' spent less than an hour in Punjab Engineering College library and nearly (32%) of users' spent one to two hours in the library. Majority of the users are satisfied with the library working hours (68%). A little more than half of the users (54%) visit the library for availing the lending facility and (33%) of them for reading newspaper and magazines and majority of the users i.e. (77%) of the

users are satisfied with lighting arrangements inside the Punjab Engineering College library. Major suggestions were recommended on the basis of study are that library should improve the physical atmosphere with stress on general sanitation which desires a lot of improvement and library should pay special interest on the provision of good quality of collection, staff and services.

Chinnadurai and Balamurugan (2014) in their study revealed the needs and level of awareness of the student community on network such as internet and the like. It was analysed that more than 97% of users were using library for study deeds while 2.5 % do not feel so. 30.84 % of users were using the text books as the most consulted source whereas 40.83 % were using electronic resources; 28.33 % of users were using print journal, Internet and other sources. Majority i.e. 95 % of users were aware of search engines, while only 5 % do not know what it means. 83.33 % of users have opined that 'Google & Yahoo' are the most sought after search engines they have used.

Reddy and Sharma (2015) revealed in their study on User study of library services of CMR Institute of Technology library, Hyderabad, several aspects of library use, including frequency of visiting the library, user satisfaction from library services and library collection. The major findings of the study are that 47% of users visited the library every day. 22% respondents visited the library once a week. 17% of users are visited library monthly while only 14% of users visited the library fortnightly. About 63% of the respondents preferred both the manual and online search access approaches for seeking information. Majority of users with 72% are satisfied with information resources. About 84% respondents took the help to locate the text, general and reference books, 72% respondents took the help of the library personnel for previous question papers and 69% took the help to locate the periodicals and about 82% of the respondents were satisfied on physical facilities while 63% of the respondents were fully satisfied with the text book collection.

Rathour and Rana (2015) in their article outlined the information needs and information seeking behavior of faculty members in engineering colleges of Haryana. The result shows that most of faculty use library collection and services but they are not familiar with new library technologies. Faculty requirements are affected due to the regular changes in information technologies and changes in programme. It is further stated that the success operation of any library depends to a large amount on the selection of library collection. The selection of the collection should meet the need and requirements of the end users. It has been revealed that major purpose to use the library collection and services is borrowing books. In addition to it circulation, reference service was the second major service used by majority of the faculty.

Geetha M et al. (2016) in their study revealed that the library collection are being used by the students to meet their academic needs at the two colleges (PESITM and JNNCE) and use of library collection increases as their level of study increase but the level of usage is low when compared the two colleges studied. The study found that majority of the students from two colleges studied do not use more collection and services; this may be due to lack of awareness about library collection and services, lack of updated collection and lack of technology facilities in their libraries. However, the libraries are provided with high-quality facilities, users may find it very difficult in utilizing the potentials of new technology. There is a need for digitization in order to provide rapid access of information. Announcement of new arrival of books, journals or other reading materials should bring into the notice of users as and when they are acquired by the library. In this regard, the library staff should train to help students in proper use of library collection.

Arumugam, Balasubramani and Pratheepan (2019) in their study, “User’s Satisfaction with Library Resources and Services in Polytechnic College Libraries in Coimbatore District” describes that

53.8% users visit the library every day, 38.4% of the respondents visit the library to borrow books, 23% to refer books and periodical and 7.6% for browsing the internet resources. About 53.8% respondents were satisfied with the collection in the library. Study also shows that most of the respondents collect the information from books/e-books. About 73.8% respondents were satisfied with the library resources and services and 10.8% of the respondents were dissatisfied with the library facilities and services.

Abukari (2019) in his paper, “User satisfaction for Resources and Services of Libraries: A Case Study of the Nara-Bita College Library, Tema, Ghana” investigate that information and communication technologies have revolutionized how information was delivered to information consumers in the 21st century. The major findings of the study revealed that the library should concentrate its efforts in building its e-library portal to include relevant e-textbooks and making it accessible to students of the college. Links of appropriate and relevant e-journals can be created alongside the e-library portal for students’ access. It also recommended that larger wireless router should be brought for the library. This should make connectivity more vibrant and enable stable internet access in the library. Study also shows that adequate measures should have to be put in place to change the furniture of the library gradually.

Bharathi and Sujatha (2019) in their paper investigate that the utilization and effectiveness of digital libraries in 51 self-financed Engineering Colleges affiliated to the Visvesvaraya Technological University in the State of Karnataka, India. The majority 88.9% of users were of the opinion that digital library services were superior to conventional library services. It also revealed that digital library utilization and its purpose were correlated using Pearson correlation and its significant value $r=0.489$, $p=0.000<0.01$ proves that user dependency on digital information resources was positively increasing in the respondents’ activities has an impact on their academic pursuits.

5. Objectives

1. To study the use of library collection and services by the users in iT, Jammu.
2. To study the purpose and frequency of using the library collection and services
3. To know the level of satisfaction of users with regard to physical facilities in the library.
4. To find out users preference in use of print and electronic collection and services and the cause of the preference.
5. To find out the problems faced by the users while accessing library collection and to further suggest appropriate ways and means of making use of collection and services to overcome these problems.

6. Scope And Limitation

The study is limited to the users of the library i.e. all students and faculty members of the Indian Institute of Technology, Jammu.

7. Methodology

Questionnaire method was used as research tool to carry out study of Indian Institute of Technology, Jammu. Apart from this personal meetings and observations, discussions with the users were conducted for this study. In addition website of concerned institute was also accessed to gather related information.

8. Sampling Design

There were approximately 500 students studying in Indian Institute of Technology, Jammu. Three types of questionnaires were framed for users, one for students, second for faculty members and third for the Librarians. A sample of users was selected, which includes 90 students of various fields, 10 faculty members. For selection of the respondent the Simple Random Sampling technique was used.

9. Analysis And Interpretations Of Data

Table-9.1 Frequency of library visits

S. No.	Frequency	Faculty	Students	Total (%)
		Number (%)	Number (%)	
1	Daily	5(50%)	60(66.66%)	65
2	Weekly	3(30%)	20(22.22%)	23
3	Occasionally	1(10%)	10(11.12%)	11
4	Never	1(10%)	Nil	1
	Total	10(100%)	90(100%)	100

The Table 9.1 indicates the frequency of library visits. It was found that the majority 65% of respondents were found visited the library daily followed by 23% of them weekly, very few of them visited occasionally 11 (11%) and only 1 (1%) respondents never visit the library. Faculty members and students mostly visit the library daily because they are supposed to be in the library during the time of free period and whenever they have to get some books issued or return the books. Among the student studied there is some students who never visiting the library.

Table-9.2 Purpose of visit to library

S. No.	Purpose	Faculty(F)	Students(S)	Total %	Remarks
		Number (%)	Number (%)		
1	To borrow books	9(90%)	80(88.88%)	89(89%)	F = 9(1+3+4+5) S = 80(1+2+5)
2	To consult reference books	6(60%)	60(66.66%)	60(66%)	F = 6(1+4) S = 60(1+2+5)

3	To refer journals/periodicals	5(50%)	10(11.12%)	15(15%)	F=5(1+3+4) S=10(1+3+5)
4	Prepare study materials and curriculum plans	7(70%)	7(7.7%)	14(14%)	F=7(1+4+5) S=7(1+4)
5	To read newspapers and magazines	9(90%)	70(77.77%)	79(79%)	F=9(1+4+5) S=70(1+2+5)

Table 9.2 shows that Faculty members visit the library for the purposes as mentioned. It was found that majority of the respondents i.e. 89% visit the library to borrow books and only 14% of respondents visit the library for preparing study materials and curriculum plans provided by the library. Further, 79% of them visit the library to read newspapers and magazines followed by, 66% visit to consult reference books, and remaining 15% visit to refer journals/periodicals.

Table-9.3 Use of library Collections

S. No.	Library Collections	Faculty members			Students		
		Yes	No	Total	Yes	No	Total
1	General Book	10 (100%)	Nil	10 (100%)	90 (100%)	Nil	90 (100%)
2	Reference books	9 (90%)	1 (10%)	10 (100%)	79 (87.78%)	11 (12.22%)	90 (100%)
3	Periodicals /Journals	6 (60%)	4 (40%)	10 (100%)	49 (54.44%)	41 (45.55%)	90 (100%)
4	e-books	10 (100%)	Nil	10 (100%)	82 (91.11%)	8 (8.89%)	90 (100%)
5	e-Journals	8(80%)	2(20%)	10 (100%)	73 (81.11%)	17 (18.89%)	90 (100%)
6	CD-ROMs	5(50%)	5(50%)	10 (100%)	50 (55.55%)	40 (44.45%)	90 (100%)

7	Newspapers	7(70%)	3(30%)	10 (100%)	85 (94.44%)	5 (5.56%)	90 (100%)
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Table 9.3 shows that use of various collections available in iT, Jammu library. It is observed from the above table that 10(100%) faculty members referred General books and e-books, followed by 9(90%) of them referred reference books, 8(80%) of them referred e-journals, 7(70%) of the them visit the library for reading newspapers, 6(60%) of them referred periodical/journals and usage of CD-ROMs by faculty members is 5(50%).

On the other hand, 90(100%) of students were made use of General books, followed by newspapers 85 (94.44%), e-books 82 (91.11%), reference books 79(87.78%), e-Journals 73 (81.11%), CD-ROMs 50(55.55%) and periodicals/journals 49 (54.44%).

Table-9.4 Use of Library services

S. No.	Service offered	Faculty			Students		
		Yes	No	Total	Yes	No	Total
1	Circulation service	10 (100%)	-----	10 (100%)	90 (100%)	-----	90 (100%)
2	Reference service	7 (70%)	3(30%)	10 (100%)	75 (83.33%)	15 (16.67%)	90 (100%)
3	Newspaper Clipping service	5(50%)	5(50%)	10 (100%)	62 (68.89%)	28 (31.11%)	90 (100%)
4	e-mail service	9(90%)	1(10%)	10 (100%)	81 (90%)	9 (10%)	90 (100%)
5	Users' education/Guidance service	6(60%)	4(40%)	10 (100%)	30 (33.33%)	60 (66.67%)	90(100%)
6	OPAC	8(80%)	2(20%)	10 (100%)	83 (92.22%)	7 (7.78%)	90(100%)
7	New arrivals of book service	9(90%)	1(10%)	10 (100%)	79 (87.78%)	11 (12.22%)	90(100%)

Table 9.4 exhibits the various services used by the respondents provided by the library. It was found that 10(100%) of the faculty members are using circulation services. 9(90%) are using both e-mail and new arrivals of book services, followed by 8(80%) OPAC service, 7(70%) of them are using reference service, 6(60%) of them are using users' education/guidance service and only 5(50%) are using newspaper clipping service.

On the other hand, 90(100%) of students were made use of circulation service, followed by OPAC service 83 (92.22%), e-mail service 82 (90%), new arrivals of book service 79(87.78%), reference service 75 (83.33%), newspaper clipping service 62(68.89%) and users' education/guidance service 30 (33.33%).

Table-9.5 Preference between print and electronic collections

S.No.	Library collections	Faculty(F)	Students(S)
1	Print	8(80%)	85(94.44%)
2	Electronic	2(20%)	5(5.56%)
	Total	10(100%)	90(100%)

The table 9.5 shows the respondents preference between print and electronic collections. It is observed that majority of students have preferred print collection, while some of them have given preference to electronic collections. On the other hand, the print collections that were preferred by faculty members is 8(80%) and only 2(20%) of them preferred electronic collections.

Table: 9.6 Reasons for preferring print collections

S. No.	Preferences	Faculty (F) Number (%)	Students (S) Number (%)	Total (%)	Remarks
1	Easy portability	8(80%)	80 (88.89%)	88%	F=(1+2)

					$S=(1+2+3)$
2	Usable at any place/time of convenience	9(90%)	85 (94.44%)	94%	$F=(2+3+6)$ $S=(2+3+4+6)$
3	Not need modern equipment to read	7(70%)	81 (90%)	88%	$F=(3+1+5)$ $S=(1+2+3+5)$
4	Aesthetic reasons (Happiness and satisfaction)	6(60%)	79 (87.78%)	85%	$F=(2+3+4)$ $S=(1+2+4+5)$
5	Easier to read	10(100%)	88 (97.78%)	98%	$F=(1+3+5)$ $S=(2+3+5+6)$
6	More convenient	8(80%)	90 (100%)	98%	$F=(1+2+5+6)$ $S=(2+4+5+6)$

Table 9.6 shows that why the faculty members and students prefer print collections available in iT, Jammu library. It is observed that 100% faculty members use print collections because it is easier to read, followed by 90% of them find it usable at any place/time of convenient, followed by 80% of them prefer it because books are portable and more convenient. Some of them prefer it because they feel happiness and satisfaction.

On the other hand, 100% of students prefer print collections because they find books are more convenient, followed by 97.78% of them prefer it because books are easier to read, 94.44% of them find it usable at any place and any time of convenient, 90% of them prefer it because they need not modern equipment to read it, 88.89% of them prefer it because books are portable, 87.78% of students prefer print collections because they feel happiness and satisfaction while using it.

Table 9.7 Users' Satisfaction with library facilities

Sl. No	Facilities	Faculty			Students		
		Satisfied	Not satisfied	Total	Satisfied	Not satisfied	Total
1	Location of the library building	9 (90%)	1(10%)	10 (100%)	47 (52.22%)	43 (47.78%)	90 (100%)
2	Reading space	7 (70%)	3(30%)	10 (100%)	31 (34.44%)	59 (65.56%)	90 (100%)
3	Lighting in library	8 (80%)	2(20%)	10 (100%)	85 (94.44%)	5 (5.56%)	90 (100%)
4	Ventilation	10 (100%)	-----	10 (100%)	79 (87.78%)	11 (12.22%)	90 (100%)
5	Cleanliness	10 (100%)	-----	10 (100%)	90 (100%)	-----	90 (100%)
6	Drinking water	9 (90%)	1(10%)	10 (100%)	82 (91.11%)	8 (8.89%)	90 (100%)
7	Equipment	9 (90%)	1(10%)	10 (100%)	46 (51.11%)	44 (48.89%)	90 (100%)
8	Toilets	9 (90%)	1(10%)	10 (100%)	79 (87.78%)	11 (12.22%)	90 (100%)
9	Power supply	10 (100%)	-----	10 (100%)	90 (100%)	-----	90 (100%)
10	Number of terminals	6 (60%)	4(40%)	10 (100%)	34 (37.78%)	56 (62.22%)	90 (100%)
11	Temperature in library	10 (100%)	-----	10 (100%)	90 (100%)	-----	90 (100%)
12	Assistance from library staff	10(100%)	-----	10 (100%)	90 (100%)	-----	90 (100%)

Table 9.7 shows the level of satisfaction with the available facilities in their library. It is observed that 100% respondents among both the categories were satisfied with the cleanliness, power supply, temperature in the library and assistance from the library staff. Also 100% faculty members were satisfied with the ventilation in the

library and 12.22% of students were not satisfied with the ventilation facility. 90% of faculty members were satisfied with drinking water, equipments and toilets facilities provided by the library. Also 90% of faculty members were satisfied with the location of the library because it is near to their staff. However, 47.78% of students were not satisfied with the location of the library.

10. Findings

1. 65% of respondents among both the categories visit the library daily.
2. The main purpose of visiting to the library among both categories of respondents is to borrow books i.e. 89% (90% and 88.88% respectively). 79% of respondents also visit the library to read newspapers and magazines for their academic purpose.
3. Among the faculty respondents, it is seen that 100% use and collect information from General books and e-books, followed by 90% to use reference books. Also 100% of the students' respondents use General books and e-books at the library, followed by 94.44% to read newspapers.
4. All of the respondents among faculty were utilized library circulation services. 90% of them satisfied with e-mail and new arrivals of books services, followed by 80% use OPAC service.
5. Almost all of respondents 100% among students use circulation service and satisfied it, followed by 92.22% use OPAC service.
6. Analysis of the study shows a great preference for print collection. They feel that it is easier to read, more convenient, usable at any place and time of convenience and need not

modern equipments to read it and also provide happiness and satisfaction than electronic collections.

7. Majority of respondents 95% among both the categories were satisfied with physical facilities i.e. ventilation, cleanliness, power supply, temperature in library and assistance from the library staff provided in their library.

11. Suggestions

Based on the findings, the following suggestions were made:-

1. More collection should be added to the present available collection.
2. There should be need for separate library building and separate seating arrangement for faculty members as well as students.
3. Reprographic service should be started by the library.
4. More professional staff should be appointed in the library for providing better services.
5. Users' Education/Guidance program should be organised regularly by the IT, Library, to make the effective use of library collections and services.
6. More number of Journals must be subscribed for the benefits of both students as well as faculty members.
7. There is no newspaper clipping service in the library. Hence, it should start one immediately.
8. More improvement should be necessary of the iT Library for the overall development of the library.

12. Conclusions:-

The present study collected the opinions of faculty members and students about collections, services and facilities in iT,

Library, Jammu. Most of the objectives of the study are fulfilled and most of the users are satisfied with the collections, services and physical facilities provided by the library.

References

1. **Abukari, Zakaria. (2019).** User satisfaction of resources and services of libraries: A case study of the Narh-Bita college, Tema, Ghana. *Library Philosophy and Practice*. (e-journal).
<http://digitalcommons.unl.edu/libphilprac/2743>. Accessed on 06/05/2020 at 3.00. p.m.
2. **Arumugam, J., Balasubramani, R., and Pratheepan, it. (2019).** User's satisfaction with library resources and services in Polytechnic college libraries in Coimbatore District.
Library Philosophy and Practice. (e-journal).
<http://digitalcommons.unl.edu/libphilprac/2580>. Accessed on 07/05/2020 at 4.00.p.m.
3. **Balu, C. Chinna., and Reddy, V. Pulla. (2014).** A survey on the present Status of engineering college libraries in Sri Venkateswara University Area, Andhra Pradesh, India. *International Journal of Library and Information Studies*, 4 (1), 61-74.
4. **Bharathi, K., and Sujatha, H.R. (2019).** Utilization of the digital information resources and services provided in the Engineering college libraries in Karnataka, India: User's perspective. *Library Philosophy and Practice*. (e-journal).
<http://digitalcommons.unl.edu/libphilprac/2580>. Accessed on 07/05/2020 at 5.00.p.m
5. **Chinnadurai, D., and Balamurugan, D. (2014).** Use of library resources among post graduate students in engineering college Virudhunagar District, Tamilnadu.

International Research: Journal of Library and Information Science, 4 (1), 70-81.

- 6. Geeta M., Shurpani, Sadashiv, G. B., Sandeep Kumar and A. S., Supriya. (2016).**

Use of library resources and services by students of PESITM and JNN College of engineering in Shivamogga: A comparative study. *Research Journal of Library Sciences*, 4 (1), 1-10.

- 7. Puttaswamy, R. M. and Krishnamurthy, M. (2014).** Use of e-resources for teaching and research by the faculty members of various engineering colleges of VTU, Karnataka : A study. *International Journal of Library and Information Studies*, 4 (1), 52-60.

- 8. Raju, C. Srinivasa., and Reddy, V. Pulla. (2013).** A study on perceptions of faculty members on information sources, services and facilities of engineering college libraries in Hyderabad. *International Journal of Library and information Studies*, 3 (4), 119-130.

- 9. Ranganadham, Sadu and Babu, K., Surendra. (2013).** User satisfaction on library resources and services in B.M.S. colleges of engineering, Bangalore : A survey. *International Journal of Library and Information Studies*, 3 (2), 39–46.

- 10. Reddy, Kothapati Kumaraswamy and Sharma, Sapna. (2015).** User study of Library services of CMR Institutes of Technology Library, Hyderabad: A case study. *Professional Journal of Library and Information Technology*, 5 (2), 107- 114.

- 11. Rathour, Priti Rani and Rana, Madan Singh. (2015).** Information need and information seeking behaviour of faculty in engineering colleges of Haryana : Implication of library resources and is services. *Professional Journal of Library and Information Technology*, 5 (2), 128-137.

- 12. Sharma, C. K., and Bamnia, Prithvi Singh. (2013).** Engineering college libraries in Doaba Region of Punjab: An analysis. *Journal of Library and Information Technology*, 9 (3), 33-38.
- 13. Vasishta, Seema Dhanda, Maninder Kaur. (2014).** Assessing users' satisfaction with information resources and library services : A survey of Punjab engineering college University of technology, Chandigarh. *Kelpro Bulletin*, 18 (1), 27-40.

Information Literacy about the Usage of E-Resources and Services by Nursing Faculty in J&K (UT): A Case Study of a few Select Nursing Colleges of the Valley

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Abstract

***Purpose** – The study is an attempt to explore the perception and information literacy of nursing faculty regarding use, awareness and satisfaction about electronic resources (E-Resources) and Services.*

***Methodology** – Survey method was employed to carry out the research. A structured questionnaire was used to collect the data. The total population of the study was forty and accordingly forty questionnaires were distributed among them. A total of thirty duly filled questionnaires were received back from the faculty members of two select nursing colleges of the valley.*

***Findings** –E-Resources in this digital period is seen catering enormous services to the end users. Faculty of nursing education in Kashmir valley is found well aware with e-resources and social networking sites like Whatsapp to satisfy information requirements.*

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They seem to be positive and self-confident while accessing electronic resources.

Practical Implications –*The study provides better understanding of the impact of e-resources on teaching-learning by the faculty of nursing in the Union Territory of J&K. It further provides an idea regarding positive/negative perceptions and information literacy about the usage of e-resources and satisfaction or dissatisfaction arisen out of it.*

Keywords – *E-Resources; E-Services; Information Literacy; Nursing education; Awareness; Satisfaction; Perception.*

Introduction

The digitization of information in print media has brought a new concept altogether in all the fields of human life and this has marked the beginning of “information era” (**Kenchakkanavar, 2014**). Electronic resources (or e- resources) is defined as a resource which require computer access or any electronic product that delivers a collection of data be it text referring to full text bases, electronic journals, image collection, other multimedia products. These may be delivered by any digital means like internet etc. Over a few years, a number of techniques and related standards have been developed which allow documents to be created and disseminated in electronic form (**Ashikuzzaman, 2014**) or in other words these are materials in digital format accessible electronically for example electronic journals (e-journals), electronic books (e-books), online database in varied digital formats viz; Adobe Acrobat documents (.pdf), webpages (.htm, .html, .asp etc.) and more which enables remote access to e-resources off-campus(**Tan, 2016**). In other words an Electronic Resources consist of contents that are stored and displayed digitally and accessed through computers and other gadgets. These resources are mostly referred to as online or offline or database or digital content or media.

The main aim is to extend access to e-resources to end users regardless physical location (**IM Library, 2014**).

Literature Review

Smith (2003) studied the role of e-journals and its impact and led to the conclusion that e-journals are playing integral part in the research activities, with vast majority of faculty reporting they read at least one article from an electronic source every week. In a similar study **Sharma (2009)** showed that use of e-resources is very common among the teachers of Guru Gobind Singh Indraprastha University (India) and majority of the teachers are dependent on e-resources to get relevant information. Study also found that availability of e-resources on the campus is almost sufficient for all the existing disciplines but the infrastructure to use these resources is not adequate and can hinder the ability to meet the requirements of users. **Our and Verma (2009a)** in their study focused on the use of e-resources and services provided at the central library of iT, Delhi. It has been found that usage of e-Journals is increasing this is due to awareness among the users about e-resources and services, owing to easy access and availability of the resources within the institute.

In another similar work **Haridasan and Khan (2009)** indicated that faculty are aware of the e-resources and are using these for carrying out research work. Many faculty members strongly agreed with the necessity for internet literacy to access information. A majority as per them are satisfied with e-resources available at NASSDOC library. **Kour and Verma (2009b)** found that faculty are well aware about e-resources and also encourage others to use such resources to the maximum. The impact is evident with decrease in number of printed journals and steep rise in the number of electronic journals. The use of e-material has increased manifold study suggested. **Egberongbe (2011)** in her study showed that the uses of e-resources are very common among the lecturers of the University of Lagos. It is also showed that majority of teachers are dependent on e-resources to get

desired and relevant information. It was however, revealed that practical uses of e-resources are not up to the worth in comparison to investments made in acquiring these resources. One more study of similar kind showed the status of e-resources at Dhaka University library. It was found that e- materials are available and users are generally satisfied with these although DUL lack infrastructure facilities the existing e-resources are fulfilling user needs (**Habiba & Chowdhury, 2012**).

Purpose

In the present ICT era the world is experiencing rise in the knowledge products available particularly in the digital and online formats to meet the demands of professionals working in universities or their constituent colleges. The technology is seen catering information resources in a best possible way to satisfy user demands. However, there arises a question whether they possess requisite knowledge about these products and are they really satisfied. The study is therefore an attempt to examine the use, awareness, perception and satisfaction of nursing faculty working in the U.T. of J&K with regard to e-resources and Services.

Scope

The scope of the study is confined to the faculty members of two select city nursing colleges of the valley viz. Bibi Halima College of Nursing and Technology, Srinagar and Government College of Nursing (Government Medical College), Srinagar.

Objectives

Following are the objectives laid down for the purpose: -

1. To gauge the awareness of e-resources among faculty of nursing.
2. To assess the awareness of electronic services among faculty of nursing.

3. To establish positive and negative perceptions about e-resources and services.
4. To determine the satisfaction and information literacy about e-resources.

Methodology

A general survey method was used to accomplish the study using questionnaire as tool to collect data for the study. A sample size of forty faculty members from two nursing colleges viz. Bibi Halima College of Nursing and Technology, Srinagar and Government College of Nursing (Government Medical College), Srinagar were selected on random basis and accordingly questionnaires were distributed among them. Thirty questionnaires were received duly Filled In And Thoroughly Analyzed To Draw Inferences.

Results And Discussion

The section presents the analysis of data followed by discussion of the results. The data analyzed is collected from thirty faculty members from two leading nursing colleges of the valley. The section mainly focuses on analysis related to awareness, use, and perception of nursing faculty. Total number of users in certain tables exceeds the actual number since multiple options were allowed.

AWARENESS ABOUT E-RESOURCES

It is analyzed from **table 1** that the faculty of nursing are majorly aware about E-Books (86.66%) followed by E-Journals (80.00%). However, a good percentage among the faculty seems aware about ETD's (33.33%), E-Zines (33.33%) and Digital Repositories (33.33%).

Table 1 Awareness About E-Resources

S.No.	Electronic Resources	Faculty of Nursing (Awareness) n=30
1	E-Books	26 (86.66)
2	E-Journals	24 (80.00)
3	ETD's	10 (33.33)
4	E-Zines	10 (33.33)
5	Digital Repositories	10 (33.33)

*Data in parenthesis represent percentages

Usage Regarding E-Resources

As far as usage of electronic resources are concerned it is apparent from **table 2** that faculty are primarily using E-Books (86.66%) and E-journals (86.66%) equally to satisfy information requirements. Also a reasonable number is using digital repositories (33.33%) besides that 13.33% are so using ETD's and E-Zines.

Table 2 Usage Regarding E-Resources

S.No.	Electronic Resources	Faculty of Nursing (Usage) n=30
1	E-Books	26 (86.66)
2	E-Journals	26 (86.66)
3	ETD's	04 (13.33)
4	E-Zines	04 (13.33)
5	Digital Repositories	10 (33.33)

*Data in parenthesis represent percentages

Awareness Regarding Electronic Services

It is clearly indicated from **table 3** that nursing faculty is mostly aware about SMS service (93.33%) followed by Whatsapp group (66.66%). A fair percentage of faculty members is also seen aware about organizational website (46.66%) followed by OPAC (40.00%). A meager number is aware about EDDS (26.66%) followed by SDI (20.00%). Ask-A-Librarian online service and blogging are rarely used by the faculty (13.33%) while podcasting service is barely used by them (06.66%).

Table 3 Awareness Regarding Electronic Services

S.No.	Electronic Services	Faculty of Nursing (Awareness) n=30
1	Online Public Access Catalogue (OPAC)	12 (40.00)
2	Organizational Website	14 (46.66)
3	SMS Service	28 (93.33)
4	College Blog	04 (13.33)
5	College Whatsapp Group	20 (66.66)
6	Selective Dissemination of Information (SDI)	06 (20.00)
7	Electronic Display Board Service (EDDS)	08 (26.66)
8	Ask-A-Librarian	04 (13.33)
9	Podcasting Services	02 (06.66)
10	None	-

*Data in parenthesis represent percentages

Usage Regarding Electronic Services

As far as usage of electronic services is concerned it is analyzed from **table 4** that 60.00% of the nursing faculty are using organizational website, SMS service and Whatsapp group equally to meet information requirements. While 26.66% of them are seen using OPAC to satisfy information need on web. However, a meager percentage 06.66% uses SDI, EDDS and Ask-A-Librarian services equally to meet information needs.

Table 4 Usage Regarding Electronic Services

S.No.	Electronic Services	Faculty of Nursing (Usage) n=30
1	Online Public Access Catalogue (OPAC)	08 (26.66)
2	Organizational Website	18 (60.00)
3	SMS Service	18 (60.66)
4	College Blog	04 (13.33)
5	College Whatsapp Group	18 (60.66)
6	Selective Dissemination of Information (SDI)	02 (06.66)
7	Electronic Display Board Service (EDDS)	02 (06.66)
8	Ask-A-Librarian	02 (06.66)
9	Podcasting Services	-
10	None	-

*Data in parenthesis represent percentages

Positive Perceptions Regarding Electronic Resources/Services

It is analyzed from **table 5** that cent percent faculty is of the opinion that E-Resources are easily available followed by remotely accessible (53.33%). It is observed that 53.33% of them perceive that qualitative and most specific information is available online which they believe is relevant and authentic (46.66%). A positive indicator is that it saves time and proves effective for teaching-learning (73.33%).

Table 5 Positive Perceptions Regarding Electronic Resources/Services

S.No.	Positive Perception about E-Resources	Faculty of Nursing n=30
1	Easy Availability	30 (100.00)
2	Remote access	16 (53.33)
3	Qualitative and most specific	16 (53.33)
4	Relevant and authentic	14 (46.66)
5	Time saving for teaching-learning	22 (73.33)

*Data in parenthesis represent percentages

Negative Perceptions Regarding Electronic Resources/Services

While taking cognizance of negative perceptions it is observed from **table 6** E-Resources leads to dependency (93.33%) for most of them. 26.66% considers that junk information is served on web and also equal number perceive it is mere time consuming exercise. However a lesser percentage is of the opinion that E-resources are inadequately available.

Table 6 : Negative Perceptions Regarding Electronic Resources/Services

S.No.	Negative Perception about E-Resources	Faculty of Nursing n=30
1	Inadequately available	06 (20.00)
2	Leads to dependency	28 (93.33)
3	Quantitative and mostly junk	08 (26.66)
4	Irrelevant and less authentic	04 (13.33)
5	Time consuming and laborious	08 (26.66)

*Data in parenthesis represent percentages

Frequency Of Using E-Resources

It is analyzed from **table 7** that it is quite impressive that the faculty of nursing education is almost using electronic resources on daily basis (93.33%) followed by fortnightly (06.33%) which is quite lesser number.

Table 7 Frequency of using E-Resources

S.No.	Frequency	Faculty of Nursing n=30
1	Daily	28 (93.33)
2	Weekly	-
3	Fortnightly	02 (06.66)
4	Monthly	-
5	Never	-

*Data in parenthesis represent percentages

Satisfaction Regarding E-Resources And Services

From **table 8** it is quite evident that faculty of nursing is quite satisfied (80.00%) with the E-Resources and certain percentage is beyond

satisfied they consider that are extremely satisfied (20.00%) with the E-Resources. It could be judged from the study that online access, relevant E-Resources and electronic gadgets should be provided to them for keeping them abreast in their field of research.

Table 8 Satisfaction regarding E-Resources and Services

Faculty of Nursing	Extremely Satisfied	Satisfied	Uncertainty	Dissatisfied
n=30	06 (20.00)	24 (80.00)	-	-

*Data in parenthesis represent percentages

Findings and Conclusion

Electronic resources in this digital era are seen blessing for mankind as it is offering immense services to the end users. Analysis of data reveals that faculty of nursing education in Kashmir is well aware about E-Books (86.66%), E-Journals (80.00%) and other resources. However, the faculty seem lacking the knowledge about Selective Dissemination of Information, Electronic Display Board Service, Blogging and Podcasting services. But it is perceived that they are well aware about SMS service (93.33%), Whatsapp service (66.66%), OPAC (40.00%) and organizational website (46.66%). The faculty is using E-Books (86.66%) and E-Journals (86.66%) equally to satisfy the information requirements. They are majorly using organizational websites, Whatsapp and SMS services equally (60.00%) to quest information needs almost on daily basis (93.33%).

The significant part of the research was to analyze whether perceptions regarding e-resources and services are positive and/or negative. And it is found that cent percent are of the opinion that e-resources are easily available and best source for teaching and learning. A fair population considers that it is offering remote access

(53.33%) is authentic and relevant (46.66%) and the most specific (46.66%). However a good percentage felt that it leads to dependency (93.33%) and is time consuming and laborious (26.66%). A minor percentage considers that e-resources retrieved are junk (26.66%) material and inadequate (20.00%). And it is concluded they are information literates as we can see majority satisfied with electronic resources and services (80.00%) and rest 20.00% extremely satisfied.

Recommendations

1)It is established that faculty should be made aware about the technology and electronic resources and services from time to time which could lead to better results.

2)Since lesser number of faculty members is using major electronic services the issue is to be addressed amicably with certain positive measures like workshops and orientations.

3)It is suggested if authentic and current E-Resources are provided to faculty it will lead to better teaching-learning and qualitative use of time on web.

References

1. Ashikuzzaman, M. (2014). Definition and types of e-resources. *LIS BD Network Library &Information Science Academic Blog*. Retrieved from <http://lisbdnet.com/definition-and-types-of-a-resources/>
2. Egberongbe, H. S. (2011). The use and impact of electronic resources at the University of Lagos. *Library Philosophy and Practice (e-journal)*,paper 472.Retrieved from <http://digital-commons.uni.edu/libphilprac/472>
3. Habiba, U.,&Chowdhury, S. (2012). Use of electronic resources and its impact: A study of Dhaka University library users. *Eastern Library*, 23(1), 470-90. Retrieved from <http://dx.doi.org/10.3329/el.v23i1.12122>

4. Haridasan, S., & Khan, M. (2009). Impact and use of e-resources by social scientists in National Social Science Documentation Centre (NASSDOC), India. *The Electronic Library*, 27(1), 117-133. Retrieved from <http://doi.org/10.1108/02640470910934632>
5. IM Library. (2014). Electronic resources. *Institute of Management, Nirmauniversity*. Retrieved from <http://nirmauni.ac.in/imlib/Electronic>
6. Kenchakkanavar, A. (2014). Types of E-Resources and its utilization in library. *International journal of information sources and services*, 9(2). Retrieved from <http://www.researchgate.net/publication/268508509>
7. Kour, B., & Verma, R. (2009a). Use and impact of electronic journals at the Indian Institute of Technology, Delhi, India. *The electronic library*, 27(4), 611-622. Retrieved from <http://researchgate.net/10.1108/02640470910979570>
8. Kour, B., & Verma, R. (2009b). Use of electronic information resources: A case study of Thapar University. *DESIDOC journal of Library & Information technology*, 29(20), 67-73. Retrieved from <http://doi.org/10.14429/djlit.29.2.243>
9. Sharma, C. (2009). Use and Impact of E-Resources at Guru Gobind Singh Indraprastha University, India: A case study. *Electronic journal of Academic and Special Librarianship*, 10(1), 1-8. Retrieved from <http://southernlibrarianship.icaap.org>
10. Smith, E.T. (2003). Changes in faculty reading behaviors: the impact of electronic journals on the University of Georgia. *The Journal of Academic Librarianship*, 29(3), 162-168. Retrieved from [http://doi.org/10.1016/s0099-1333\(03\)00018-1](http://doi.org/10.1016/s0099-1333(03)00018-1)
11. Tan, M. (2016). Electronic resources. *Singapore Management University Libraries Frequently*. Retrieved from <http://libfaq.smu.edu.sg>

Utilization and Awareness of Library E-Resources Among the Students of National Law University and Judicial Academy, Assam: A Study

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Abstract

The use of E-resources has become more popular in all the disciplines. Now a day, almost all the university library is subscribing E-resources for their user community. This paper tries to study the utilization and awareness of library E-resources among the students of National Law University and Judicial Academy, Assam and examines the problems in using E-resources, student level of satisfactions, frequency of use of E-resources and various other aspects of E- resources.

Keywords

E- Resource, Online Resources, National Law University and Judicial Academy Assam (NLUJAA).

Introduction

In today's academic system, E-resources are found to play an important role. The demand of E-resources and their utilization has been increasing day by day. E-resources dramatically changed the nature of resources and services in library. "With the advancement of Information and Communication Technology, most of the libraries are

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explored with E-resources and giving their best services in the form of information services.”(Karmakar, 2012, p. 349). To provide better services and easy access to library, E-resources are playing a vital role and become very popular in law institutions and also in the field of library and information science.

Objectives

The present study proposed to conduct the study on the following objectives:

- a. To know the use and aware of library E- resources among the students of National Law University and Judicial Academy, Assam
- b. To know the utilization of online legal databases and the techniques for searching E-resources.
- c. To find out the various problems faced by the students in accessing E- resources
- d. To find out the level of satisfaction on information obtained from library E-resources.

Scope of the Study

The scope and coverage of the present study is limited to the students of National Law University and Judicial Academy, Assam (NLUJAA). The study is designed to know the utilization and awareness of library E-resources among the students of NLUJAA.

Methodology

For the purpose of the study an online questionnaire in Google form was prepared and shared among the students of NLUJAA. All total 200 questionnaires were sent online to the students of National Law University and Judicial Academy, Assam out of which 144 response were received which is subjected to analysis.

Data Analysis and Interpretations:

Table 1: Distribution of Questionnaire

Students	Questionnaire Distributed	Questionnaire Collected
BA.LL.B	170	121
LL.M	30	23
Total	200	144

From the above **table 1**, it is seen that a total 200 questionnaires, i.e. 170 questionnaires to BA.LL.B students and 30 questionnaires to LL.M were distributed, out of which 144 response were received i.e. 121 from BA.LL.B and 23 from LL.M students.

Table 2: Experience of using E-resources

Experience	No. of Respondents
1 Year	14 (9.72%)
1-2 Year	48 (33.33%)
2-3 Year	18 (12.50%)
Above 3 Years	64 (44.44%)
Total	144

Table 2, shows the experience of using E-resources among the respondents. It reveals that 64 (44.44%) of the students are having more than three years experience of using library E-resources followed by 48 (33.33%) of students are having one to two years of experience, 18(12.50%)of the respondents are having experience of using E-resources for two to three years and 14 (9.72%) are having experience for one year.

Table 3: Frequency of using E-resources

Frequency	No. of Respondents
Daily	92 (63.88%)
Weekly	28(19.44%)
Fortnightly	16(11.11%)
Occasionally	08(5.55%)
Total	144

From the above **Table 3**, it is seen that 92 (63.88%) of the respondents are using E-resources on daily basis. Whereas 28 (19.44%) uses the library E-resources weekly, 16 (11.11%) uses fortnightly and 8 (5.55%) uses the library E-resources occasionally.

Table 4: Duration of using E-resources

Duration	No. of Respondents
1 hour	28 (19.44%)
1-3 hours	80 (55.55%)
3-5 hours	16 (11.11%)
More than 5 hours	20 (13.88%)
Total	144

From the above **Table 4**, it is seen that 80 (55.55%) of the respondents use the E-resources of the library for one to three hours in a day, followed by 28 (19.44%) for one hour, 20 (13.88%) use the E-resources more than five hours and 16 (11.11%) use the library E-resources for three to five hours in a day.

Table: 5 Purpose of Using E-resources

Purpose	No. of Respondents
Fulfill educational needs	55 (38.19%)
To complete class assignments	62 (43.05%)
To broaden knowledge on legal issues	17 (11.80%)
To be informed about latest development of laws	10 (6.94%)

The above **Table 5** highlights about the purpose of using E- resources by the respondents. It is seen that 62 (43.05%) of the respondents use the library E- resource for completing their class assignments, 55 (38.19%) use the E- resources in order to fulfill their educational needs. 17 (11.80%) of the respondent uses the library E- resources to broaden knowledge on various legal issues. 10 (6.94%) uses the E- resources to get information on the latest development of various laws.

Table 6: Accessibility of E-resources

Accessibility of E- resources	No. of Respondents
Highly accessible	103 (71.52%)
Moderate accessible	24 (16.66%)
Slightly Accessible	17 (11.80%)

Table 6, shows that a majority i.e. 103 (71.52%) of respondents opined that the E-resources is highly accessible in the library. While 24 (16.66%) expressed that the E- resources is moderately accessible in the library. Only a least number of respondents i.e. 17 (11.80%) are of the view that the E- resources is slightly accessible in the library.

Table 7: Preference of online resources over printed resources

Preference of resources	No. of Respondents
Online	72 (50%)
Printed	64 (44.44%)
Both	08 (5.55%)

Table 7, indicates that 72 (50%) of respondents preferred online resources. 64 (44.44%) of respondents preferred printed resources, whereas 8 (5.55%) of the respondents preferred both online and printed resources. It shows popularity of E-resources over printed resources.

Table 8: Information needs on E-resources

Information Needs	No. of Respondents
Academic Information	62 (43.05 %)
Information for personal development	30 (20.83%)
National and Global Legal Information	43 (29.86 %)
Employment information	9 (6.25%)

The above **table 8** reveals about the information needs on E- resources by the students. It is seen that 62 (43.05%) of the students' needs academic information on E- resources. It is followed by 43 (29.86%) of the student's needs national and global legal information. 30 (20.83%) students need information for personal development. Employment information is the least information needs of the students, i.e. 9 (6.25%)

Table 9: Usage of Online Legal databases

Legal databases	No. of Respondents
Hein Online	100 (69.44%)
Lexis Nexis	60 (41.66%)
Manupatra	96 (66.66%)
SSC Online	132 (91.66%)
DELNET Online	12 (8.33%)
Westlaw	28 (19.44%)
JSTOR	84 (58.33%)

Table 9, indicates that maximum 132 (91.66%) of respondents use SSC Online database for online resources, followed by Hein Online 100 (69.44%), Manupatra 96 (66.66%), JSTOR 84 (58.33%), Lexis Nexis 60 (41.66%), Westlaw 28 (19.44%) and DELNET Online 12 (8.33%).

Table 10: Awareness and Use of E-resources

E- resources	Aware and Use	Aware but don't use	Not Aware
E-Journals	112 (77.77%)	22 (15.27%)	10 (6.94%)
E-Books	90 (62.50%)	31 (21.52%)	23 (15.97%)
Legal databases	122 (84.72%)	18 (12.50%)	04 (2.77%)
E- Judgments	84 (58.33%)	41 (28.47%)	19 (13.19%)

From the above **Table 10**, it is seen that majority of the students are aware and use legal databases 122 (84.72%), followed by 112 (77.77%) E-journals, 90 (62.50%) E-books and 84 (58.33%) E-Judgements. E- Judgements 41 (28.47%), E-books 31 (21.52%), E-journals 22 (15.27%) and legal databases 18 (12.50%) are aware among the students but they don't use them. A maximum 23 (15.97%)

of the students are not aware of E-books followed by 19 (13.19%) students are not aware of E-judgements, 10 (6.94%) students are not aware of E- journals and 4 (2.77%) of students are not aware of legal databases.

Table 11: Awareness and Use of Legal Websites

Legal Websites	Aware and Use	Aware but don't use	Not Aware
www.supremecourtfindia.nic.in	95 (65.97%)	33 (22.91%)	16 (11.11%)
www.courtnic.nic.in	66 (45.83%)	41 (28.47%)	37 (25.69%)
www.legalserviceindia.com	78 (54.16%)	18 (12.50%)	48 (33.33%)
www.allindiareporter.com	88 (61.11%)	49 (34.02%)	07 (4.86%)

Table 11 indicates about the use and awareness of legal websites by the students of NLUJAA. It is seen that the website of Supreme Court of India 95 (65.97%) is widely used and known among the students of NLUJAA followed by all India reporter website 88 (61.11%). 49 (34.02%) of the students are aware of the all India reporter website but they don't use it. The website which is least aware among the students is legal service India and court.nic.in website.

Table 12: Awareness and Use of open access legal information E-resources

E-resources	Aware and Use	Aware but don't use	Not Aware
SUPLIS (Supreme Court Judges Library)	102 (70.83%)	36 (25%)	6(4.16%)
JUDIS (Judgement Information System)	98 (68.05%)	27 (18.75%)	19 (13.19%)
High Court Websites	88 (61.11%)	44 (30.55%)	12 (8.33%)
Indian Kanoon	76 (52.77%)	56 (38.88%)	12 (8.33%)

The above **table 12** reveals about the awareness and use of open access legal information E- resources.

Aware and Use: 102 (70.83%) of the respondents are aware and use SUPLIS followed by 98 (68.05%) of the respondent are aware and use JUDIS. 88 (61.11%) of the respondents are aware and use high court websites and 76 (52.77%) are aware and use Indian Kanoon.

Aware but don't use: A majority 56 (38.88%) of the respondents are aware about Indian Kanoon but they don't use it. 27 (18.75%) of the respondent don't use JUDIS but they are aware of it.

Not aware: 19 (13.19%) of the respondents are not aware about JUDIS followed by 12 (8.33%) are not aware about High court websites and Indian Kanoon. A least number of respondents are not aware of SUPLIS.

Table 13: Satisfaction level on information obtained from library E-resources

Satisfaction level	No. of Respondents
Highly satisfied	98 (68.05%)
Moderate satisfied	38 (26.38%)
Less satisfied	8 (5.55%)

Table 13 shows that majority of 98 (68.05%) students opined that they are highly satisfied with the information obtained from library E-resources followed by 38 (26.38%) of students are moderately satisfied and 8 (5.55%) students are of the view that they are less satisfied with the information obtained from library E- resources.

Table 14: Techniques for searching E-resources

Searching Techniques	No. of Respondents
Keyword search	96 (66.66%)
Author search	52 (36.11%)
Subject search	32 (22.22%)
Title search	72 (50%)
Boolean logic search	12 (8.33%)
Phrase search	28 (19.44%)

Table 14 above reveals that majority 96 (66.66%) of the students are using Keywords for searching E-resources followed by 72 (50%) of the students are using Title search, 52 (36.11%) students use Author search, 32 (22.22%) of students are searching E-resources through Subject search, 28 (19.44%) of students use Phrase search and only 12 (8.33%) of the students use Boolean logic for searching E- resources.

Table 15: Problems faced in accessing library E-resources

Problems	No. of Respondents
Lack of awareness on E-resources	16 (11.11%)
Restriction on some E-resource access	40 (27.77%)
Lack of training on E- resources	108 (75%)
Slow download	24 (16.66%)
Others	08 (5.55%)

From the above **Table 15**, it is seen that majority 108 (75%) of students opined that they face problem due to lack of proper training on the use of E- resources followed by 40 (27.77%) of students have problem due to restriction on some E-resource access. 24 (16.66%) of students opined problem of slow downloading of E-resources, 16 (11.11%) of students opined lack of awareness on E-resources and 8 (5.55%) of students face some other problems while accessing library E- resources.

Table 16: Assistance need for using E-resources

Assistance	No. of Respondents
Library orientation on E-resources	52 (36.11%)
Online search and retrieval techniques	92 (63.88%)

Table 16, indicates that 92 (63.88%) of students need assistance on online search and retrieval techniques for using library E-resources. Whereas 52 (36.11%) of students opined that they need library orientation for using library E-resources.

1. Findings of the Study:

- a. 64 (44.44%) of the students has the experience of using E-resources for above three years.(From table 2)

- b. 92 (63.88%) of the students are using library E- resources on daily basis. (From table 3)
- c. 62 (43.05%) of the respondents use the library E- resources for the purpose of completing their class assignments. (From table 5)
- d. Majority of the students 103 (71.52%) opines that the E- resources is highly accessible in the library .(From table 6)
- e. 72 (50%) of the students preferred online resources in compare to printed resources (From table 7)
- f. Majority of the students 132 (91.66%) are using SSC Online (Supreme Court Cases) legal database for online resources (From table 9)
- g. Majority of the students 98 (68.05%) are highly satisfied with the information obtained from the E-resources available in the library. (From table 13)
- h. 96 (66.66%) of the students use keywords for searching E- resources. (From table 14).
- i. 108 (75%) of the students have problem on accessing library E - resources due to lack of proper training on the use of E- resources.(From table 15)

2. Suggestions:

- a. In order to get full satisfaction on library E- resources among the students a survey may be conducted in order to understand why some students are not satisfied with the electronic resources. The reasons of the survey may be properly analysed and important steps may be taken in order to get them fully satisfied.

- b. Proper guidance and training should be provided to the students for using library E- resources.
- c. Orientation on online search and retrieval techniques for accessing library E- resources should be organised.

3. Conclusion

In the conclusion, it can be say that the E-resources are one of the most important tools for providing better library services in an academic institution. In order to improve the quality of education and research work, E-resources are found to be very helpful. Therefore, the selection and planning of E-resources for library should be done with extreme care. The university library should organize more awareness programmes and seminars to educate the students on seeking information from E-resources and in order to maximise the use of library resources and services.

References:

1. Badan, Barman (2012). *Library and Information Science: UGC-NET Guide*.Guwahati: DVS Publishers.
2. Karmakar, GouriSankar, Choudhury, Nisangka&Goswami, Pallab (2012).
3. Use of E-resources among the students of Science & Technology libraries of Guwahati: A study. In J. Arora (Ed.), *Building Participatory Library Services in Digital Era, 8th Convention PLANNER 2012*(pp. 349-355). Ahmedabad: INFLIBNET Centre.
4. Ramasamy, K., Padma, P., & Helan, R. C. (2018). Use of legal information sources and services by the undergraduate students of government law college, Coimbatore, Tamil Nadu state, India: A study. *Library Philosophy and Practice (e-journal)*. Retrieved 12/07/2020 from <https://digitalcommons.unl.edu/libphilprac/1808>
5. Sarma, Rahul & Tonsing, Langmuanjohn (2016). Scholarly use of print and online journals in Rajiv Gandhi University: A

comparative study. In J. Arora (Ed.), *Disruptive Innovations for Libraries: Adopt, Adapt and Evolve, 10th Convention PLANNER 2016* (pp. 319-324). Ahmedabad: INFLIBNET Centre.

7. Thakuria, Juli (2016). Use of E-resources by the post graduate science students in the Tezpur University central library in Assam: A case Study. In J. Arora (Ed.), *Disruptive Innovations for Libraries: Adopt Adapt and Evolve, 10th Convention PLANNER 2016* (pp. 307-318). Ahmedabad: INFLIBNET Centre.

Information Sources

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Abstract

Information is everywhere. Today, with technology advance and more and more awareness for the need of progress and development. Technology has dominated all spheres of human activity and the libraries are not an exception one. Due to development in technological advancements and changing information needs of the users. So we can say that information is the basic need for the progress and development of nation and humanity.

Keywords : Academic Libraries, Information Sources, Technology, ICT

Introduction

The term information has become very popular since 1950's. It is widely used in people's daily life. It exists in and is actually necessary for almost all professions, sciences and cultures. Information has become fifth need of man after ranking, air, water, food and shelter. Information has become an ingredient of man's life cycle. There is no life in the modern society without information. Information enables man to perform his day-to-day duties. Information is resource of immense economic and social value. It is vital for proper functioning of democratic society, a crucial tool in a productive economy and

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effective government, a crucial part of the growth and well-being of individuals.

Traditionally speaking, information sources would include primarily books, periodicals and newspapers. However the numbers and forms of sources are increasing rapidly. A document in any form can be a source of information for quite some time. Now the printed page has remained the most useful form of the source. The printed page in the form books, periodicals, reports etc. Along with the printed page, some other forms and documents have also appeared on the scene asking for more and more attention. These are various audio-visual materials, such as films, film strips, various form of phono records etc., which have been accepted as source of information and are acquired in a modern library. Recently we have seen the development of another form of document where the information is made available in machine-readable form only. For example, punched cards, magnetic tapes, disks etc.

Kinds of Information Sources

Broadly we may recognize the information sources in to two types

1. Documentary Sources
2. Non Documentary Sources

Documentary Sources

Documentary sources are those in which information is recorded in any one of the form. Further documentary sources are classified into three kinds. They are

- Primary Sources
- Secondary Sources
- Tertiary Sources

Non – Documentary Sources

Non-documentary sources are those, where information is not recorded. Again, these sources are of two types. They are

- ❖ Formal Sources
- ❖ Informal Sources

Documentary Sources

Primary Sources

The primary sources are the first published records of original research and development, which has not been filtered through interpretation, condensation or evaluation by a second party. The scientist's first report in a journal is primary materials.

1. **Periodical** – This includes journals, bulletin, transactions, proceedings
2. **Conference Proceedings** – These are in the form of articles written by the experts
3. **Research Monographs** – It is a short treatise on a specific subject
4. **Patents** – A patent is a legal monopoly granted and it prevent unauthorized exploitation of some one's invention by others
5. **Standards and Specifications** – Rules to the quality, size and shape of industrial products including process, methods, terminologies etc. It may be illustrated with tables and diagrams.
6. **Research Reports** – Is a document, which gives the results of the progress with research or development investigation.
7. **Trade Literature** – Used to denote type of literature (Pamphlets, brochures, sheets bound volumes) produced by manufacturers and distributors.
8. **Thesis and Dissertation** – Is a piece of work carried out by research scholar.

Secondary Sources

All secondary publications depend on primary sources. Secondary sources is a material, which has been modified, selected or rearranged for a particular purpose or audience. These sources serves as the bibliographical key to the primary sources.

1. **Indexing Periodicals** – Is a regularly issued compilation of titles of articles that are published or appeared in current journals.
2. **Abstracting Periodicals** – Provides summary of a articles along with adequate bibliographical details.
3. **Reviews of Progress** – A review is a subject survey of the primary literature.
4. **Reference Books** – Includes dictionary, encyclopaedia, biographical source, bibliographical source, geographical source, handbook and manuals.

Tertiary Sources

The primary function of tertiary source is to aid the searcher of information in the use of primary and secondary sources of information. Most of these sources do not contain subject knowledge. This includes, Yearbooks, directories, bibliography of bibliographies, guide to literature, union catalogue etc.

Non – Documentary Sources

Non – documentary sources of information form a substantial part of communication especially in science and technology. Users studies have underlined importance of such sources. These sources provide information which other sources do not. There are two kinds of non – documentary sources.

1. Formal Non – Documentary Sources
2. In- Formal Non- Documentary Sources

Formal non-documentary sources, includes research organizations, government organization, public undertaking, industries, universities or technological institutional, consultants, information centres and referral centres. Whereas informal non-documentary sources includes, conversation with colleagues, participation in seminars, conferences, symposia, meetings, etc.

3. Evolution Of Information Sources

One of the important function of library is to develop the need based information sources. Which are available in different forms. As we all know that man has used several forms viz. stone, clay tablets, metals, linen, wooden boards, papyrus, parchment, vellum, papers, punched cards, magnetic tapes, magnetic disk, optical cards, optical tape disk etc. The invention of paper writing activity increased considerably, particularly in **1440 AD** when **Johannes Guttenberg** invented the movable type of printing machine, since then various forms of printed documents like books, periodicals, leaf lets, brochures etc were in use. Then comes the punched cards and other electronic storage devices.

Information Storage Devices

1. **Early efforts** – before clay tablets the first writing material were stones. Evidence gives is the history of writing surfaces of some 800 years.
2. **Clay Tablets** – cave walls and lighter than stone blocks.
3. **Metals** – lead, copper , brass and bronze were used to write.
4. **Linen** – it was used by Egyptians and later by Romans.
5. **Wooden Boards** – bamboo and tree bark had been used as writing materials.
6. **Papyrus** – it grew plentifully on the banks of the river Nile. It was introduced as a writing material.

7. **Parchment** – it is a writing material made from the inner side of the split skin of sheep
8. **Vellum** – it is finer material than parchment. The skin used is that of the calf.
9. **Paper** – various forms of printed documents like books, periodicals, leaflets, brochures etc. Were in use.
10. **Punched Cards** – in 1880 this first appeared. It is measured 19X8 cm and has 80 columns. Advanced storage devices.
11. **Microforms** – 1960 micro publishing industry established. Dimension of film is 16MM and 35MM.
12. **Magnetic Tapes** – 1951 it was introduced as a data storage medium. 10.5 inch reel. 100 million characters.
13. **Magnetic Disks** – it was applied to secondary data storage in 1962. It is a metal or plastic plate coated on both sides with iron oxide.
 - a. Floppy disks – 1971 introduced by IBM. 250 kb
 - b. Hard disk – 1960 introduction by IBM. Typical speed 2400 rpm to 3600 rpm.
14. **Optical Data Storage Media** –
 - a. **Optical Cards** – 1980 introduced by Drexler Technology Corp; USA. It provides 2.86 MB capacity.
 - b. **Optical Tapes** – in 1990 introduced by CREO products Inc. Canada. 35 MM wide
 - c. **Optical Disks** – Write Once Read Many, Re-writable Optical Media, Read Only

Dictionary

Dictionary is well known form of reference book. A dictionary contains the words of language or the terms of a subject. Dictionaries

giving their meaning, pronunciation, spelling, syllabication, illustrations, maps, plates, historical and geographical information about the words or terms. A dictionary is also alternatively called as Glossary, Theasaurus and Lexicon.

Use Of Dictionary

1. To find the meaning of words and term
2. To check the pronunciation and verify spellings
3. To trace the history of word including its origin, derivation
4. To determine synonyms, antonyms and homonyms
5. To provide quotations

Examples of Dictionary

1. English – Kannada Dictionary, Mysore: University of Mysore, 1947.
2. The Oxford English Dictionary. Ed 2. Oxford: Clarendon Press, 1989
3. Random House Dictionary of the English Language. New York: Random House, 1966
4. Webster’s New International Dictionary of the English Language. Springfield, Massachusetts: Merriam Webster, Inc, 1961
5. Mc- Graw Hill Enclopaedia of Scientific and Technical Terms. Ed. 3. By Sybil P Parkar, New York: Mc-Graw Hill, 1984
6. Oxford Dictionary of Quotations, Ed 4. Oxford: Oxford University Press, 1992
7. Roget’s International thesaurus. Ed 4. New York: Crowell, 1977
8. National Biographical Dictionary of India. Compiled by Jagadish is Sharma, New Delhi : Sterling, 1972.

Encyclopedia

The term 'encyclopedia' implies a complete system of learning, which gathers information either from all branches of knowledge or from a single subject area. It arranges all information in an alphabetical order for ready reference. The quick reference A-Z order of entries is usual. It is a storehouse of knowledge or pond of knowledge giving all information of significance. However it is best used for finding answers to background questions related to general information and self-education for both the specialist and layman.

Examples of Encyclopedias

1. New Encyclopaedia of Britannica. 1768. Chicago: Encyclopaedia Britannica, Edition 15, Volumes 30. (3 Volumes – Micropaedia, Macropaedia and Propaedia)
2. Encyclopaedia of Americana. New York: Grolier Incorporated, 1984, 30 Volumes
3. Collier's Encyclopaedia, New York: Macmillan Educational Corporation, 1976, 24 Vo
4. Mc – Graw Hill Encyclopaedia of Science and Technology. Ed. 6. Editor-in-chief Sybil P Parker. New York: Mc-Graw Hill book Company, 1987, 20 Volumes.
5. International Encyclopaedia of Social Sciences. Ed. By David L Sills. New York : The Macmillan Company, 1968-1980, 18 Volumes.
6. Encyclopaedia of Religion and Ethics. Ed. By James Hasting with the assistance of John A Selbie and Louis H. Gray. Edinburgh : it & it Clark, 1908, 13 Volumes.
7. Encyclopaedia of Library and Information Science. Ed. By Allen Kent and Others. New York: Marcel Dekker, 1968-83, 35 Volumes, Supplements 1-10, 1983.

8. Mc – Graw Hill Encyclopaedia of World Biography. New York: Mc-Graw Hill, 1973, 12 Volumes

Bibliography

1. World Best Books. New York : Wilson, 1953
2. Collected Works of Mahatma Gandhi. Delhi : Publication Division, Ministry and Information and Broadcasting, 1958
3. Indian National Bibliography. Calcutta : Central Reference Library, October 1957- December 1964 Monthly

Atlases

1. An Atlas of India, New Delhi : Oxford University Press, 1990
2. World Atlas of Agriculture, Novara : Instituto, Geographic, 1969
3. Times Atlas of the World, Ed. 7, London : Times Books, 1985

Guide Books

1. Fodor's India, London : Mc Kay, 1978
2. Murray's Guide or Hand Book for Travellers in India, Pakistan, Burma and Ceylon. London : Murray, 1968
3. Guide to Indian periodical literature : social sciences and humanities vol. 1, 1964 – Gurgaon : Indian Documentation Service. Quarterly
4. Readers guide to periodical literature , New York : Wilson, 1905, Semi-monthly
5. Guides to reference materials on India, compiled and edited by in N Gidwani and K Navalani, Jaipur : Saraswati Publications, 1974.

Gazetteers

1. Gazetteer of India, Delhi : Publication Division, Ministry of Information and Broadcasting, Govt. Of India, 1965-1978

2. Columbia Lippincott Gazetteer of the World. New York : Columbia University Press, 1952

Handbooks

1. Handbook of Chemistry and Physics : A Ready Reference Book of Chemical Physical Data. Cleveland : Chemical Rubber Company, 1913, Annual.
2. Historian's Hand Book : A Descriptive Guide to Reference Works, by H J Pouton, Norman : University of Oklahoma Press, 1972
3. Rockhounds Manuals. By G is Fay. New York : Harpepr & Row, 1972

Abstracts

1. Chemical Abstracts. Columbus Oh : American Chemical Society, 1907 – Weekly.
2. Biological Abstracts, Philadelphia : BIOSIS, 1926 – Semimonthly.
3. Library and Information Science Abstracts (LISA) London : Bowker,1969 – Monthly

Directories

1. Commonwealth Universities Year Book : A directory to the Universities of the commonwealth and handbook of their associations. 1995-96.
2. Universities Handbook. New Delhi : AIU, 1992
3. Times of India Directory and year book including who's who, Mumbai : Times of India Press, 1914.
4. Telephone directory, Gulbarga District
5. Directory of special libraries in Karnataka

Books Of Records

1. The Guinness Book of Records, London : Guinness Publishing Ltd. , 1955 – Annual
2. Limca Book of Records. New Delhi : Britco Foods Company Ltd., 2000, annual

Conclusion

This type of Information Sources play a very important role in every large and small libraries particularly in public libraries. Every library should have a few important sources to solve the queries.

References

1. Lea, Peter W and Day, Alan : Reference Sources Handbook. Ed 4. London, Library Association, 1996.
2. Gopinath, MA : Information Sources and Communication media. DRTC Seminar Volume 1974.
3. Parker, C C and Purely : Information Sources in Science and Technology. Ed. 2. 1986
4. Ranganathan, SR : Reference Service Ed 2. Bangalore, Sarada Ranganathan Endowment for Library Science, 1992.
5. Sharma, JS and Grover, DR : Reference Service and Sources of Information. New Delhi, Ess Ess Publications, 1992.
6. Sewa singh : Handbook of Reference and Information Services. New Delhi, Crest Publishing House, 1997.
7. Krishna Kumar : Reference Service. Rev. Ed. 3. New Delhi, Vikas Publication, 1987
8. Subramanyam, K : Scientific and Technical Information Resources. New York, Marcel Dekkar, 1981.
9. Guha, B. Documentation and Information. Calcutta, World Press, 1980.

10. B is Biradar and A Y Asundi : Information Sources and Service.
Shimoga Karnataka. Kuvempu University Publication, 2012.

Redesigning Library Services for your Neighborhood : A Wake-up Call for Academic Librarians

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Abstract:

Academic Libraries can play a vital role in initiating innovative services not only for its own institutions but can also for the local people. As library is a social institution so it need contributory service beyond its peripheral boundary in nation building. As Information Science professionals the limit of service should not be confined with a particular institution but come up with ideas so that effective and extensive resources are used by everyone. Librarian need to grab the opportunities in serving people by doing remarkable and useful jobs so that people find the necessity of such information every time. The rural population in and around the educational institutions are in dearth of information in spite of having a good academic library within their reach. Academic Libraries can fulfil their needs and come up in shaping well-being of the locality and help in over all progress of the society with users both within and outside the campus.

Keywords: *Academic Library, Community Service, Village adoption, Unnat Bharat Abhiyan*

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Introduction:

Librarians scope of service is widened with changing of times from traditional to virtual, from public libraries to special libraries and what has effected in the services is also due to the impact of government policies. The academic libraries, public libraries and special libraries have its own importance about its role and obligation towards its users at their levels. The Librarians has a greater and vital role to play for its users in attracting them with innovative services. The academic libraries are the one who serve the students as well as the teachers of the respective Institutions. The academic libraries are more or less equipped with the good ICT facilities and thus provide service through them which have enough gained a momentum in providing better service through the use of automated library system, digital library and provision of e-resources through e-Shodh Sindhu consortium and various library networks such as DELNET, BONET, MALIBNET etc. are available all over the globe. The users of academic libraries be it students, teachers, research scholars are able to connect themselves with the wide range and scope of library resources. The users are defined for the academic libraries and job description for the academic librarians are specified. Now is the job of a librarian sufficed with merely working for the stake holders? So what next for our new users is not a BIG question? Librarians need to come out of the box if we need to sustain ourselves in the society. It is necessary to do remarkable things so that we remain accountable to the society.

Finding Different Academic Librarian:

SOCIETY is a major platform for library and young library science students are taught LIBRARY and SOCIETY as the two sides of the same coin. When a librarian serves the teaching and student community of its own institution he or she is serving the society only, there is no doubt. The Academic Librarians are serving their community of bonafide students and faculties with ICT enabled library services and users are highly benefitted from it. The scope for

libraries to serve the society is widened with the Government of India's Unnat Bharat Abhiyan 2014. It was the directive of Government of India to adopt villages by Higher Educational Institutions of India for development of village and community level for setting up of model villages. Many Higher Education Institutions such as Universities and reputed colleges all over India have adopted villages and started providing services to the community. The scope for the Librarians has been also widened and opportune ourselves to take part in contributing to the development of the nation by providing service to our next level of users or the nearby community of the institution.

The public libraries in India are very much active in almost all the metro cities in the Northern, Southern and Central part of India except the North Eastern part of India and especially the rural India has a dearth of public libraries. The Community Information Centres known as CIC run by the National Information System in August 2002 especially in North eastern part is almost neglected. Except a few in cities and town CICs, the rural CICs attached with the Block Offices are not working well. Moreover the Public Libraries in the region are not functioning well in comparison to many of the Public libraries in the other part of India. Even if public libraries are there then due to lack of awareness of library system and also due to the poor condition of their livelihood in rural areas the people cannot afford to visit public libraries as it is far from their places. The rural libraries or the community libraries do not exist in almost all the part of the country and if exist it has very few in number. But the education system of India has adhere to good library system in almost all the Higher Education Institutions in India be in Universities as well as in colleges all over India due to good funding from the University Grants Commission in their various Five year plans.

Why Different Academic Librarian:

The Academic Libraries are situated almost far and wide in the rural areas of the region and the country. The very purpose of serving the students and teachers are satisfied by these libraries. As a library of good collection of resources it can also serve the locality where people could not avail the public or the community libraries. Most of the people in the rural areas are poor and ignorant about the library system and its importance. There are poor students who could not procure books on their own, even if the government are providing free books to them they still lack quality reference books that are required for in depth study. Most of the people are farmers or daily wage earners and are ignorant about quality farming and also various government schemes and programmes. The rural women and children are not aware of health related issues and as such suffer a lot due to their full involvement in their house hold chores. Moreover the offices of Panchayat system of Government in rural level have poor governing system and failed to address the people about latest government schemes and programmes. The rural people are less vocal and therefore not benefitted from various government schemes. The unemployed youths are also major setbacks in rural areas due to their poor education and environment. Now what an Academic Librarian can do? Besides the normal duties towards its stake holders they can provide service to the local people in many ways:-

- a. Fix a particular day of a week for visit of the local people by taking appropriate permission from the authority.
- b. Keep vernacular books for school going children in order to help them in getting them books.
- c. Provision of using library magazines, journals and newspaper and employment news for the local unemployed youths.
- d. Make library a platform for training to the farmers about various agricultural techniques and knowledge on high

yielding seeds, through collaboration with the district agricultural authority.

- e. Addressing the women folks about health related issues and on various schemes and programmes of the Government from time to time.
- f. Making library for developing reading habit for all the students of the locality by arranging library fest for the locality.

1. Services that can be provided to the Neighbourhood Community:

Local people near the Institution should be the target of the academic libraries. Understanding the developmental process of the rural areas and in conformity with the government directives and also with the motive of the Librarians to contribute for nation building, providing services to such type of community or make them a new user for the library is utmost necessary. The various services in the form of needs of the information of the locality can be provided to such users are as follows:-

1.1 Health related:

Health is one of the main issues especially in the rural areas which are detrimental for the development of the village, hence giving them awareness about the maintenance of good health for the women and child, older people, young generation prone to drug abuse, is very much necessary. Library in the form of social responsible institution can help them in providing them health issues by visiting the village or make them attend such a session possible on a particular date in the college library.

1.2 Agricultural information:

It is known to all that agriculture is the back bone for the rural economy, but in recent years there is mass transition of village

youths to metros in search of cheap employment at hotel and various industries. The youths have their own land but have the trend and the tendency of serving somewhere even if they get a meagre amount. Making them aware of their own land and giving their dignity of being a farmer need to be addressed, more so the mass cultivable land is either lying barren or shared in a condition with less amount of product with the tiller. The farmers are also need to make aware of various schemes that has been provided by the agriculture department of every districts in the state. The librarian may provide linkage between the department and the farmers of the village.

1.3 Educational information:

Education is the most important factor for the development of the rural community. The librarian may become an agent or provide service to the young children in developing them reading habit by arranging a systematic duration for their visits in the library, summer or winter camps can be conducted during vacations in the Institutions. Mobile library can also be initiated by the librarian for providing services to the local areas to keep the people engaged in reading habit so that reading culture could be created. Young students can be encouraged about various careers and opportunities and educational institutions for further study.

1.4 Information on crime and safety for women:

Women and children are mostly affected on the issues of their safety in adverse conditions in rural areas. They can be made aware of their empowerment and liberation through the means of various livelihood schemes from the National Rural livelihood mission's authority. Training on women empowerment could be given to them with proper consensus

from the authority on how to keep themselves safe and sound and also liberate themselves from economic crisis.

1.5 Information on various Government schemes and programmes :

The Librarian can take interest in talking with the local governing bodies such as the Gram Panchayat President in obtaining various information about announcement and allotments of various schemes. This information need to be made aware to the villagers so that they can receive such allotments of the government from time to time. Information on various medical facilities, housing facilities, rations, old pensions, etc. need to be addressed so that the whole community or the locality become aware and keep themselves up to date on such happenings.

2. Use of ICT for effective service to the community:

The present pandemic situation has given us lot of lesson in dealing with people so as to the users of the library. In this adverse condition many have attended as well as conducted many webinars. Similarly addressing the local people becomes much easier through the medium of ICT if there arises in difficulty to meet the local people personally. The Librarian can build trusty person among the community so that information relating to the development of the community can be taken care of. The information to the people can be provided in the form of leaflets, through messages using mobiles and displaying banners in the villages. The Digital India initiatives of Government undertaking is one of the finest example and Librarian can be a catalyst in reaching the information to the people especially in the rural regions of India. The use of smart phones should be encouraged as it more convenient to reach the people and many people can afford it and also information could be received by the people in a simple way.

Conclusion

The context of serving people need to be loud and clear, academic librarian are information science professionals and must be ready to serve and provide information irrespective of their peripheral limits. Contributing for the progress of the society should be the priority and all must lend their helping hand. This will not only make the people feel of our presence both in the academic society as well as the locality, but will generate a sense of compulsion of library professionals in the society where our users are unbounded and redesign the user groups in the academic libraries.

References:

- 1) Baba, Zawiyah & Abriah (2018). Transformation strategies in community engagement: selected initiatives by Malaysian libraries. *International Federation of Library Associations and Institutions(IFLA)*, Vol 44(2), 91-92
- 2) Behara, Sharafi & Porsaied (2013). Information needs and role of Library in rural areas to impact on socio-economic development by different communities. *e-Library Science Science Research Journal*, 2(3), 10-16
- 3) Carter & Seaman (2011). The Management and Support of Outreach in Academic Libraries. *Reference and User service Quaterly*, Vol 51(2), 165
- 4) Government of India (2014). SAGY guidelines. New Delhi: Ministry of Rural Development
http://saanjhi.gov.in/pdf/guidelines_english.pdf
- 5) Government of India (2015). UNNAT BHARAT ABHIYAN.
<http://unnat.iitd.ac.in/app/webroot/files/brochure.pdf>

- 6) Itsekor, Asaolu & Osinulu (2015). The role of Academic Libraries in Community development: issues and strategies. *International Journal of Information Technology and Business Management*, Vol.34(1)
- 7) Kumar, S. (2006). A journey of Rural Library Movements in India: Retrospect and prospect. *SRELS journal of Information Management*, 43 (3), 295-305
- 8) Lamani, Talawar & Kumbar, (2014). Role of Rural Libraries in the development of community: a review of literature. *International Journal of Librarianship and administration*. 5(3), 228-233
- 9) Ramesh, R. (2015). Village Adoption: A praxis-based approach to community engagement by Institutions of Higher Learning, p6
http://nirdpr.org.in/nird_docs/sb/doc6.pdf (Accessed on 10/07/2020)
- 10) Shrestha, Sanjana (2013). The changing role of community libraries: Emerging centres for sustainable development. <http://library.ifla.org/216/1/150-strestha-en.pdf>

Role of ICT in Higher Education and Libraries : Case Study from India and Bangladesh

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Abstract

Education is an essential tool in one's life to enhance his employability, productivity and thus improve his standard of living. And in this context, one cannot deny the crucial role of Higher Education. The easy availability of the all possible opportunities of Higher Education does help in creating potential scope of higher economic growth and development. Given the context of higher education, Libraries provide a very conducive environment. In this regard, the vital part played by ICT (Information and Communications Technology) in imparting the education of higher level is well appreciable. Knowledge and information can be developed, processed and made available anywhere and to anyone only through the help of ICT. With ICT in play in libraries, the quality and standard of higher education has improved a lot, along with its increasing wider coverage. This paper focuses on illuminating the positive role of ICT in imparting higher education and also in libraries in India and Bangladesh and also discusses the common features and differences in the methodology of using ICT. The way of incorporating the technology in the field of education ease out the complications of

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gaining knowledge and the same has been observed in these territorial zones.

Keywords

Communication, Technology, Higher Education, Knowledge, Libraries.

Introduction

“The emancipatory and transformative potentials of the Information and Communication Technology (ICT) in Higher Education in India has helped increase the country’s requirement of higher education through part time and distance learning schemes. It can be used as a tool to overcome the issues of cost, a smaller number of teachers and poor quality of education as well as overcome time and distance barriers”. (McGorry, 2002). Over time and again, Education is treated as an essential tool to enhance the quality of one’s life. And in this context, the higher level of education plays a vital role in a learner’s professional life as it helps him/her to develop various skills like ethical judgement, critical thinking, analytical reasoning, problem solving etc. which are necessary for leading a rational professional and personal life along with the elementary or basic level of core knowledge and there is no denial to the fact that, in this context, ICT has a crucial relevance. Effective use of technology in information spreading or communicating ideas can make learning process more dynamic and creative, thus exciting for the learners. It helps them to get to know new ideas without much efforts as compared to the conventional route of learning. It is to be observed that with the existence of ICT and its varied tools, the process of learning has improved and the innovations of new ideas, methods and discoveries have been possible in a greater extent.

Literature Review

The benefit of the use of ICT in education sector is not new to be recognized. It has been known to mankind for a long period of time

that with new improved technology, education can become more creative, exciting and also interesting for the learners and at the same time, it can be more useful and more effective for the betterment of the country with more application of knowledge and its challenging uses in varied fields. There have been many studies which shows the positive impact of using ICT in education learning. ICT can help students become more confident and competent in their learning (Passey et al, 2004; TOP, 2001). Furthermore, other researches also reported positive results for ICT in Pupils' achievement. (Blow, 2001, TOP, 2001). E-mail, which is regularly used to pursue collaborative projects with schools, can support learning (Usher, 2001). Students acceptance in the use of new technologies in both formal and informal learning are also increase rapidly (Godwin-Jones, 2005). Students consider the internet as a virtual textbook, reference library, virtual tutor, learn to study shortcuts, and virtual study groups (McNeoly, 2005). Communication tools of ICT allows easy communication between students and teachers or between students outside the physical barriers of classroom (Chen, D., Hsu, JF, and Hung, D. 2000). Interactive electronic whiteboard are such tools which provide impulsive information sharing, constructing knowledge and stimulate personal growth of students. (Mona, 2004). Sun, Hao-Chang, Chen, Kuan-nien, itseng, Chishu and itsai, Wen-Hui (2010) in their study shows how implementing new informative technology has expanded the role of librarians as educators and how this role has evolution of new technology. The study of Cholin (2005) is an attempt to give an overview of the implementation of information technology in different university libraries in India that available within universities and elsewhere. Also discussed is the role of the INFLIBNET center in the overall development of university libraries across the country. These impactful features of ICT make it highly usable and profitable means of providing education given the technological scenario in the current time period.

Role Of ICT in Higher Education and Library System

Various tools and forms of ICT like internet, web browsers, video conferencing, radio, television, cell phones etc. enhance the learning outcomes because of the better quality of education imparted to students. These tools of ICT help the students' ability to use the conceptual aspects of the discipline in authentic practice, also help in creating more interactive, collaborative, and satisfying environment of learning. Different tools of ICT help in elaborating the way of learning. The use of ICT helps in increasing the motivation of pupils and their confidence too. There is no doubt that learning possibilities expand via collaboration, interaction and communication. There is also an important advantage in the form of potential differentiation of the method of learning according to the individual pupil's needs which allows every potential learner to come into the brackets of learning. Constructive tools of ICT like Excel, Word, PowerPoint presentation help in expanding the creativity among students because of the exposure to designing statistical data, presenting views in compact format, etc. The speed and automatic feature of ICT overcomes all the physical challenges of teaching and help the teachers to demonstrate the same concept in a more effective way. ICT has the benefit of wide coverage and high capacity without any huge cost of transporting the information or knowledge, that too within short span of time and over the wide distances. Teachers can address any set of students irrespective of geographical barriers, social or physical differences which can make their process of imparting knowledge more useful. Students would not be withholding themselves from learning because of any irrelevant reasons. Research has shown that appropriate use of ICTs to catalyze a paradigm shift in both content and pedagogy is the heart of the education reform in the 21st century. Leveraging ICT in a suitable manner enables new methods of teaching and learning, especially for students as it can help them in exploring exciting ways of problem solving in the context of education. One can also not deny the relevance of ICT and its varied tools in the library system of any

educational domain. With the library in place, information transferring gets so convenient for the researchers and knowledge receivers. Every source of knowledge and learning is available under one roof called library in almost all possible forms. With ICT in its appropriate form, library is able to spread its advantages and benefits by delivering each and every source of information to the required parties and needed format. With no physicality and no requirement for premises, there is free flow of information and knowledge across the globe with ICT in place in libraries irrespective of geographical barriers or any other conditions. Libraries being the ultimate source of study materials, help in accessing every needed source of knowledge with the aid of technological advancements taking place over the period.

Case Study 1: ICT In India

In India, Higher education has always been a focus of policymakers and many initiatives have taken place to promote higher level of education among the potential learners. The initiative called Gyan Darshan (GD) was launched in 2000 to broadcast educational programs not only to school kids but also for university students. Teachers/Resource persons and IGNOU Regional Center functionaries interact for academic and administrative matters with students in this channel. Induction Programmes for new students and convocations for graduating students are also conducted live through Teleconferencing every year. GD is a 24-hour educational channel which offers the best of educational programmes covering a variety of subjects and catering to a wide range of viewers. Another initiative by IGNOU is the introduction of Gyan Vani (GV) FM Radio in 2001 as a network of educational FM Radio Channels operating from various cities in the country. It serves as an ideal medium for niche audience addressing the local educational, developmental and socio-cultural requirements of the people. The pilot project SAKSHAT: A One Stop Education Portal was launched on October 30, 2006 to facilitate lifelong learning for students, teachers and those in employment or in

pursuit of knowledge free of cost to them. The National Mission on Education through Information and Communication Technology (ICT) seeks to bridge the digital divide, i.e., the gap in the skills to use computing devices for the purpose of teaching and learning among urban and rural teachers/learners in Higher Education domain and empower those, who have hitherto remained untouched by the digital revolution and have not been able to join the mainstream of the knowledge economy. (aicte-india.org). IT Kanpur has developed “Brihaspati” an open source e-learning platform. It is the Learning Management System to build e-learning courses offered by the institute and deliver them across wide area networks. Eklavya is an initiative of National Institute of Open Schooling (NIOS) towards massive open online courses (MOOCs). In this, courses are designed to be offered at Senior Secondary level and also the Vocational courses are provided through distance learning medium. In 1986 Jadavpur University with its limited resources took a project entitled Computer Aided Instruction (CAI) Project for using computer as teaching-aid to supplement the conventional class-room teaching. University of Calcutta have entered into a strategic alliance with NIIT (National Institute of Information Technology) for providing courses through virtual classrooms, which allows two-way interaction between tutors and students, also an effective platform for discussions. iT Bombay has started the program “Centre for Distance Engineering Education Program (CDEEP) as emulated classroom interaction through the use of real time interactive satellite technology to widen its reach of imparting higher level of education to all kinds of potential set of audience. The concept of digital libraries help the particular set of learners in a vibrant way as these libraries allow easy access to all kinds of knowledge forms like books, journals, research articles, view posts etc. but also the main essence of having digitalized libraries is to focus on those deprived or remoted segments of the society who aspire for equipping higher level of education but bound by physical and territorial barriers. UGC is also encouraging creation of e-

contents/learning materials for undergraduate and postgraduate students in colleges and universities. E-Gyankosh which aims at preserving digital learning resources is a knowledge repository launched by IGNOU in 2005. In this, almost 95% of IGNOU's printed material has been digitized and uploaded on this platform. ICTs lend themselves as an ideal mechanism to bridge the gap by complementing both formal education system as well as distance learning system. (Neeru, 2009). In 2017, SWAYAM came into existence. It's a programme initiated by Government of India to take the efforts for making the best teaching and learning materials and resources available to all in basically, audio and video formats. In India, the role of libraries is slowly shifting from traditional information resources to the provider of digital information services with the use of ICT. The conventional library-based services like acquisition, reference services, bibliographic services, documentation, audio-visual services have now been efficiently provided using ICT. Micrographic and Reprographic technology are widely used in Indian libraries. Availability of e-journals, electronic books, blogs, wikis, online reference services, e-databases, encyclopedias are common features of libraries in India. So, digitalization has enhanced the functioning of the libraries in Indian territory and thus helped the learners in a much-advanced way.

Case Study 2: ICT In Bangladesh

Starting from mid-nineties, the use of ICTs in schools rapidly expanded in developed nations through curriculum support, networking, the professional development of teachers and software improvements. (Aston & Mike, 2002). Ministry of Education of Bangladesh has recognized the widespread use of ICT for education imparting process thus its report of 2003 says ICT education is already made compulsory. It is also implementing the action of wide application of ICT in classroom teaching. Also, the perspective Plan calls for making ICT education mandatory at the Secondary level by

2013 and also establishment of computer labs at the primary level by 2021 (GED, 2012). And the country has made many appreciable achievements in this regard. Government of Bangladesh took an effort to leverage the power of ICT in education sector with The National ICT policy, 2002 and its revised version in 2009. The idea of DIGITAL BANGLADESH was initiated by the Prime Minister to provide access of ICT to all. Many Non-Government Organizations (NGOs) and donor agencies have worked a lot in the direction of usage of ICT in the human capacity building process, namely, Grameen Bank and BRAC (Bangladesh Rural Advancement Committee) where BRAC University promotes advancement in research activities with the aid of ICT tools. In 1995, BRAC introduced the Continuing Education Program and thus established Gonokendros (Union Libraries) to provide training to students for use of computers at a low price and also to provide access to reading materials for the rural population in order to aim for full literacy. Then establishment of Bangladesh Open University was another step towards the applicability of ICT for higher education. This university came into being in 1992 which enables education through distance learning mode. The tools generally being used to deliver learning materials in the courses offered by this university are television broadcast, radio, audio cassettes, which are provided as a supplementary component of print-based delivery. In this context only, many other tools came into use like e-mail, teleconference, computer-aided learning etc. since 2000. Another very relevant step of initiating the use of ICT in higher education was creation of the Education Management System, popularly known as BIDYAAN. For higher education in colleges, it is Best College Management System which allows for interaction of all the responsible parties – Teachers, students, parents, librarian, transport manager, administrator, HRM and Exam control on a digital platform and also help these concerned parties to make use of ICT tools for better interactions and results. The library development in Bangladesh is closely related with the history of library development in Indian

subcontinent. (Mannan, 2002).The automation of the libraries and the information centers began around 1980s in Bangladesh. Around 60% urban based libraries have started the use of ICT and its tools in their working environment. There are many institutions namely, BANBEIS, BRAC university library, ICDDR,B publication unit, The National Library of Bangladesh, BIDS library etc. which have taken up activities including the acquisition and subscription of e-books and e-journals, digitization of paper based documents through scanning and Desk Top Publishing (DTP), developing database or online repository for metadata and full-text, providing searching and downloading facilities (online and offline), document and user profiling etc. Some academic and research libraries in Bangladesh have online access to e-journal as member of INASP/PERI consortium. The International Network for the Availability of Scientific Publications /Program for Enhancement of Research Information - consortium is an on-line journal network started in 2006 and Bangladesh has been subscribing its services since 2008. (Alam, 2012). Also, to mention that there are many university libraries which have got technological ways to provide the library services to the learners. They are: North-South University which is first of its kind to be automated using locally developed and customized software. The Independent University Bangladesh Library has been using LIBRARIUM software package for its services.

Common Threads & Benefits Of ICT

By studying the teaching learning environment existing in the two countries which makes use of all the available and useful ICT tools, one can make a very vital point is that the advantage of ICT in education especially in higher education cannot be ignored and rather the use of ICT makes the efforts of gaining knowledge more fruitful and advantageous not only for the learner but also for the society as a whole. The kind of efforts, reforms and steps taken by these two

respective governments is quite appreciable and recognizable in their own regard, given the political, social and geographical differences and its most admiring diversities, the efforts of each government has been quite effective in terms of outreach of the learning programmes to every individual or even to remoted groups of people. Over a period of time, both countries have taken relevant steps to make use of the changing digital scenario around the globe by incorporating the use of ICT tools in the conventional domain of education learning and also in the library zone within the educational system. The commonality in the steps taken by these governments is the use of ICT in imparting higher education through the establishment of open universities which provide distance learning mode using all the possible and useful tools of ICT involving radio, television broadcast, video conferencing, etc. These universities work effectively for the higher level of education as these give a chance to learners to continue their work experience along with improving their educational opportunities which can further add onto their employability. Overcoming the barriers of geographical location, physicality and non-availability of resources and teachers, these universities make education plausible for all. The existence of e-content, tele conferencing, video lectures, discussion forums, creation of google groups, PowerPoint presentation etc. help in continuation of learning process in distance learning form. The students also get enough opportunity to carry out research activities as their theoretical learning is not time bound or doesn't require physical presence like classroom teaching. The quality of higher education is not compromised as highly qualified teachers, authorities, corporate experts or sometimes bureaucrats, take up the charge of giving out lectures. The frequent discussions on contemporary economic, social, political, administrative, financial issues are also being taken place which helps in broadening the scope and vision of learning of the pupils. In both these countries, the establishment of digital libraries has been one of the prominent features of the usage of ICT. These

libraries help the budding researchers, learners, students pursuing higher education to access the learning material pertaining to any country/region with just one click on any issue or topic. These libraries allow the usage of any learning material/ research material by any potential pupil, especially for higher education. The idea is to provide easy, cost effective and complete accessibility of reading and learning information. The idea of virtual classrooms has been another well-known concept of digitalizing the classrooms of education and this has been well represented in the higher education sector of these countries with initiatives like SWAYAM courses in India and Bangladesh Open University delivering courses via radio, television, broadcasts etc. The emerging concept of Learning Management System (LMS) could be another leading benefit from the usage of ICT and its tools, thus it seems that these initiatives by the respective governments present a huge scope of better ICT infrastructure for the pursual of higher education in the near future.

Challenges in The Usage Of ICT

A coin has always two sides. Similarly, every initiative has its benefits and challenges. The existence of higher education sector in India and Bangladesh is quite well-known and much effective element of the education systems of these countries which has the sole aim of empowering the students of these nations, thus building the human resource of the economy. But this process has much debatable yet significant challenges in its working which act as major hurdles in the system. For instance, High cost of Internet and also the lack of skilled manpower in Bangladesh pose serious problem. Slow speed of computers, signal problem in Internet, virus threat, poor working conditions of computers, load shedding, lack of ICT training programs and lack of access of internet are the problems faced by the majority of the students. Under funding for the ICT infrastructure and high cost of sustainability of technology in higher education and library system are some of the disturbing elements for the nations.

Conclusion

The idea of having ICT and its tools in the higher education sector has been very empowering and welcoming by the parties concerned. The institutions of the respective countries in the study have incorporated the essence of ICT in the horizon of education in a well-established and developed form, fulfilling the needs of all kinds of learners, directing to every specific use. Traditional forms of teaching and learning are gradually changing their versions to virtual and online classes. These shifts point towards a broad and well-equipped zone of learning wherein physical or social barriers don't hamper the joy of learning. The existence of varied forms of ICT and its techniques in the higher level of education sector and library system give the impression of improved quality and highlights the better ways of educating the masses. The only requirement is to broaden the territory of usage of ICT in all levels of education and specifically focusing on higher level of education and research with precise focus library area so that the learning at such a level does not get disturbed by the least relevant factors like distance, need of premises, classrooms, geographical barriers etc.

References

1. Bhattacharya, I. & Sharma, K. (2007). India in the knowledge Economy – An Electronic Paradigm. *International Journal of Educational Management*, Vol. 21(No. 6), pp. 543–568.
2. Mishra, S. & R. C. Sharma (2005). Development of e-Learning in India. *University News*, 43(11).
3. Neeru S. (2009). ICT in Indian Universities and Colleges: Opportunities and Challenges. *Management and Change*, Vol. 13(No. 2), pp. 231 – 244.
4. Richard, J.A. (2015). The Role of ICT in Higher Education in the 21st Century. *International Journal of Multidisciplinary Research and Modern Education*, Vol 1(Issue 1).

5. Mondal A. and Jayanta (2012). ICT in Higher education. *Bhatter College Journal of Multidisciplinary Studies, Vol 4*, pp 123-130.
6. Pegu U. K.(2014). Information and Communication technology in Higher education in India: Challenges and Opportunities. *International Journal of Information and Communication Technology, Vol 4*, pp 513-518.
7. Habib, H. (2017). Role of ICT in Higher Education. *International Journal of Creative research thoughts. Vol 5*(Issue 4).
8. Shaikh Z. A. and Khoja S.A. (2011). Role of ICT in shaping the future of Pakistani Higher education system. *The Turkish Online Journal of Educational Technology, Vol 10*(Issue 1).
9. Ganaie and Ahmed, S. (2013). A Glimpse of Information Technology enabled Library Services. *Indian Journal of Library and Information Science, Vol 3, No 1*, pp 78-82.
10. Mishra L. and Mishra J. (2014). ICT Resources and Services in University Libraries. *International Journal of Digital Library Services, Vol 4, Issue 3*.

Library Security Issues with Special Reference to Dhanvantri Library of University of Jammu, Jammu

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Abstract

This paper is to measure the awareness level of library security issues among the library user of Dhanvantri library of University of Jammu, Jammu. The present study reveals that library user is much aware about the library security related issues and also helps in improving library security lacunas under study. The findings of the study will not only guide the librarians in improving the security measures, but also open the floodgates for improvements of library security in fast changing technological world so that they can overcome the problem faced by the library user.

Keywords: Library Security, Security Threats, Collection Security, Physical Security, Electronic Security.

Introduction

Libraries are the most significant means of storing and communicating the ever-growing knowledge. The past records are indispensable to the

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present generation as well as the generations to come. When we talk about the origin of libraries, it is very difficult to say when the first library was set up. But it can be supposed that when the man started to use the writing media as the communication medium, and started to collect them for future retrieval, the ideas of a library could be originated. From ancient times, not only harm has been done by natural disasters, the ruler destroyed religious, educational old books and manuscripts, so that the people are deprived of access and on the other hand the ruler also destroyed the work done by specific religious thinkers, philosophers and revolutionist. Historically the rise and fall of great empires is immensely associated with the collection of resources and information which needs to be secured. Libraries security is a vital part of maintaining balance in the system. In University libraries, all library staff needs to maintain a keen awareness of the fact that they are working in a busy environment that is open to all the users for several hours in a week. Moreover, the university library personnel is part of a larger community and are responsible members of this community. To protect our patrons, collections and facilities, library personnel must ensure their responsibility for safety, protection and security of their library. The main purpose of the security system in the libraries should be to provide adequate safety and security measures for library employees, library users, library resources in print form as well as electronic form and equipment.

Security Threats in Libraries

Security threats in libraries can be divided into four basic categories that is Natural, Environmental, Technical and Manmade.

Table 1: Showing Various Security Threats in Libraries

Natural	Environmental	Technical	Manmade	
			Internal	External
<ul style="list-style-type: none"> ➤ Earthquake ➤ Flooding (rapid snow melt) ➤ Freezing Rain ➤ Hurricane ➤ Tornado ➤ Tsunami ➤ Wild and Fire ➤ Wind ➤ Winter Storm 	<ul style="list-style-type: none"> ➤ Temperature ➤ Light & Darkness ➤ Humidity & Moisture ➤ Water ➤ Smoke ➤ Dust & Dirt ➤ Air Pollution 	<ul style="list-style-type: none"> ➤ Software bugs ➤ Data diddling ➤ Scanning computers and network devices ➤ Snooping/Browsing/ Eavesdropping ➤ Malicious Software (Virus/Worm/Trojan Horse/Logic Bomb/Spamming) 	<ul style="list-style-type: none"> ➤ Improper use of password, ➤ Snooping ➤ Browsing ➤ Eavesdropping 	<ul style="list-style-type: none"> ➤ Hackers ➤ Theft of hardware, software or data ➤ Unauthorized access ➤ Snooping/Browsing/ Eavesdropping ➤ Civil Disorder ➤ Vandalism ➤ Sifting through discarded waste to obtain information including user Ids, personnel addresses or phone numbers, etc.

Security Measures in Libraries

The preliminary security measures in libraries are stock control, marks of ownership, accessibility and use. Protecting the collection should include ensuring good security to prevent theft. Libraries are archives that must provide remote storage for overflow materials or special cold storage facilities for vulnerable materials such as microfilm, motion picture film and colour negatives. Whether a library uses open access or closed access, the staff needs to observe readers from time to time to discourage deliberate mutilation or vandalism of library materials. Both library collections and other reading materials can be secured by Electronic Security Systems, Digital Data Security Systems and Physical and Environmental Security System

Electronic Security Systems helps the libraries to control, minimize or avoid library material theft and unethical losses. The use of

electronic security equipment component typically provides alarm notification to the appropriate authority, entry control, and site surveillance. The major elements of electronic security system are Collection Security, Access Control, RFID, Bar Code Technology, Video Surveillance and Biometrics.

Digital Data Security in any form in an organization is an asset to that organization. As the data is available on World Wide Web, it can be accessed by number of users over networks, where anyone can accidentally or intentionally damage the data. Now a day's universities libraries have access to e books, electronic journals, repositories of theses and dissertations where data available in digital format. The data could be confidential in nature and only authorized person should get access to it so that confidentiality and accuracy of the data can be maintained.

Physical and Environmental Security planned during the time of construction of the building through architectural considerations which include site design and building design.

Most of the libraries do not allow the users with notebooks, records notes, etc. and insist depositing such things in the property counters provided exclusively for this purpose. Mutilation and theft of library materials are major problems throughout the library world. The problem of writing down on library books by students and mutilating them by removing a single page or an entire section has become common experience of almost every librarian. Loss of books from libraries has become a topic of research today. Open access system in the libraries also facilitates and provides a medium for misplacement, mutilation and theft of books from libraries. In this digital era, there are many possible advantages to invent technologies to catching book thieves at the exit. Safety and security in libraries includes a diverse range of topics, from the seemingly mundane such as enforcing no-food/drink policies to more serious incidents that include theft, natural and man-made disasters, technological hazards, disruptive behavior,

etc. Therefore, it is important to provide library personnel with the information and the tools to respond to a variety of situations. These includes clearly stated policies that outline what all personnel should know and the training to understand these policies and take action when called upon to do so might be called a shared culture of mutual responsibility for security and safety. Again, to be successful, this culture must be embraced by all library personnel.

Dhanvantri Library, University of Jammu: Brief Profile

Cradled in the lap of mountains at the foothills of auspicious Trikuta, besides the river Tawi the University of Jammu is located. It is a place, where imparting education is not only considered just as a mere duty, but as a commitment towards the advancement of the society. At the time of its inception in 1969, the University of Jammu had 11 teaching faculties but currently it has grown to 38 departments offering Masters, M.Phil., Ph.D. and D.Lit. degrees in different disciplines

The Dhanvantri Library of the University of Jammu is the hub of academic activities where students sit from morning to evening everyday throughout, the year. It is a four-story building with a stack area of near around 36,000 square feet. Providing reading facilities to almost 500 students at a time, the library is also well-equipped with photocopiers, LCD projectors, various interconnected computer terminals and some other modern technical equipments as well. It contains three main reading halls along with a number of other reading sections. The Library has a collection of nearly 3.5 lakh volumes are rare as well as latest, and 217 current periodicals with back numbers. The Library also provides the access to the different online journals only in the campus. The Library possesses facilities like photocopiers, LCD projectors, INFLIBNET, CD-ROM databases and interconnected computer terminals at selected sites. It has Radio Frequency Identification (RFID), an automatic identification method, relying on storing and remotely retrieving data using devices called

RFID tags or transponders. An RFID tag is a small object that can be attached to or incorporated into a product like books. RFID tags contain silicon chips and antennas to enable them to receive and respond to radio-frequency queries from a RFID transceiver.

Review of the Existing Literature

Literature search plays a very important role in research activities, as it forms the very first step of research pursuit. A thorough review of literature is very essential in conducting a new research. Some of the studies which have been reviewed are as follows:-

Enidiok, et al. (2019) in their study indicated the reasons for theft and vandalism of library resources are inadequate number of copies, inadequate photocopying services, scarcity of needed materials, shortage of staff and poverty while the major factors that encourage these problems are poor security systems and the criminal nature of individuals. The study recommended that there should be adequate copies of journals and reference materials, modern security system should be acquired to control or protect the existing resources ,adequate photocopying services and existence makes functioning, more staff should be employed and adequate steps be taken for electronic security of the library.

Thakre and Khaterker (2016) in their study revealed that RFID technology is not only cost –effective but also more efficient, reliable and secure in the library and replaced the conventional strips that use the electromagnetic waves.

Srinivasan (2012) insists that the academic library should have a strong collection in the form of physical, electronic and digital to cater to the knowledge of the users of the academic institution. The digital collection can easily be preserved and accessed through computer networks, local area networks, wide area networks or the Internet, and cannot be tampered or stolen as the original content is in the server with back up. But, it is not so easy in the case of physical collection.

The library has to preserve the physical collections for the use of its clients as well as for future generations overcoming the unethical means of losses.

Wang and Liu (2011) have identified that due to rapid development of computer technology and network especially in Universities, the campus network has become an important infrastructure. The development of campus network is used widely in teaching and library management etc. But the network environment is becoming more and more complicated. So network security is essential in order to provide a safe means of teaching and working environment.

Brown, and Parkus (2007) have discussed the strategies for preventing theft and vandalism of collections, and creating an effective, universally enforced security plan. If a security program is to be effective, the importance of security to the mission of the repository should be understood. Missing or damaged collections cannot be made available for use, but too often staff and management do not recognize the occurrence or the effects of theft and vandalism.

Ajebomogun (2004) examined the incidence of theft and mutilation of library materials, and gave users' assessment of library security and factors that influence theft and mutilation among library users in Nigerian University Libraries. About 62.63% of users admitted that stealing and mutilation were common phenomena among library users. Some reasons given for this are: limited copies of library books, fear that one may not find the materials on the shelf and negligence of library security men. Suggestions were made on how to deal with culprits caught.

Karunanayake (2003), in his study found that the security problems could be a result of building construction flaws and reader behaviors. Therefore the possible security measures could be incorporated at the designing stage. It is recommended that security tightening could be adopted by better communication, transportation and good

housekeeping.

From the existing literature researcher can conclude that due to lack of knowledge in handling library security issues is common among library staff, users. Suggestive measures have also been taken into consideration which emphasizing that there is need of training in library security issues, which will improve utilization of library resources more effectively.

Objectives of the Study:

Following are the objectives have been set forth for the present study-

- i. To assess the awareness level of library users related to library security issues.
- ii. To know about availability of the tools and techniques for handling library security related issues.
- iii. To identify the problems faced by the users for library related security issues.
- iv. To suggest library security measures for to minimize loss of library resources.

Research Methodology:

The proposed study is undertaken to explore in detail the security issues of the library under study. It also accesses in detail the security measures taken, problems and other aspects of library security. The data for this study is collected from primary and secondary sources which includes books, reports, journals, theses, online e-resources etc. The primary data is collected through field work. Based on random sampling about 100 questionnaires were distributed to the users of University of Jammu. The data so collected was analyzed and tabulated with the help of simple mathematical and statistical techniques.

The users were asked whether their library takes any security measure. Their response is indicated in Table- 1.

Table 1: Security Measure taken by the Library

Description	No .of Responses (N = 100)	
	Yes	No
Any security measure taken by the library.	54	46

From Table 1 it is indicated that about 54 % of users state that security measures are taken by the library while 46 % state that security measures are not taken by the library.

The respondents were asked about their awareness towards the use of various security devices installed in their library. The response of the respondents is indicated in Table- 2.

Table 2: Awareness towards the Use of various Security Devices

S.No.	Various Security Devices	No .of Responses (N=100)	
		Yes	No
i	RFID System for Check in/check out	73	27
ii	CCTV Cameras/Surveillance	75	25
iii	Fire/Smoke Sensor	23	77
iv	Moisture Sensor	18	82
v	Fire Alarms	31	69
vi	Smart Cards	25	75

vii	Barcode technology	27	73
viii	Sensor Detectors	24	76

From Table 2 , it is indicated that maximum number of users are aware of RFID and CCTV Cameras/ Surveillance security devices while minimum number of users are not aware of Moisture Sensor, Fire Alarms, Smart Cards , Barcode technology ,Security Measures and Sensor Detectors Security devices used in the library.

The respondents were asked to what extent they are satisfied with the library security system of their library. The response of the respondents is indicated in Table- 3.

Table 3: Satisfaction towards the Library Security System

S.No.	Level of Satisfaction	No .of Responses (N=100)
i	Highly Satisfied	29
ii	Satisfied	50
iii	Dissatisfied	15
iv	Highly Dissatisfied	6
v	Moderately Satisfied	0

From Table 3, it is indicated that (50%) maximum number of users are satisfied towards the library security system while (6 %) minimum number of respondents are highly dissatisfied with security system of the library.

The respondents were asked that are they trained regarding various security measures in the library. The response of the respondents is indicated in Table- 4.

Table 4: Training Regarding Various Security Measures

S. No.	Security Measures	No .of Responses (N=100)	
		Yes	No
i	Emergency security	54	46
ii	Emergency exit/evacuation	19	81
iii	Use of fire extinguishers	34	66
iv	Use of flammable chemicals	16	84
v	Disaster preparedness	22	78
vi	First aid training	13	87

From Table 4, it is indicated that (54%) maximum number of users are trained in Emergency security while (46%) minimum number of users are not trained, (81%) users are not trained in Emergency exit/evacuation used in the library, while only (19%) users are trained in Emergency exit/evacuation used in the library, (66%) maximum users are not trained in using fire extinguishers, only (34%) of users know how to use fire extinguishers, (84%) maximum users have no training in disaster preparedness only (22%) users are aware of disaster preparedness, (87%) maximum users are not trained in first aid, only (13%) users are trained in first aid training.

The respondents were asked whether orientation/training regarding various security measures in the library is necessary. The response of the respondents is indicated in Table- 5.

Table : 5 Orientation/Training Regarding Various Security Measures

S.No.	Description	No .of Responses (N=100)	
		Yes	No
I	Training regarding library security required	64	36

From Table 5 , it is indicated that (64 %) maximum number of users indicate that orientation/training regarding various security measures in the library is necessary while (36 %) minimum number of respondents indicate that training is not necessary .

The respondents were asked about their awareness towards security threats in the library. The response of the respondents is indicated in Table- 5

Table 5: Awareness towards Security Threats

Description	No .of Responses (N=100)
Not At All Aware	8
Slightly Aware	58
Moderately Aware	24
Very Aware	9
Extremely Aware	1

From Table 5, it is indicated that (58 %) maximum number of users are slightly aware towards security threats in the library, while (24 %) respondents are moderately aware, (8%) are not at all aware, (9%) are very aware and only (1%)is extremely aware of security threats.

The respondents were asked whether they face any problem due to lack of library security in your library. The response of the respondents is indicated in Table- 6.

Table 6: Any Problem faced due to Lack of Library Security

Description	Yes	No
Problem faced due to lack of library security in your library	74	26

From Table 6, it is indicated that (74%) maximum number of users faces problems due to lack of security in library, while (26%) do not face problem due to lack of library security.

Findings

- Maximum (54 %) users state that security measures are taken by the library while 46 % users state that security measures are not taken by the library as depicted from Table 1.
- Maximum number of users are aware of RFID and CCTV Cameras/ Surveillance security devices while minimum number of users are not aware of Moisture Sensor , Fire Alarms, Smart Cards , Barcode technology ,Security Measures and Sensor Detectors Security devices used in the library as depicted from Table 2.
- Maximum (50%) of users are satisfied towards the library security system while (6 %) minimum numbers of respondents are highly dissatisfied with security system of the library as depicted from Table 3.
- Maximum (54%) users are trained in Emergency security while (46%) minimum number of users are not trained , (81%) users are not trained in Emergency exit/evacuation used in the library, while only (19%) users are trained in

Emergency exit/evacuation used in the library, (66%) maximum users are not trained in using fire extinguishers, only (34%) of users does not know how to use fire extinguishers, (84%) maximum users have no training in disaster preparedness only (22%) users are aware of disaster preparedness, (87%) maximum users are not trained in first aid , only (13%) users are trained in first aid training as depicted from Table 4.

- Maximum (64 %) users indicates that orientation/training regarding various security measures in the library is necessary while (36 %) minimum number of respondents indicate that training is not necessary as depicted from Table 5. It is found that majority of library staff needs training and tools for library security.
- A maximum (74 %) user faces problems due to lack of l security in library, while (26 %) do not face problem due to lack of library security as depicted from Table 6.

Suggestions and Conclusion

Being aware of various threats one should always ensure the establishment of a sound security policy and security control as the first step. It is suggested here that training should be provided to library user and staff in order to operate the security related equipment in case of emergency or facing any library security related issues. And various securities related precautions should be taken into consideration and equipment should be installed. There are always new threats to safe internet use and library information security. Security systems should be provided to library users who use computers in the libraries and web site or e-library facilities in order to avoid unwanted entry of persons into the library who may damage books and digital equipment or stealing library books or materials or digital equipment. As this study is limited only to University of

Jammu, further researcher will explore more institutions in order to find out the awareness of library security issues in their parent institution.

Reference

1. **Ajebomogun, F.O. (2004)** "Users' Assessment of Library Security: a Nigerian University Case Study", *Library Management, Vol. 25 Iss: 8/9*, pp.386 – 390.
2. **Brown, Karen. E. and Parkus, Beth Lindblom (2007)** "Collections Security: Planning and Prevention for Libraries and Archives", <http://www.nedcc.org/resources/introduction.php>
3. **Enidiok, M.S, Bassey, A, B and Olalekan ,O M,(2019)** "Vandalism and Security Problems in Academic Library : A Case Study of Lagos State Polytechnic Library ,Lagos, Nigeria. *Indian Journal of Library Science and Information Technology*, January-June, 2019;4(1), pp.31-36.
4. **Karunanayake, K.G.D.A. (2003)** "Library Architecture: Interior Security Measures as a Protective Coverage for a Library: a Study Three University Libraries", *Journal of the University Librarians Association of Sri Lanka (Vol.7)*
5. **Merriam-Webster. (n.d.)**. Retrieved February 25, 2020, at 1.28pm from <https://www.merriam-webster.com/dictionary/security>: <https://www.merriam-webster.com/dictionary/security>
6. **Srinivasan, M.P., Gnanasekaran, D. and Sasireka, G. (2012)** "Security Systems in Libraries", *Dynamics of Librarianship in the Knowledge Society, New Delhi, B.R.Publishing Corporation*, pp440-453
7. **Thakre, P.K and Khatarkar ,R.(2016)**"RFID Technology in Indian Libraries." *Indian Journal Appl. Res.*, 2016, 6, pp.155-15

8. **University of Jammu**, Retrieved from <https://jammuuniversity.ac.in/university/about-university> on 14/07/2020 at 12.46pm
9. **Wang, Chuan-Y (2012)** “A Knowledge Network Production: Ten Years of Information Security Research”, *African Journal of Business Management* Vol. 6(1), pp.213-221, 11January, 2012.

Library Redesigning for Next Users and Application of ICT in Library And Information

*Usha Rani**

Introduction

It is no new thing to say that this generation, wakes up to their mobile screens, rather than waking up to actual human faces. There always has been a debate, is the modern technological advancements our friend, the answer to this varies from each person's point of view. No doubt, there are quite a few backlashes in the technological aspect, but if used properly, technology can be a great friend of humans.

And times like these are an eye-opener for society. When the world faces issues like downfall in the economy, the war between the nations, and most devastating of all, the pandemic; such events gives people to reflect on where and what they have done wrong. Perhaps with all these unfortunate events happening around us, where new problems keep arising daily, we need to come up with smart and efficient ways to save the planet while not creating a drastic change in our lives.

This whole situation has forced the world to stay indoors and maintain minimal contact with the world outdoors. Since this pandemic has occurred, all the schools, universities and other such institutions including the offices have been shut for the welfare of all. The closure

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of schools and universities has affected approximately 1.75 billion learners.

Now, in the times, where the world opts for means such as work from home, other minimal contact ways to do their everyday chores, the universities have also been conducting online classes. On the positive note, the students can manage their studies by being safe at their homes, but there are two sides to every coin, the negative side to this being, that the students are unable to access every research material, through the internet, which are available in their college libraries.

This issue should be considered as an important one for all the universities, and they must take into consideration of how can they make their libraries, more user friendly, and easily accessible to the students, and how they can use the ICT which is, the information and communication technologies in their libraries.

Information Communication Technology has remained a catalyst in the issue of national advancement and development. According to the Indian Library Association Glossary “ICT is the application of the computers & other technologies to the acquisition, organization, storage, retrieval and dissemination of information”. Libraries are expected to use ICT to provide information more quickly.

In this 21st century, the drastic role of ICT in library operations must be emphasized. Many library routines and operations that were performed manually are now being converted to computerized operations which means, applications of ICT techniques to providing better and faster services to the end-users. According to Janakiraman and Subramaniam (2015), the world now experiences a digital scenario in which ICT has changed the possibilities of library job promotions and has brought changes to expected library performances.

Libraries have always been an interquel part of the education system, but with time, things have to change. The people of this generation believe in smart-work, rather than hard-work. They want to access

information with ease, which means, they want this information on their fingertips, at and at a quick pace, which can only be achieved with the use of ICT in libraries.

Benefits of the Use of ICT:

According to Olise (2010), the introduction of ICTs in education had brought about computerization of traditional materials such as books, journals newspapers, and other information resources in the library. This has also led to the existence of a virtual library. There are many benefits which come with the use of ICT in libraries, such as:

- Provision of speedy and easy access to information.
- Provision of remote and round the clock access to users.
- Provision of access to unlimited information from different sources.
- ICT enables easier, faster, cheaper, and more effective library operations.
- ICT helps to manage information overload as information retrieval is made easier in computerized systems.
- Computerization helps the library to save space and reduce paper.

Challenges in the Use of ICT:

No doubt there are many benefits of using ICT in our libraries, but in a still-developing country like ours, there also are many challenges that the learners, librarians, and the institutions might face in their path of using ICT.

1. There still are places in our country where the networks aren't stable, which is a hurdle that many learners might face today.
2. ICT requires a lot of maintenance from time to time, which means that only those institutions, that have a good amount of

financial resources, can access and also can give access to the users with very minimal issues.

3. Many librarians also lack the basic ICT skills required for proper functioning and this makes it difficult for them to embrace technological innovations. Lack of ICT skills places a serious restriction on the application of ICT to the provision of library services.
4. Another issue, which may be a big hurdle for the institutions is the erratic power supply in our nation. Things like fluctuation of voltage and power shortage is a part of a large part of many small cities and villages of developing countries like ours.

Services Provided Through ICT:

As of now, there are many services which are being provided through the means of ICT, namely:

1. Online Public Access Catalogue- OPAC
2. Current Awareness Service (CAS)
3. Document Delivery Service (DDS)
4. E-Employment Alert Service
5. E-Book Service, E-Journals & Magazine Service
6. E-Databases Service, E-Newspapers Service
7. E-Project/Report/Thesis Service
8. User Orientation Program
9. In-House Personal Training
10. Resources Sharing and other services, etc.

Such facilities enable the learners, and the other researchers to access the information they need with ease, with just a simple touch.

Conclusion:

Developing county like ours, need to recognize how important ICT is for development. In libraries, it not only eases the work of librarians but also is very beneficial for the students and other researchers. Efforts must be taken to deliver the right information at the right time. Organizations, institutions including the library must be supported and encouraged to embrace and utilize ICT for efficient and effective delivery of service.

Based on all the above, here are some recommendations which must be considered:

1. For ICT to be used efficiently the organizations and also the government must allot finances, for development and proper maintenance of the ICT equipment.
2. Proper training must be given to the librarians on how the ICT functions work and how can they be used to their fullest to ease the work.
3. Policies must be made to encourage the implementation of ICT,
4. The Indian Library Association must encourage and also ensure that the libraries acquire ICT tools for the effective functioning of the libraries.
5. Most important of all, the librarians must embrace the changes happening around them and must equip themselves to work in this digital environment.

References :

1. Janakirman, A., & Subramanian, N. (2015). *The role of information and communication technology (ICT) in library and information science (LIS) in India.*

2. Olise, F.P. (2010). Information and communication technologies (ICTs) and sustainable development in Africa: Mainstreaming the millennium development goals (MDGS) into Nigerian's development agenda. *Journal of Social Science*, 24(3), 155-167.
3. Raji, S.K. (2018). The role of ICT as a panacea for national development.

Use of ICT for Information Dissemination Among Library Professionals in Nigeria Amidst Covid-19 Pandemic

*Sunusi Hussaini CLN**

Abstract

This research paper is explanatory in nature. The paper talks about the global pandemic which is COVID-19. The researcher tries to portray the meaning, symptoms and preventions of COVID-19 from the WHO perspectives. Also the researcher talked on the aspect of ICT, its utilization for information dissemination among librarian from the global view and later on narrowed it to the Nigerian level. Factors that hinder the utilization of ICT for information dissemination among librarians in Nigeria were also discussed together with the recommendations.

Keyword: COVID-19, Information and Communication Technology (ICT), Use of ICT, Nigeria.

Prelude

What is Coronavirus?

Coronaviruses are a large family of viruses which may cause illness in animals or humans. In humans several coronaviruses are known to cause respiratory infections ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). The most recently

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discovered coronavirus causes coronavirus disease COVID-19 (WHO, 2020).

What is Covid-19?

COVID-19 is the infectious disease caused by the most recently discovered coronavirus. This new virus and disease were unknown before the outbreak began in Wuhan, China, in December 2019. COVID-19 is now a pandemic affecting many countries globally (WHO, 2020).

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus.

Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness.

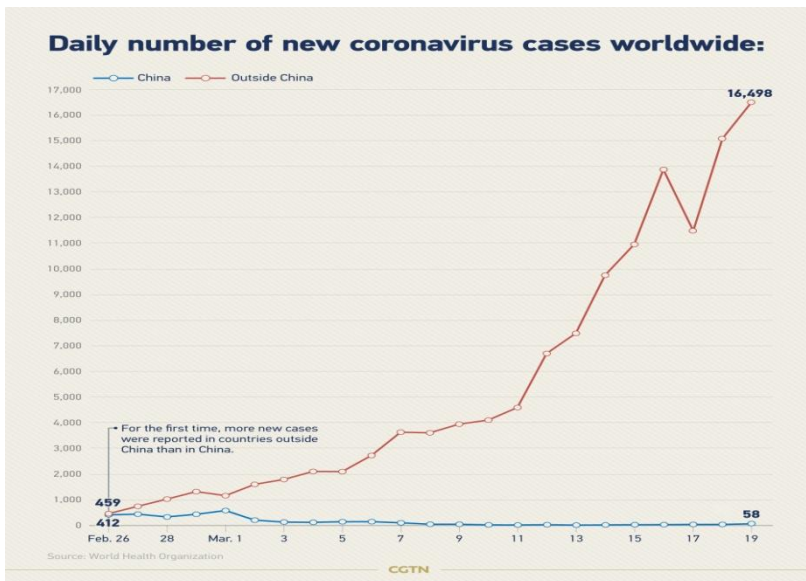
The best way to prevent and slow down transmission is be well informed about the COVID-19 virus, the disease it causes and how it spreads. Protect yourself and others from infection by washing your hands or using an alcohol based rub frequently and not touching your face.

The COVID-19 virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes, so it's important that you also practice respiratory etiquette (for example, by coughing into a flexed elbow).

At this time, there are no specific vaccines or treatments for COVID-19. However, there are many ongoing clinical trials evaluating potential treatments. WHO will continue to provide updated information as soon as clinical findings becomes available.

At this junction therefore, coronavirus (COVID-19) disease has become a global pandemic affecting more than 188 countries and

territories. As of 6 July 2020, more than 11.4 million cases of COVID-19 have been recorded globally with more than 533,000 deaths. Also 6.16 million people has said to be recovered as of the day stated above (Wikipedia)



SOURCE: Google Image

Symptoms of Covid-19

COVID-19 affects different people in different ways. Most infected people will develop mild to moderate illness and recover without hospitalization.

Most common symptoms:

- Fever.
- Dry cough.
- Tiredness.

Less common symptoms of COVID-19:

- Aches and pains.

- Sore throat.
- Diarrhea.
- Conjunctivitis.
- Headache.
- Loss of taste or smell.
- A rash on skin, or discoloration of fingers or toes.

Serious Symptoms:

- Difficulty breathing or shortness of breath.
- Chest pain or pressure.
- Loss of speech or movement.

On average it takes 5–6 days from when someone is infected with the virus for symptoms to show, however it can take up to 14 days

Prevention

To prevent infection and to slow transmission of COVID-19, the under-listed etiquette should therefore be followed:

- Washing hands regularly with soap and water, or cleaning them with alcohol-based hand rub.
- Maintaining at least 1 meter distance between you and people coughing or sneezing.
- Avoid touching your face.
- Cover your mouth and nose when coughing or sneezing.
- Stay home if you feel unwell.
- Refrain from smoking and other activities that weaken the lungs.
- Practice physical distancing by avoiding unnecessary travel and staying away from large groups of people.

Information And Communication Technology (ICT)

The term Information and Communication Technology (ICT) on the other hand has been defined by many scholars in the field of social sciences and computer engineering. Few among the definitions will be provided below:

In the UNESCO training module for ICT, Information Communications Technologies (ICT) are described as the technologies that enable society to create, collect, consolidate, communicate, manage and process information in multimedia and various digital formats for different purposes, i.e., computing and telecommunications technologies like the personal computer, CD-ROM, cable TV, cellular phones and the Internet (David, 2001).

Ebijuwa (2005) defined ICT as tools used for collection, processing, storage, transmission, and dissemination of information. With advances in ICT, electronic information resources such as electronic books, electronic journals, CD- ROM databases, OPAC, Online databases and the Internet have launched the world into an information age. No institution or organization can still rely on only traditional printed information resource to perform effectively and efficiently. To librarians, ICT is a significant development that provides tools for managing the avalanche of information generated by modern society. ICTs represent a cluster of associated technologies defined by their functional usage in information access and communication, of which one embodiment is the Internet.

The term ICT is also used to refer to the convergence of audiovisual networks with computer networks through a single links system.

Encyclopedia of Computer Science define “Information and Communication Technology (ICT) as an imprecise term frequently fundamental to broad areas of technologies and associated with the use of computers and communication.”

According to UNESCO “Information and Communication Technology (ICT) is a scientific, technological and technological and engineering discipline and management techniques used in handling information and application and social, economical and cultural matters.’’

In a nutshell, Information and communication Technology (ICT) is the application of computer and peripheral devices in the process of selection, acquisition, processing, organizing, preserving and dissemination of information and knowledge to the society. Computer and many other peripheral devices aids trenchantly in the dissemination of information and knowledge in the 21st century whereby they cushion the threat of information redundancy and information dissemination in an Information Age.

Component Of ICT

Information and Communication technology (ICT) can be broadly classify in to two main components that include;

- i. Information Technology (IT): That refers to the hardware and software of information collection, storage, processing, and presentation.
- ii. Telecommunication Technologies: Which refers to physical telecommunications systems and networks (cellular, broadcast, cable, satellite, postal) and the services that utilize the Internet, voice, mail, radio, and television.

In a general term, the component of Information and Communication Technologies (ICTs) is accepted to mean all other technologies that allowed people and organization to interact in a digital world. Such as:

Computers: a computer is nothing but a programmable machine that responds to instructions to store, retrieve and process data with unimaginable speed and accuracy. It is an electronic device that

manipulates information or data through programming. A computer has four functions to perform: i) accept data, ii) process data, iii) produce output and iv) store results. The main characteristics of a computer are speed, accuracy, automation, storage, endurance and versatility. Computers of all types and makes essentially comprise two basic parts: hardware and software.

Networking: A network is a group of two or more computers linked together for sharing of computing and data resources. It simply means the linking of computers to allow them to operate interactively.

Internet: The term “Internet” was first used in the Requests for Comments (RFC) document published on the TCP protocol (RFC 675: Internet Transmission Control Program, December 1974) as an abbreviation of the term Internetworking. It is used to denote a global network using TCP/IP. Internet is an outcome of consistent research in the field of computer and communication technology over the last five decades or more. The application of packet switching led to a protocol for internetworking.

Internet means a network of several interconnected networks. There is no single thing called The Internet. The Internet provides several different basic tools for data sharing. These are: Email, Chat, Instant Messaging (IM), File Transfer Protocol (FTP), Voice over Internet Protocol (VoIP), World Wide Web, Blog, Social Media and Telnet (remote login).

Display screen technologies and peripherals: Computer monitor (aka Video Display Unit – VDU) is most used output device for displaying processed data as well as input data on screen. Computer monitor displays entered text or images or graphics whenever user enters it using a keyboard or mouse or any other input device. It also displays information retrieved from an information system or a storage device

Software: Software, in general, is a set of programs that direct computers to perform desired functions. In simple terms, a software program is a set of instructions for a computer. In other words, it refers to all programs that are written to be executed on a computer. The programs are written in number of different languages, called programming languages. Conventional software programs are maintained on auxiliary storage media for transfer to the CPU's RAM whenever required. Documentations to understand program's logic and execution are also integral part of the software.

The software is an intellectual product and is neither physically visible nor tangible. The software component of the computer is the predetermined program instructions which are maintained on a magnetic or optical storage medium from which it is loaded into the CPU's RAM for execution. In some computer systems these software packages are loaded by the manufacturer as a part of the specifications of the computer units.

Hardware: Hardware refers to the physical parts, devices and equipments that make up the computer system. It means that a computer is not just a single monolithic machine, but a system made up of many parts working together. Hardware includes not only the computer proper but also the cables, connectors, power supply units and peripheral devices such as the keyboard, mouse, audio speakers and printers. Therefore, computer hardware is a general term that is used to describe all physical parts or components of a computer system. A general purpose computer is an integration of four main components, namely, Central Processing Unit, memory, mass storage devices and input/output devices.

Humanware (refers to skilled personnel): Humanware is hardware and software that emphasizes user capability and empowerment and the design of the user interface. The process of building humanware generally consists of these steps:

- Define users (age, mindset, environmental context, previous product experience and expectations, and so forth) and what they really want to do
- Identify tasks they will need to do or capabilities they will want
- Specify usability objectives (if possible, these should be measurable, such as how long to do something or how many mouse clicks to get to a specified task point) for each task or capability
- Build a prototype of the user interface (it can be a paper or simulated prototype if time is short)
- Test and verify or correct the prototype
- Provide the prototype and usability objectives to the program designers and coders
- Test the code against the prototype and objectives and, if necessary, redesign or recode the software
- Test the product with users or valid test subjects and revise as necessary
- Get feedback from users and continually improve the product

Use of ICT for Information Dissemination Among Librarians Amidst Covid-19 Period in Nigeria

Coronavirus disease (COVID-19) is a global pandemic that halt almost 70-80% societal activities globally. Many economic, educational, social and recreational activities have been suspended due to COVID-19 pandemic. Churches, mosques, temples, libraries and offices remained closed as a result of the disease (COVID-19).

Despite the closure of libraries and many other places, the duty of librarian is still in need to quest the thirst of information need. This comes to the point where the use of ICT becomes much more relevant than any other period before. Librarians in the phase of COVID-19

disease make use of ICT facilities to provide access of various collections to their users amidst the lockdown through organizing online seminars, e-workshops, webinars and many more. Without the applications of ICT in libraries, librarians cannot provide access to their collections during the COVID-19 disease. In this period of COVID-19, librarians are expected to provide access to electronic services through the use of online platforms like Telegram, Whatsapp, Facebook, Twitter, Email address and many more. Lectures, seminars, conferences, webinars are among the other services librarians may organized during the pandemic through the use of online applications like YouTube, Zoom, GoToMeeting, Teams, Meet, Webex Meet and many more applications software in order to keep their users abreast of the latest information and provide them with their information need.

Information and Communication Technology (ICT) facilitate easy access to information globally. Many libraries in Nigeria thrived to make ICT facilities available in order to provide easy access of information to their users. Despite the impulse, and also being the biggest economy in Africa, many Nigerian libraries can be said to be closed/ inactive during the COVID-19 period. This is because we have witnessed a full virtual operation of many libraries in Europe, America and most especially Asian libraries thereby organizing virtual conferences, workshops, webinars and host of others. But in the case of African continent, Nigeria in particular few among the libraries were said to be active while many libraries were said to be inactive/closed. What brought this inactive?

The answer to the question above can be rounded off as;

- Lack of proper use of ICT facilities: In Nigeria, very few among any library staffs can be said to be able to handle ICT facilities properly. Almost in very library today most especially academic library, there are computers and many other ICT facilities. But the problem lies in the handling and proper utilization/operation of the facilities.

- Technical know-how among the librarians: This is another challenge because most of the librarians are not fully educated when it comes to technical issues that are related to ICT.
- Financial constrain: Most libraries are not able to make use of ICT facilities as a result of lack of proper funding. This is because; government or parent organizations are not providing them with enough funds that will enable them to be fully automated. That is why most libraries in Nigeria are partially automated.
- Erratic power supply: This is another stumbling block that halts many ICT activities in Nigeria. Since ICT are power based technologies, therefore, electricity is most needed in order to make ICT facilities usable.
- Lack of proper training of librarians and users on how to make use of ICT facilities: Government or parent organizations in most cases are not willing to provide training to the library staffs and users on how to make use of ICT that are available in the library.
- Dilapidated ICT instruments: this is another problem that hinders the virtual operations of libraries in Nigeria amidst COVID-19 period. This is because most ICT peripherals in many libraries are outdated or got fault and cannot longer be used unless be repaired or changed in some cases.
- Poor network connection: This has to do with the network providers. Both library staffs and users are experiencing serious network problems that in some times hinder them from accessing internet.
- Reading culture: Reading culture is a disease that needs to be cure in African continent. Most people in Africa lack reading culture, and this brought to the instance where both librarians

and users are not interested in organizing or participating in online lectures of classes during COVID-19 period.

Recommendations

With regard to COVID-19, people need to be educated on the causes, symptoms and implication of the disease. They need to be informed on the importance of the global health thereby adhering to the guidelines laid down by WHO and expert around the world. People should be clearly informed on the importance of;

- Social distancing
- Washing hands regularly with sanitizers and
- Frequent used of face mask in a crowd areas.

While with regard to the topic of discussion, the following recommendations were outlined:

1. Providing proper ICT training to the library staffs and users in some instances through organizing workshops, seminars, conferences, lectures etc.
2. Government or parent institutions should be providing libraries with proper allotment that will enable them to purchase ICT facilities in order to fully automate the library.
3. Constant power supply must be provided for libraries to be enabled to make use of their ICT facilities. As such government of parent organization should provide libraries with uninterrupted power supply
4. ICT facilities shall be constantly checked and repair the dilapidated once.
5. Reading culture should be encouraged among staffs and library users.

Reference

1. https://www.who.int/health-topics/coronavirus#tab=tab_1 accessed on 06/07/2020.
2. https://en.wikipedia.org/wiki/COVID-19_pandemic accessed on 06/07/2020.
3. David, T.L. *“ICT for Library and Information Professionals: A Training Package for Developing Countries (ICTLIP)”*. Retrieved on June 26, 2019 (2001). Web
4. Ebijuwa, A.A. *“Information and Communication Technology in University Libraries”*1.2 (2005). 25-30. Print <https://www.lisworld.in/p/information-communication-technology-by.html?m=1#.Xww9Y4h31I4>

Importance of ICT in Redesign of Library for Next Generation

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*Balwinder Singh***

Abstract

We anticipate Libraries are change day by day. Customer demands, library services, access to resources are change. We are all aware that ICT have revolutionized all types of societal works and services, library products and services are not the exception of it. ICT and development of new technology helps to improve the library resources as well as services. Without the implementation of ICT we could not satisfy the user community in a better way. In this paper we discuss about Changes, the basis of continuous improvement are the goals of the redesign process. The goal of this paper is to better understand what library users need, both the physical and the virtual services.

Keywords - ICT, Modern library services, New Techniques in Library, Purpose of ICT in library, Librarian new skills

Introduction

ICT means communication of information through technology, Libraries are called the 'Heart' of the institution. According to Ranganathan, library is the trinity of Books, Staff and Readers. The main function of the libraries in the present era is to provide the required information to its users. Libraries are social institutions, connecting people with people and people with information. Today

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libraries are providing electronic access to a wide variety of resources, including indexes, full text articles and e- journals and e-Books. Due to technology, ways are changes in which things are done, it is necessary to examine continuously the tools available to increase users' awareness of the services offered and to help them obtain the information they need. Now days this output includes printed as well as the digital versions of the same. In this change ICT plays a very important role.

User Satisfaction and Modern Library Services - Library is a hub of activities such as, information seeking, organization, and information generation. The library, computer center, and writing center combine successes through an information transformation. Information and communication technology (ICT) has brought the revolution in the field of library and information science, Due to ICT following Modern library services being provided to the users more effective.

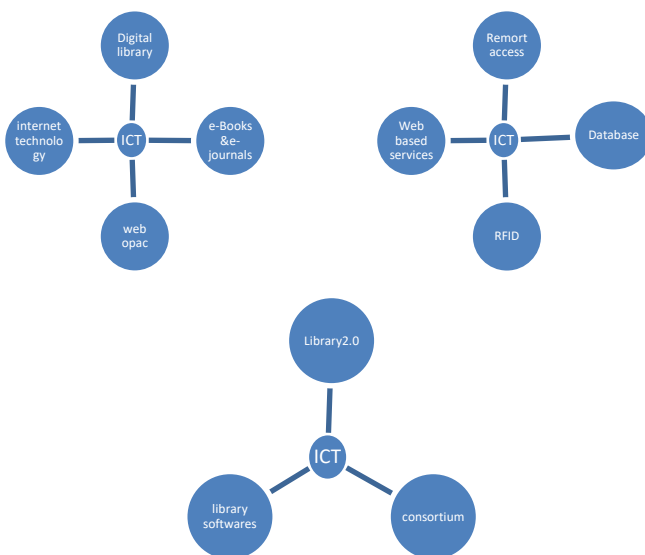
- Reference Service
- Bibliographic Service
- Referral Service
- New Arrivals alert service
- Online reservation service
- Online Public Access Catalogue- OPAC
- Current Awareness Service (CAS)
- Document Delivery Service (DDS)
- Selective Dissemination of information (SDI)
- Barcode / RFID Based Service
- E-Employment Alert Service
- E-Book Service

- E-Journals & Magazine Service
- E-Databases Service
- E-Newspapers Service
- E-Project/Report/Thesis Service
- User Orientation Program
- In- House Personal Training
- Resources Sharing

New Techniques in Library and information science with ICT:-

Traditional libraries were considered as the storehouse for books and others study materials. After some time libraries were considered as information centres, but with the trend of ICT, the traditional libraries was change, so the user demand change according to change in technology and the libraries were changed from traditional libraries to digital libraries, electronic libraries, and virtual libraries.

- Digital library :- A digital library is a collection of documents in organized electronic form, available on the Internet or on CD-ROM (compact-disk read-only memory) disks.
- Remot access :- By Remot access a user may be able to access-books, e-Journals, e-databasses at any where.
- Internet and Web based technology :- So many functions of libraries may take advantage from Internet and Web technologies. Correspondance with Book seller & Publisher, Dewey Online, Collection Development:print as well as Online Catalogues, World Cat (OCLC), WebOPAC – web sites, ILL, Union Catalogue, Remote login, Access, adding and downloading, Access to databases over networks, User Education: by email and web etc.



Purpose of ICT in library:- The main purpose of ICT in library means implementing of ICT equipment's and tools in information provide process as a media and introduce students, researchers, scholars and staff members with the use and working of computers and other electronic medium. Now days library using ICT application to indicate their specializations in the process of information seeking. Due to use of ICT in library, users are learn how to use different information based software and how ICT can be used to solve problems regarding information. It is also a help to users to collect the data inshort period of time.

Librarian new skills in ICT Environment:- In the changed scenario under the influence of ICT the duties of the library Professionals have been changed. They are going to work as information broker, navigator, market negotiator and information technology expert for example new methods of classifying and cataloging , Circulation, bibliography database in electronic form, On-line Networking, Digital Libraries, internet resources search engine etc. The tools used in ICT

include computer programs, databases, communication networks, analysis and design methods, programming languages, artificial intelligence, knowledge bases, etc. some of the soft skills are that helps the librarian to deal effectively with the user like Update of Knowledge, Marketing Skills, Management Skills, Adaptation Skills, Communication Skills etc.

Use of information and communication technology (ICT) in libraries :- In the context of use of ICT 4th law of library and information “Save the time of reader/staff” has great relevance.

- In these days most of the information or documents are available in machine-readable format so information and communication technology (ICT) is necessary.
- Duo to space problem it is not possible for any library to collect all the published information documents. So with the help of information and communication technology (ICT), resource sharing can be done easily.
- Librarian can be better advanced service provided to the users by using modern information and communication technology (ICT) in the libraries.
- Implementation of barcodes and RFID based services; libraries can help of users for data collection in very short time.
- Due to vast amount of information, literature search using manual methods is a difficult, and time consuming job, but Computerized storage and retrieval of information is make it easy and fast.
- With the help of ICT all libraries Services are like,anticipatory services, including preparation and annotated lists, abstract, bulletin board, news summaries, employment alert, inter library loan, translation,and other information retrieval services are very easy then manually and can be provided in a very less time.

Conclusion :-

Use of computers in libraries is not only modernization but it has become a necessity. computers hold good future for new generation. The position of Librarians of this digital era is change and their roll is change.They accept the Challenges of the Internet, World Wide Web, and online access in the knowledge society. A library without information technology is difficult to imagine. Libraries are adopting ICT for performing both housekeeping operations as well as for providing services to users. Use of ICT services libraries are becoming popular.

References :-

1. Balas, Janet. L. (2007) “Physical Space and Digital Space – Librarians Belong in Both”. *Computers in Libraries*, Vol. 27(5), May, pp. 26-33.
2. Gabbard, Ralph B. [et al.] (2007) “Redesigning a Library Space for Collaborative Learning”. *Computers in Libraries*, Vol. 27(5), May, pp. 6-11.
3. Favini, Morris. (2007) “Redesigning Library Spaces for Service: Aligning physical and virtual spaces”. NELINET Annual Meeting.
4. Brose, it. R. (2001). Information and information technology. *IASLIC Bulletin*.
5. Ahmed, O.A. (2002) Application of information technology in libraries : a case study of colleges of education libraries in Nigeria. *Middle Belt Journal of Library and Information Science*, 2(1&2): 16-24.
6. [34] Ojo-Igbinoba, M.E. (2003) *Advances in Automation: Computer Application to Library Services. History of Libraries and Li brary Education*. Benin: Uto Publications. Pp. 157-167.

7. Balasubramanian, P. (2011) Library information and communication New Delhi: Deep and Deep.
8. Wikipedia. "Information and Communications Technology."
9. <http://unswb.aucegypt.edu/UNSWEB2/NetIntro.htm>

The Librarian as a Middleman or Intermediary

*H A Biradar**

*Kalpesh A. Medhe***

Abstract

The purpose of this paper is to highlight role of Librarian as Middleman or Intermediary in organization between Management, Publisher or Vendor and Users as well as between information and end-users with no due respect to profession. Librarian has to act as catalyst between users and management. Librarian has to persuade the importance of authentic resources to the management for getting sanctioned the required budget each year and also to the publisher or vendor for subscription and renewal of resources with best price.

Introduction

In today's digital era and virtual world, Libraries are no longer considered as merely physical space that stock books, journals. Present-day libraries have transformed as information providers from document providers. Libraries are responsible for providing accurate and precise information to the users. With the advancements in information communication technologies the approach and demand of users have also changed and is continuously changing. Users don't wait for longer time for accessing information. Libraries would need to adopt new changes in content, systems and services to stay

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connected 24/7 with users and satisfy users need on time. Most of Librarians have been adapted to latest technologies and providing service to the users on time.

Librarians are now acting as a middleman between information and users and accordingly Librarians are conducting training sessions on how to search and get effectively retrieved information on databases and software and also new free trial editions of new databases in specialized subject area for effectively getting required information and keeping up to date with latest information and state of art in subject area to the users. Simultaneously, Librarian is also acting as middleman between management and publishers or vendors for providing information to users on time by convincing management about importance of authenticate information and reliable information. Because nowadays a common man or any one's assumption is that everything is available freely for accessing information on Google (Whatever required) just need to have internet connection and why the Librarian is required.

In fact, it is not true nothing is available free of cost, required proper subscription for accessing resources then only access is provided where the librarian plays an important role between publisher, management and user by evaluating content and terms and conditions etc.

Librarian as a Middleman or Intermediary

In today's Information Communication and Technology, Google, Social Media and Apps era, Librarian has to act effectively as middleman or intermediary between information and users as well as between Management, Publishers or Vendors and Users for procurement of resources and getting required budget from management and motivating the users for using authenticate and reliable information. On the other hand, Librarian also has to provide service at right time to the right user.

Information needs at different sectors

Depending on users need, there are four types of libraries namely 1. School Library 2. College Library 3. University Library and 4. Special Library (Research Library). Broadly these are known as Academic Libraries and Special Libraries.

Academic Libraries

The one which is attached to higher education institute is known as Academic Libraries. Information needs of academics are different; Academic Libraries exist to support the curriculum and research of faculty members, students. Based on syllabus content. Books (Print, E-books) will be procured and journals (Print, Online) and other required resources will be subscribed as per the prescribed content. Here the role of Librarian and Library staff comes into picture where Librarian and Library staff will act as mediator by discussing with concerned head of departments and faculty members and also based on student recommendations, accordingly recommended resources will be procured and subscribed as per the curriculum framed and ongoing research projects as per academic need.

Special Libraries

The one which is attached to Research and Development centers are called Special Libraries or Research Libraries. Here exist two types of R & D centers, one which is established and monitored by Govt for carrying out research activities in specific fields such as science and technology field and other fields for overall nation development. The one which is established by private institutes for profit-making by developing and selling the products across the globe.

Here the librarian plays mediator by subscribing the resources based on their ongoing project requirements. These research centres resources requirements are very different at times these are in need of latest research trend reports on one side and on other side they need the resource from its origin which is not available in easy way, many

a times librarian has to search manually with the leading libraries for checking availability of resources at least in conventional format as publisher does not have copy of the same and it is routine practice in research and development centers for librarians.

Thus in the Google and Apps era requirement of libraries exist and role of librarian is very important in fulfilling the required resources at right time to the right the user and in right format.

Conclusion

The developments in modern information and communication technologies have changed the face of libraries. Today, their collections contain not only books, newspapers and magazines, but also electronic publications, which can be accessed both in the library itself and remotely while at home or in the workplace. Hence the role of the librarian has changed as an intermediary or resource expert, data specialist.

In the state of information overload in world with all this diverse information, the need for the selection, evaluation, processing and then providing the most valuable and reliable information to people in accordance with their requests is not an easy task. It requires specialized professional librarians having information-analytical skills.

To create awareness and increase the usage of resources and also respect to Library profession. Govt has to implement Library Science course content since beginning from schools itself then only users will come to know the resources available and how to access and whom to contact. Also, users will understand the nature of Librarian Jobs which automatically create value and respect to Library profession. Since day one, so many Library Associations are existing in India but these associations do not seem so much active.

References

1. Pandey, Prabhat.(et.al.)(2018) Changing Landscapes in Library and Information Science: A Festschrift Volume in honor of Dr. Arjun Singh. Rajat Publications, New Delhi.
2. Tripathy,P.K. (2018). Library as digital Learning Space for Academic Learners : Changing Landscapes in Library and Information Science: A Festschrift Volume in honor of Dr. Arjun Singh. Rajat Publications, New Delhi PP-27-34.

Library Redesigning for Next User Generation and Application of ICT in Library and Information Centre

*Pragya Nigam**

Abstract:

We have talked here from the traditional library to the automation and digital library and maintain the library according to the users. There have been many changes from the earlier library to today's library, which we have lectured in our paper. Here we have described the module, generation, software of the library and the technology to be adopted in the future of the library. At the same time, ICT is also described in detail that the work done in the library by adopting ICT and what are the work done by the ICT in the library. The future work of ICT is shown here. The impact of ICT in the library from the future impact has been detailed.

Keyword : LMS, Software, ICT, Library etc.

1.0 INTRODUCTION : Research in the library is increasing day by day. day by day changes are coming. the library is developing from traditional to digital and in future the library will convert to fully digital. we are going to present the changes and developments in the library through this article .

1.1 HISTORY OF LIBRARY AND ITS DEVELOPMENT :

The library was first development in Philadelphia in 1713 in united state, which was a public library then in 18 year library of

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Congress was established, which is today largest library in the world.

In modern India, libraries have developed at a very slow pace. Our country was independent and due to foreign rule, no attention was paid to education and libraries. Due to this the nature of library movement was not national nor did the movement receive any legal assistance. The contribution of Baroda state has been commendable in this direction. The library movement started here in 1910AD. A library department was opened in the state and libraries were divided into 4 categories – district libraries

- Tehsil Library
- City Library
- Village Libraries etc.

Their work was spread all over the state. The first mobile library in India was also established in Baroda state. Mr. W.A. Borden was the chairman of the library department. At the time, Baroda state library association was established with the efforts of Baroda. A central library was established in Baroda city which received 20,000 books from the ruler of the state. There was many development in the library after that.

1.2 **DEVELOPMENT:** In our library society I increasing day by day and the store of knowledge is also increasing rapidly and it was becoming difficult to save the library in one room but ever since computer development has caught up in every field like – Bank, railway etc. similarly, library has also started working with computers and today the library society has developed so fast that library has moved “web2.0 to library2.0” “web3.0 to library 3.0”. It has become possible to collect different types of software in the library and collect books and information from the users at home.

2.0 LIBRARY MANAGEMENT SYSTEM: Library management system is known as integrated library management system. We use LMS to maintain the library records. Its other works like-book charging-discharging etc.

LMS other works:

- Maintain Database
- New Books record for borrowers
- Maintain library resources
- Books Circulation Process
- Frequently Working with staff

2.1 IMPORTANCE OF LMS:

- LMS is very efficient, easy to use and most proficient.
- Its all the manually work has been replaced and complete all the library work in one click.
- To store heavy data and individually work with complete security.
- Only one person is required to use the entire system.
- User can issue any book only with User id and password.

2.2 MODULE FOR THE NEXT GENERATION:

Acquisition: Selecting, ordering and paying for the resources by the digitally.

Technical work: Cataloging, Import/export, classification etc its all done by the computer.

Circulation: self Charging –discharging and RFID etc.

Serial Control : manage all journal ,periodical and magazine etc.

Maintenance: Binding of books ,weed out books etc

Its all works done by the Computer for the Library users.

2.3 NEW LIBRARY STRATEGY FOR NEXT GENERATION USERS:

- 1. Marketing useful for libraries:** The marketing of libraries is a gift of knowledge seekers because who are away from development are difficult to know about the library or the library collection. Therefore marketing of library is highly essentials.

“Social sites are the biggest option for the library marketing
“because 7.7 billion person are in socials sites in the world.

- 2. User Services:** Information can be provided by the library staff to the user about the library and library collection. Therefore the user will be interested and motivated to read the library material.
- 3. Need for redesigning library for user:** We can redesign the library by taking user feedback in the library so that future users can stay satisfied from the library.

2.4 GENERATION:

FIRST GENERATION LIBRARY: (1950 TO 1960)

It is a un-integrated and stand alone library. Its work without MARC, without metadata and any specific design.

SECOND GENERATION : (1960 TO 1970)

ILMS originated in the libraries. Metadata and MARC are made available.

After this generation the internet was originated. In which LAN and client server architecture used to work. After 1990 the internet expanded very rapidly with OPAC ,RDBMS and web 3.0 working till date.

(Pre internet generation-1970 to 1990)

(Internet generation –web 1.0 1990 to 2000)

(Post 2000-the web 2.0 Era) .

3.0 ROLE OF ICT IN LIBRARY CHANGES:

ICT is a huge contribution is transforming the library. The libraries is using a wide variety of technologies today and providing different types of services to the user. Knowledge has been a means for the progress of society since ancient times. Knowledge is given priority in this society, knowledge is given importance and this rich society is placed in a higher category. If seen knowledge is divided into several parts and divided into different categories. Knowledge can be obtained only when we are well aware of the information. ICT is playing an important role in getting information. Technologies to handle information in libraries and information centers are continuously making its impact. The new technology is having a better impact in the library.

The result of changes in technology over the year-

- (I) Library Automation
- (II) Digital Library

(In 1973 sociologist Daniel Bell presented his book “The coming of post industrial society to the information Society.)

ICT has functioned globally there have been changes in the skill functions of library operation staff which have proved to be quite effective.

Which are the following :

- (1) ICT made Possible information creation in digital format
- (2) ICT made possible online access and file transfer.
- (3) ICT made possible networking and sharing of information resources.
- (4) ICT made easy providing library services.(Exp :ILL, Consortia etc)

(5) ICT made possible online user education and tutorial.

APPLICATION OF ICT IN LIBRARIES:

ICT achieved considerable stature in field of library due to which the library has been displayed as a model library. ICT has carved a niche for itself in the field of library. Today's Using a library without ICT is a impossible.

Some Applications of ICT are given as follows:

- **Communication Technology :**
 1. Voice mail
 2. Fax
 3. Telecommunication
 4. Video conferencing
- **Computer Technology**
 1. Information resource building
 2. Data Entry
 3. Documentation and Allied services
- **Remote control technology:**
 1. Remote technology
- **Social media Technology**
- **Library Security**
 1. RFID Technology
 2. Close Circuit television
- **Quick response code technology**

Impact of ICT in Libraries:

ICT has profoundly affected:

- Library operation
- Information resources
- Information services
- Staff skill requirement
- User expectation
- Increasing resource sharing
- Importance of library networking
- Transformation of printed
- Digitized information
- User Awareness
- The electronic Library

The information and communication technology curriculum provides user with a broad perspective on the nature of technology, how to use and apply a variety of technology and the impact of ICT on themselves and on society.

Conclusion

We have seen throughout the article how to library is design for present and future user and the application and impact of ICT is also mentioned in the library. we can say that the library is progressing day by day.

Reference

1. IGNOU Material
2. Sodhganga
3. International Journal of Digital Library Services.

Next Generation Libraries: Application And Challenges

*Ashim Kundu**

Abstract

This paper presents an evaluation of the role of innovative technology utilities in the transformation of next-generation libraries. This paper discusses there have been many advanced technologies that have already implemented many libraries in the world. It also analyzes different technology aspects of next-generation digital libraries: learning commons, internet of things, big data, user-focused interface, augmented reality, artificial intelligence, mobile app, drone, etc. to relevant and useful techniques to implement at the library. We focus on the information communication technology applicability, and the benefits could bring to the library. Innovative technology will expect to change the future of the library. Librarians will accept the new challenges to implement the techniques in libraries.

Moreover, those libraries without having many digital services are ready to accept the challenge of keeping their services active for their users virtually during this emergency. Technology is certainly not something new for the libraries, libraries to be adaptive and flexible with the latest innovations in learning and research for some time now – but the report references explicitly new technology applications. The real changes next-generation libraries are completely paperless

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reading areas, touch screen information portals, and robotic assistants as guides.

Keywords

Innovative technology; Augmented reality; Next generation library.

Introduction

Traditionally library has applied most modern technologies to provide collections and services that will enhance access to information by the library user. At the same time, librarians can provide digital access to the user such as *customized scanned documents*; *text notifications* via mobile devices; *online reference services* for research outreach; *library website* to share useful information; *Mailing list* to receive personalized information; *Quick response (QR)* codes that direct users to desired websites, etc.

Libraries have to reach user populations and their need for up-to-date, relevant information. Libraries can be providing limitless access to the millions and information seekers for their optimal use. As a result, the modern library will have to shift for next-generation libraries through innovative technologies' rapid development. Thus libraries are increasingly moving towards the transformational impact of IT utilities that have changed power from provider to user.

What will libraries look for next generation?

In new trends and challenges, libraries need to implement such universal internet access in all libraries. Spaces are tech-friendly, the building needs to be flexible, and audiovisual spending is growing, focus on adaptive devices and web design and less expenditure on books but higher for circulation, budget cutbacks, and training end-users. In next-generation libraries could benefit from the following innovative technologies.

Learning commons - Many libraries are renovating their libraries to the concept of "learning commons" or libraries and classrooms instead

of physical spaces environment. In this zone, learners can study, talk, and work together in some privacy elements. There doesn't have wide margins or separation in this regard. In this model, the library's role is to provide learning facilities and support students in creating knowledge. Libraries are becoming a "learning commons" to provide common space that encourages creation, exploration, and collaboration between students, teachers, and a broader community. Implementing learning commons need digital space with internet connectivity, the rich collection of digital documents, multimedia tools, Wi-Fi enabled reading areas and trained professional library staff.

Internet of Things - In the next generation, you will see the library adopt the 'Internet of Things' but implement we need librarian's skills to deal with the new technology, technology infrastructure, and high-speed network connection. The IoT's objects are provided the user with unique identifiers and the ability to transfer data without human interaction. The internet of things allows us to connected anything with anywhere to the network in the library. IoT services and collection in libraries such as monitoring humidity levels, tracking room users, books have become material objects under strict and permanent control, program attendance, automating a book return system, furnished an automatic sector. IoT application in the library needs to tag the items with sensors, high-speed internet connectivity, sensors, actuators, communication devices, user training, high involvement of the librarian, and staff required. The primary obstruction for implementing the internet of things is the high price for RFID equipment.

Big data – A large amount of information collected from various sources like the internet, social network, online journal, etc. to be processed to make a viable conclusion in the library. Librarians need to know what type of big data is useful for its users. Big data can be more accessible and valuable by creating metadata schemes and

designing standard retrieval methods. In libraries, big data affects both directly and indirectly. Big data tools to analyze big sets of for libraries straight and users who are increasingly using big data in their research are indirect. Librarians have skill and knowledge to help all irrespective of their discipline in the big data universe. Different types of open source big data tools and applications are available in the market. For such initiatives, librarians need support from the administrative and technological support of their universities. Ginny Mies emphasizes that "libraries can use core customer intelligence to reach customers better, create a better connection with the community and become more relevant and stay more flexible and adaptable to all the environment changes."

User-focused interfaces and application – The library can use digital visualization for their users called 'Unstacked.' A big screen in libraries offers different kinds of information and also inspires users to find particular books. The library collection is continually updating this visual showcase, and it will motivate the users to explore the collection more widely. The user focus interface is one of the future perspectives of library services to use technology to create a digital experience.

Mobile apps – The new trend is "Information in our fingertips." Libraries can extend the mobile app services outside the physical border, facilitating interaction with the user. In libraries, mobile interfaces are making access for users of all abilities. Mobile apps are growing faster because of the large number of smartphone users. Now is an excellent time for librarians to meet with mobile app developers to become app experts for their library professional's community. Librarians should be aware of such things when creating mobile library apps. It would be cost-effective because libraries are a non-profit organization, compatibility, 24/7 access, work offline, limitless access, Interactive, User less memory, security, reliability, encourage

reading habit, etc. Libraries' leading motto mobile apps would disseminate the library information product and services online.

Augmented reality – Augmented reality was first used in 1990 by Tom Caudell, a researcher who devised virtual graphics into a physical reality. The library can overlay additional information to physical objects through AR. There are various instructional videos available online for implementing augmented reality in libraries. Students can interact with AR through their android smartphone camera or other devices. Google Glass also can use for this technology. We can now try to use this new tool in the library to make digital effective. Augmented reality in libraries relevant for self-maintenance, guided tours, augmented books and searching for media or additional information. LibrARI is an image-based app example of augmented reality for mobile devices that supports users in finding books on the shelf. Some free apps were available to implement AR technology in libraries like Daqri, Aurasma, Google translator, etc. Once you're convenient using AR apps, you can outset using your content to build AR technology into your library space. They're also paid software like Wikitude and ZapWorks that grant you collect more complicated creations and collections.

Artificial intelligence - Today's computers can provide restorative many human capabilities such as reading, speaking, making judgments, calculating, drawing, remembering, and even interactive learning. In the modern era, computers can provide a perfect medium for applying and experimentation of Artificial Intelligence Technology. Artificial Intelligence is not an equitable software program, and it is a motivating organic technology used to repeat the way a human can process information. The software assistant gathers information from an ongoing scenario from either a human or another assistant and adoption this information for further solving. Implement different Artificial Intelligence fields used in the library management system to process digital information such as Exper system, Reference

service, Pattern recognition, Natural language processing, and Robotics. According to the Wikipedia expert 2014, the different expert systems components are User Interface, Knowledgebase, and Interface Engine.

Artificial Intelligence can complete tasks faster than humans, fewer errors, discover unexplored things, and can take on stressful and complicated work than humans. AI also has disadvantages in which the ability to replace human jobs can malfunction, lacks the "human touch," etc. Some academic libraries like the University of Rhode, Stanford, MIT, American Library Association, and the University of Oklahoma have implemented Artificial Intelligence.

Drones – The small flying devices remotely controlled are another trendsetter in Library and Information Science. Especially in today's environment in the Covid19 period, the drone can be a good option for collecting data, creating content, and delivery service for the libraries. The drone also called 'buzzword' and 'unmanned aerial vehicles' (UAVs). The library can contact any drone company representative to add software and extend it with the integrated Library Management System. A drone can supply the ordered book to the patron doorstep and taking back for help patron to save their time. A modern drone with a high pixel camera helps the library surveillance. Many libraries in the world already started drones facilities as a useful tool such as NY Public Library, Dubai Library, and Florida Library, etc. Library Information Science Professional in India can absorb innovative technologies with the support of the Digital India Initiative.

Library Bookmark Apps – In libraries, users can be locating books without knowing the bay guide or call number. A Chinese design company Toout invented this little tiny device that works as a regular bookmaker. The device also has features that could make using the library much more comfortable, like keep track of all borrowed books, remind the user of the return dates, finding a book quickly. This device

would be a perfect assistant when navigating the library by offering turn-by-turn direction to the book the patron wants.

Conclusion

As a result of introducing innovative technology in next-generation libraries, users can use technology all the time he needs to use one or other sources of information. Thus the number of issues has emerged while implementing the new technology; libraries have started to face these issues and need to resolve with efforts. If you have the question, "what will the world of libraries look like after next to the next generation?" In the end, I can say there will be a library: one library globally accessible and globally comprehensive.

References

1. Next-Gen Library Redesign (*THE TECH SET® #16*)
2. What will Libraries of the Future Look Like? *James Barnett* June 2017
3. Library as Infrastructure *Shannon Mattern* June 2014
4. The Journal of Academic Librarianship Vol. 41, Issue 6. November 2015
5. Next Generation Libraries Issues and Challenges *Proceeding of National Conference on Next Generation Libraries: Issues and Challenges* 22nd March 2015

Need For Changing Academic Library Services During The Pandemic Situation Like Covid-19

*Neha Ramakant Naik**

Abstract:

Due to COVID-19, lockdown has to be faced everywhere. All schools and colleges have also been closed. Therefore, special emphasis is being laid on the online education system during this lockdown period so as not to let the academic progress be hampered. In this world of online technology, libraries have already begun to establish their identity. However, this sudden outbreak has caused a lot of problems and the library is no exception. So in this paper the author is trying to explain the academic library services and challenges faced libraries in academic institutions during the pandemic situation like covid-19.

Keyword : Academic library; library services, Education

1. Introduction:

“If you want to shine like a sun, first bun like a sun”

– A.P.J. Abdul Kalam

Education makes a person literate and knowledge makes them perfect. The ocean of knowledge is as endless as the radiance of the sun. The path of enlightenment is followed to shine like that radiance. The path of knowledge is followed to achieve glorious success like that radiance. Education is of paramount importance to become

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knowledgeable. The greatness of the library is invaluable when it comes to education.

A library is a place where we can record and preserve human knowledge using a variety of mediums. Before the Internet era, we used to consider written and printed documents as the best medium. But today science and technology gives us multimedia options that we are using extensively to preserve knowledge in the libraries.

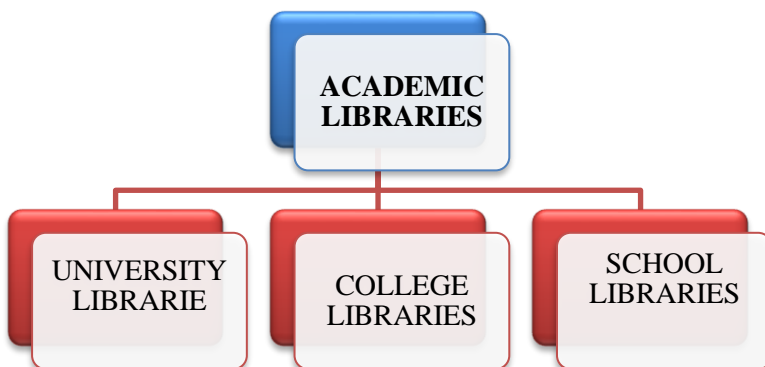
In the 1990s, the invention and use of electronic devices revolutionized in every field and gave a new impetus to the Indian economy. We are all familiar with the journey of the library from the old tradition card system to now using the Web 2.0 technology, RFID, artificial intelligence and many more.

2. ACADEMIC LIBRARIES:

According to the Rajan, T.A. (2017), in his notes of “Types of Libraries and their function”, he stated “*libraries are divided into the six types*” such as:

1. Academic Libraries
2. Public Libraries
3. Special Libraries
4. Government Libraries
5. National Libraries
6. Other types of Libraries

“*The libraries those are mainly associated with educational Institutions are known as Academic libraries*”. Academic libraries are the responsible to provide access to source of information for teaching and learning communities. Its further divided into the Schools libraries, College libraries and University libraries.



The fact that we have seen significant improvements in Academic libraries in India from ancient times to the present is only due to the continuous efforts of the University Grants Commission (UGC). *“The UGC working as an advisory body for promotion and co-ordination of university education and its directs higher education in India. Its play curial role in the enhancement of University and college libraries. The UGC is provide financial assistance to the academic libraries for the purchase of library resources such as books magazines etc. and also assistant in construction of a library building too.”*¹

There are many organizations like UGC that contribute to the progress of the academic library such as AICTE, NCERT, SCERT, IGNOU, CEC etc. not only provide the training facilities to academic libraries but also help them to upgrade their knowledge, competency and skills.

“Information and Library Network (INFLIBET) is the one of the autonomous center of UGC is involved in creating infrastructure for sharing library and information services among Academic and Research Institution. INFLIBNET works collaboratively with Indian

1.Patait, Jagannath V. (Jan-March-2019

University libraries to shapes the future of the academic libraries in the evolving information environment.”²

The library procedures depend on the purpose and objectives of the original organization. Any libraries source and services are based on their patrons needs and it is varying from library to library.

The following table categories the Academic library and their patrons.

TYPE OF LIBRARY	THEIR PATRONS
School libraries	School Students, Teachers and School Principal
College Libraries	College Students, Faculty, etc.
University Libraries	Post Graduate students, Research Scholars, Faculty etc.

3. ACADEMIC LIBRARY:ROLE AND SERVICES

Library services are planned according to the user's information needs and the extent of the subjects studied in the organization, and libraries are always on hand to ensure that they are properly provided in an effort to serve the adequate services. Acquisition, Circulation, Serial Control, Staffing, CAS, etc. are the most common services in the library.

The role and services of the School, College and University Library are as follow:

3.1 School Libraries:

School libraries collection is based on subject books and books for general reading and entertainment. The main objective of school libraries is to enhancing and improving reading habit among the students. “They have serve adequately the needs of students and

2.Vel, Senthur (May, 2012).

teachers with a number of services like reference, storytelling, debates, film shows, book reading clubs, etc.

3.2 College Libraries:

College is an integral part in the higher education. The college library is the most important addition to the college. Its purpose is to achieve the mission and objective of the organization. It strives to create excitement among students & teachers and to help them to make the use of available reading materials. So far the college libraries are mainly concerned with the use of graduates in terms of prescribed reading. The need, however, is to encourage students to make extensive use of the library, including journals, books, and the use of the Internet. Finding a good source of information and expanding one's horizons is a valuable task of the college libraries.

3.3 University Libraries:

The University Library is established to strive for the fulfillment of the ideas and objectives of the University. The workload of the University Library is an integral part of integrity, so its growth and development depends only on the growth and development of the academic and research programs of the University.

4. Challenges For Libraries During and Post Covid-19

Today we are all facing a very difficult situation and it is having a very bad effect on the human race of the world. This coronavirus disease is spreading very fast day by day and in this situation, it is impossible to serve the physical resources of the library. Digital library resources and services are playing an important role in providing online services to the entire community. Online resources are already in use but first in the time we all are totally dependent on online resources.

This situation arose during the examination. Online teaching started in schools and colleges. The physical services provided by the

libraries have been discontinued and it is a challenge to provide study services to the students considering their mental condition.

Librarians also have a role to play in introducing students to authentic online e-resources and encouraging them to use that resources more and more for their academic improvement.

The biggest challenge for library professionals is to engage students in a healthy environment to cope with this situation during this lockdown.

Library staff required the various skills to survive in this situation: Most importantly Technical skills such as Information Communication Technology (ICT) skills; Management skills is also important to give information right time to the right users.

Required sufficient budget for subscribing e-resources and making library environment digital library.

5. How To Tackel Challenges Faced By Libraries Dutring And Post Pandamic Like Covid-19

It is very important to expand thinking process and make ourselves broadminded to overcome such problems we are facing due to this pandemic. We need to redesign our library system and services is most important. For reducing the gap between user's expectations and actual library services there is the main task for library professionals in this online working environment. And providing multidimensional needs to the end number of users is the main objective of any libraries.

Today some libraries are offering digital library collections with easy and free access to the entire community. It is important to inform the users about these services as much as possible and encourage them to avail the services.

Such as National Digital Library of India (NDLI) provided "Study at Home" facility to entire community. NDLI provided digital content in the form of e-books, audiobooks, lecture materials, thesis, journals,

articles etc. form various streams. As per the Time of India e-content on dated 7th May, 2020 stated that *“this initiative has received a positive response, leading to the addition of a large quantity of new content to the NDLI’s repositories”*³

- Library are providing various online platform through subscribing subject E-databases for accessing Journals, e-books, e-reports.
- Library can start their own Institution Repository by using various digital library software; where they can give free access of online resources to end users.

Recently government louches various portal for sharing knowledge and empowering youth such as “Bharat Padhe Online” for sharing thoughts, ideas and YUKTI to share their ways of working and strategies for various challenges facing due to this pandemic. Also many publishers open their resources publically during this lockdown time for specific time period such as Project Mouse, Oxford University press, JSTORE, etc.

- For enhancing and improving knowledge we can encourage library patrons to join various online course platform are available such Massive Open Online Course (SWAYAM), COURSERA, etc.
- Library professionals can provide various e-newspaper and magazine links to their patrons. Today there are many leading firms are now providing this facility to their users.
- To take care of mental health of students, teachers, faculty members, etc. users library need to arrange more and more mental health programs.

3. NA 2020)

- Utilizing social media platform for education and knowledge purpose is the one of the easy task where we can directly share information to the vast community at a time.

For E.g.: Use web 2.0 tools such as WhatsApp, Instagram, Facebook, YouTube, twitter for academic use.

- Through the google drive we can share the information to the bulk of peoples by using single mail.
- Reading books competition, quiz completion, books talks, etc. program can definitely boost the student’s moral towards the education.

In the May 2020 EBLIDA prepared a draft on ‘European library agenda for the post COVID 19 age’ in that they elaborate the library services statistics where they noted that “ *the European Library promoted access resources via their websites pointing to platforms of e-books, and e-media. Statistics concerning the use of digital platform has increased exponentially during the COVID-19 crises* ”⁴

In Sakal e-article on dated 15 July 2020, author write about the role of a library during a pandemic and in that she stated, “*Many libraries are active in providing online information services to the general public including information literacy programs alerting users about COVID-19. Reader advisory services can have availed form the librarian via e-media which help in reliving the agony due the lockdown situation* ”.⁵

Conclusion :

In this online teaching and learning environment every sectors, library is also providing his services through using e-resources. There are countless tools available to share information that is innumerable, but

4. EBLIDA, 2020

5. Nagarkar, Shubhada, 2020

the library is working to find and provide the exact ones, and this shows the importance of the library. In any education institute library is most trustworthy while gaining knowledge. It is clear that the resources and services of the library are making valuable contributions in the field of education and in any situation.

References:

1. Bhati, P. &. (2020, APR-May). Role of Library Professional in a Pandemic situation like COVID=19. *International Journal of Library and Information Studies*(2), 33-48. Retrieved July 14, 2020, from https://www.researchgate.net/publication/342697905_Role_of_Library_Professionals_in_a_Pandemic_Situation_Like_COVID-19_Pankaj_Bhati
2. EBLIDA. (2020). *A European library Agenda for the post COVID 19 age*. EBLIDA. Retrieved July 15, 2020, from <http://www.eblida.org/Documents/EBLIDA-Preparing-a-European-library-agenda-for-the-post-Covid-19-age.pdf>
3. MD, S. I. (2013, October 02). *Principle of Library Administration/ What is POSDCORB: Cardinal Element of Library Administration (POSDCORB):.* Retrieved July 07, 2020, from http://www.lisbdnet.com/principle-of-library-administration_3/
4. NA. (2020, May 07). *National Digital Library reaches out to students amid Covid lockdown*. Retrieved July 14, 2020, from The Time of India: <https://timesofindia.indiatimes.com/india/national-digital-library-reaches-out-to-students-amid-lockdown/articleshowprint/75603272.cms>
5. Patait, J. V. (2019, January-March). ROLE OF UGC IN LIBRARY AND INFORMATION SCIENCE. *Sanshodhan Samiksha Quarterly Multidisciplinary Peer Reviewed E-Research Journal*, 1(1), 23. Retrieved JULY 06, 2020, from <http://www.aadharsocial.com/PDFS/5.pdf>

6. Rajan, it. (2017). *Unit-2 Types of Libraries and their Functions*. IGNOU. Retrieved July 07, 2020, from <http://hdl.handle.net/123456789/34898>
7. Shubhada, N. (2020, May 05). *COVID-19 : The role of library during a pandemic*. Retrieved July 15, 2020, from Sakal Times: <https://www.sakaltimes.com/opinion-nation/covid-19-role-library-during-pandemic-49537>
8. Vel, S. (2012, May). Academic Libraries in India. *International Journal of Research Management*, 3(2), 33. Retrieved July 07, 2020, from <https://rpublication.com/ijrm/may%2012/4.pdf>

Research Productivity And Utility of International Journal of Information Management (IJIM) During 2010-19

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Abstract

The present study reflects the bibliometric analysis of 1011 publications published in International Journal of Information Management (IJIM) from 2010 to 2019. The paper analyse a few parameters such as total research productivity and total citation counts; yearly distribution of research publications; most prolific and cited authors, top productive countries and institutions in terms of publications. This study concludes that the most productive year is 2019 (22.95 %) followed by 2016 (11.87%). USA is on top with highest research output (23.77 %) and Chang, V. and Dwivedi, Y.K. are most productive authors whereas ACPP of Lee, M.K.O is highest (464.57).

Keywords - Research Output; Bibliometric; International Journal of Information Management; Scopus; Top Cited Article, Research Performance.

1. Introduction

Journals among all informational resources are considered as the most authentic and informative sources of information carrying latest research and developments in all subject areas. Recent researches are

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published in latest issues of journal volumes of respective subject field. For conducting a research in any area, a researcher is required to explore the latest development and trends thus, follows the bibliometric studies in that respective field. Bibliometric studies are helpful in analyzing the research productivity in any particular field of knowledge. Bibliometrics leads towards knowing interesting facts regarding research productivity and utility of any publications, institution or an individual, etc. The current study reveals the research productivity of a well known and reputed journal in the field of Library and Information Science “International Journal of Information Management (IJIM)”.

1.1 Source Journal

International Journal of Information management (IJIM) is an international journal which is peer reviewed journal published by Elsevier science. This journal is published from UK and cover publications since year 1986. It indexes publications from different disciplines viz. computer sciences, Network & communications, social sciences and library and information sciences. The present chief editor of the journal is Mr. Yogesh Dwidi. Impact factor of IJIM is 5.063 according to Clarivate analysis, Cite score is 8.81 and RG Impact is 4.82. The website of journal is

“<https://www.sciencedirect.com/journal/international-journal-of-information-management>”

2. Methodology

In this present study, documents published in ‘IJIM’ from 2010 to 2019 have been analyzed. The data has been extracted from the largest abstracting and citation database of peer-reviewed literature i.e. Scopus database. The data was extracted in the month of January 2020 using the keyword INTERNATIONAL JOURNAL OF INFORMATION MANAGEMENT which was searched in the

“Source Title” field of the database. The data was shifted to MS-Excel for analysis and presented in tabular form for further interpretations.

3. Review Of Related Literature

Many a bibliometric studies were consulted for the present study but only a few are presented in the review part of the present study. A brief of the studies has been presented in following paragraphs:

Kumari, etal (2019) in her bibliometric study on ‘Journal of Documentation’ using Scopus database found 2015 as most productive year with 63 (11.37%) research output , publications average citations received by the articles is 13.05% and UK on top with 26.53% contribution in total research output .**Khanna, etal (2018)** studied ‘Journal of Academic Librarianship’ (JAL) for 2007-2016 and found that top 14 countries collectively contributed 94.36 percent publications but USA was on top with 89.85 percent contribution , highly productive authors were K. Coyle and G. Little and California State University System and University of Illinois System were highest contributed institutions. **Mulla (2012)** presented bibliometric analysis of 998 articles of on information science and scientometric (ISS) for the period 2005-2009 and found most researchers’ preference for publishing their research results in journals as 91.98% of articles were appeared in journals only. most productive year was 2009 with 32.97 percent and India contributed highest (83.99%) among all countries. **Chang and Huang (2011)** carried out a study for the years 1978 to 2007 and revealed that LIS researchers cited publications in their own discipline while the interdisciplinary publications increased with co-authorship ranged from 0.61 to 0.82.

A few other studies conducted by Siwach and Parmar (2018); Tripathi and Garg, (2014) etc. were also consulted for interpreting and analysis of data.

4. Objectives

Following objectives have taken into consideration for the present study:

- To identify type of publications produced research output in IJIM during 2010-2019;
- To identify the total research output and total cited publications of IJIM ;
- To find out yearly distribution of research output in IJIM.
- To identify the most prolific authors of IJIM.
- To find out top ten countries produced more research publications.
- To identify top cited articles of IJIM.

5. Data Analysis

After exporting data related to IJIM from Scopus database into CSV files it was analyzed and presented in the tables. The interpretation of the analyzed data has been presented in following paragraphs:

5.1 Type of publications produced in IJIM during 2010-19

A total of six type of publications appeared in IJIM during the period 2010-19. It is apparent from the table 1 that majority of publications appeared in IJIM were Research articles (89.32%) while least appeared publications were Reviews (4.55%), Editorials (3.36%), conference papers (2.27%), Erratum (0.30%) and others (0.20%).

Table 1
Type of publications appeared in IJIM

Document Type	TP	%
Articles	903	89.32
Reviews	46	4.55
Editorials	34	3.36

Conference Papers	23	2.27
Erratum	3	0.30
Others	2	0.20
Total	1011	100.00

(TP=Total Publications)

5.2 Year wise distribution of publications and citations

Table 2 shows the year wise research publications and citations received during 2010-19. Most productive year in terms of publications was latest year i.e 2019 (22.65 %) followed by 2016 (11.87 %) and 2018(11.67%). Highest citations were received to the year 2013 (15.28 %) It is also noticeable that latest year received highest number of publications but least number of citations (3.99%). ACPP was highest for the year 2010 (59.06%) while highest growth rate was noticed in the year 2010 distantly followed by year 2019.

Table 2
Yearly distribution of publications and citations

Year	TP	%	CO	% of Growth	TC	%	ACPP
2010	66	6.53	-	-	3898	13.16	59.06
2011	71	7.02	137	7.57	3981	13.44	56.07
2012	65	6.43	202	-8.45	2084	7.04	32.06
2013	94	9.3	296	44.61	4524	15.28	48.13
2014	77	7.62	373	-18.08	3051	10.3	39.62
2015	75	7.42	448	-2.59	3744	12.64	49.92
2016	120	11.87	568	60	3188	10.77	26.57
2017	96	9.5	664	-20	1892	6.39	19.71
2018	118	11.67	782	22.91	2068	6.98	17.53

2019	229	22.65	1011	94.06	1181	3.99	5.16
Total	1011	100.00	-	-	29611	100.00	29.29

(*TP*= “Total Publications”, *CO*= “Cumulative Output”, *Formula of Growth*= “Final Value-Start Value/Start Value X100”)

5.3 Top ten authors

The list of ten top authors who gave highest research contribution to IJIM during the period 2010 -2019 is given in Table 3. In terms of number of publications, Chang, V. was most productive author by contributing 18 percent publications followed by Dwivedi, Y.K. with 16 percent publications among all top ten authors. It is also noticed that these ten authors collectively produced 9.8 percent research publications of total output and received almost twenty percent citations (19.01%) of total citations. ACPP of Lee, M.K.O. is highest (464.57) thus, he has been the most cited author of IJIM during the period under study. It is also noticeable that out of all ten most productive authors, four were from UK and two were from Finland.

Table 3
Most Prolific Authors

Authors	No. of papers	%	No. of citations	%	ACPP	Affiliation	Country
Chang, V.	18	18	425	7.55	23.61	Teesside University, Middlesbrough,	United Kingdom
Dwivedi, Y.K.	16	16	505	8.97	31.56	Swansea University, Swansea,	United Kingdom
Hills, P.J.	15	15	209	3.71	13.93	Centre for Research into Human	United Kingdom

						Communication and Learning, Norfolk,	Kingdom
Hamari, J.	8	8	45	0.80	5.62	Tampereen Yliopisto, Tampere,	Finland
Rana, N.P.	8	8	232	4.12	29.00	University of Bradford, Bradford,	United Kingdom
Rocha, A. .	8	8	181	3.21	22.62	Universidade de Coimbra, Faculdade de Ciências e Tecnologia, Coimbra,	Portugal
Lee, M.K.O.	7	7	3252	57.76	464.57	City University of Hong Kong, Kowloon,	Hong Kong
Mantymäki, Matti.	7	7	273	4.85	39.00	Turun Kauppakorkeakoulu, Abo,	Finland
Ogiela, M.R.	7	7	126	2.24	18.00	AGH University of Science and Technology, Krakow MP,	Poland
Aladwanji, A.M.	6	6	382	6.79	63.66	University of Kuwait, Safat,	Kuwait
Total (%)	100	100 (9.80)	5630	100.00 (19.01)	56.30		

5.4 Country wise research output

Table 4 shows the top ten countries in terms of research publication in IJIM during period of ten years. All these ten countries collectively produced 96.54 percent of total publications appeared in IJIM during the period under study. United States produced highest research publications (23.77 %) among all ten most productive countries followed by United Kingdom (19.88 %) and China (14.64). India at the 10th position produced 4.00 % of total research publications of top ten countries.

Table 4
Top countries in terms of research publications

Country	No. of Papers	%	% of TP
United States	232	23.77	22.95
United Kingdom	194	19.88	19.19
China	148	15.16	14.64
Taiwan	90	9.22	8.90
South Korea	85	8.71	8.41
Spain	52	5.33	5.14
Canada	49	5.02	4.85
Australia	46	4.71	4.55
France	41	4.20	4.06
India	39	4.00	3.86
Total	976	100.00	96.54

5.5. Top cited papers during 2007-16

Top 10 highly cited papers of IJIM during 2010-19 are presented by table 6. These papers collectively received 15.48 percent citations in all. The paper titled “Beyond the hype: Big data concepts, methods,

and analytics” authored by Gandomi A., Haider M. published in the year 2015 received highest number of citations (23.91%) and the paper at 10th position in receiving highest citations entitled “To be or not to be in social media: How brand loyalty is affected by social media?” authored by Laroche M., Habibi M.R. & Richard M.-O. in the year 2013 received 6.26 percent citations.

Table 5 Top cited papers during 2010-19

Title	Authors	Cited by	% of Citations	Volume No.	Issue No.	Year
Beyond the hype: Big data concepts, methods, and analytics	Gandomi A. and Haider M.	1096	23.91	35	2	2015
Emergency knowledge management and social media technologies: A case study of the 2010 Haitian earthquake	Yates D. and Paquette S.	501	10.93	31	1	2011
Cloud computing for education: A new dawn?	Sultan N.	499	10.89	30	2	2010
The critical success factors of business process management	Trkman P.	436	9.51	30	2	2010
Understanding customer satisfaction and loyalty: An empirical study of mobile instant messages in China	Deng Z., Lu Y., Wei K.K. and Zhang J.	401	8.75	30	4	2010
Social media competitive analysis and text mining: A case study in the pizza industry	He W., Zha S. and Li L.	374	8.16	33	3	2013
An empirical investigation of mobile	Lin H.-F.	354	7.72	31	3	2011

banking adoption: The effect of innovation attributes and knowledge-based trust						
Understanding the internet banking adoption: A unified theory of acceptance and use of technology and perceived risk application	Martins C., Oliveira it. and Popovic A.	344	7.50	34	1	2014
Effects of various characteristics of social commerce (s-commerce) on consumers' trust and trust performance	Kim S., Park H.	292	6.37	33	2	2013
To be or not to be in social media: How brand loyalty is affected by social media?	Laroche M., Habibi M.R. and Richard M.O.	287	6.26	33	1	2013
-	-	4584	15.48	-	-	-

Conclusion

Information in any field is crucial for growth and development but in the era of ICT managing information flow is a herculean task. Analysis of information is an important activity in largest sea of Information. There are multiple ways to analyse the information and bibliometric is one of that ways. In the present study also, bibliometric analysis of one of the renowned journal in the field of Library and Information Sciences namely International Journal of information Management for a period of ten years (2020-2019) has been done which revealed 2019 as most productive year in terms of research output ; Chang, V as most productive author while Lee MKO highly cited author. It is also found that ten top countries collectively

produced 96.54 percent research publications appeared in IJIM during period of ten years.

References

1. Chang, Yu-Wei & Huang, Mu-Hausan. A study of evolution of interdisciplinarity in library and information science: Using three bibliometric methods: 2012,63(1)22-33. doi: 10.1002/asi.21649
Kumari, Dinesh, Swain, Nirmal & Parmar, Seema. Research Productivity of Journal of Documentation during 2007-2016. Asia-Pacific Library & Information Education and Practice (A-LIEP 2019) edited by Tengku Adil Tengku Izhar and Mohd Shamsul Mohd Shoid. 2019, Puncak Perdana Campus: Selangor, Malaysia.
2. Mulla,K.R .Identifying and mapping the information science and scientometrics analysis studies in India (2005-2009): A bibliometric study. Library philosophy and practice, 2012, 772.
3. Khanna, Sunaina; Bansal, Jivesh; Sood, Seema and Tiwari, Deepika. Journal of Academic Librarianship: A Bibliometric Analysis. International Journal of Library Information Network and Knowledge ,2018,3(2) 2455-5207
4. Siwach, Anil Kumar & Parmar, Seema. Research Contributions of CCS Haryana Agricultural University, Hisar: A Bibliometric Analysis. .DESIDOC Journal of Library & Information Technology, 2018, 38 (5), 334-341. doi: 10.14429/djlit.38.5.13188
5. Tripathi, H.K. & Garg, K.C. Scientometrics of Indian crop science research as reflected by the coverage in Scopus, CABI and ISA databases during 2008-2010. Annals Libr. Inf. Stud., 2014, 61(1), 41-48. URI: <http://hdl.handle.net/123456789/27762>

Attitude of Users towards Information
Technology Application in University
Libraries: A Comparative Study of Himachal
Pradesh University, Shimla and Panjab
University, Chandigarh

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Abstract :

The present study aims to investigate the attitude of users towards information technology application in two university libraries i.e. Himachal Pradesh University, Shimla and Panjab University, Chandigarh. Survey method of research has been used to find out the attitude of users. The data collection was done as part of PhD research. The sample consists of 391 users which includes the PG Students, Research Scholars and Faculty Members in the Faculty of Social Sciences and Sciences in two universities. The data was collected through structured questionnaires which were further analyzed using the Chi-Square analysis. The study reveals that despite the lack of library users being involved in the decision-making of IT application and availability of few training programmes in libraries, there is a positive attitude among the users towards information technology application in libraries. The study further reveals that maximum

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number of respondents were happy as they felt enjoyment while working on computers and most of the users preferred to learn about a new technology in a workshop/training, from library staff and with personal hands-on-practice respectively. The users felt agree that technology in the library offers more effectiveness in keeping library records. The study concludes with the remarks that apart from its several potential benefits, technology is responsible for changes in employment opportunities in libraries.

Keywords : Attitude, Library users, Information Technology (IT), University Libraries, Himachal Pradesh University, Shimla (HPU), Panjab University, Chandigarh (PUC).

1. Introduction

University libraries aim at providing their users with one of the best opportunities to effectively utilize the available resources. For this purpose, libraries have been seeking technological aids to improve the management of their customer services. Information technology (IT) offers many new procedures for libraries to carry out their services in a better and cost-effective manner. Berghammer (1995) also argued that technological implementation offered better performance, more efficiency and faster service with least cost. Over the recent past many new technologies have been incorporated in the university library system i.e. microcomputer, Online Public Access Catalogue (OPAC), Radio Frequency Identification (RFID), Near Field Communication (NCF) etc.

The ongoing change of technological implementation in libraries has also put tremendous presser on the capability of their clientele to use these technologies. The new generation library users are self-reliant and tech-savvy. Therefore, it becomes pertinent to know how the users in library react to these technologies while using them in a real-practical environment. For this purpose, understanding the attitude of the user becomes instrumental in determining how they perceive the

fast creeping-in of new information technologies and decide future course of action from the managerial point of view. The present study makes a significant contribution to the literature on attitude of users towards information technology application in university libraries. Till now, only select studies have been carried out and published to study the attitude of library users. The present study is a critical evaluation of information technology application in libraries of two universities, i.e. Jawhar Bhawan Library of Himachal Pradesh University, Shimla and A.C. Joshi Library of Panjab University, Chandigarh.

2. Review of Literature

According to Freeman (1971), “An attitude is a dispositional readiness to respond to certain institutions, persons or objects in a consistent manner which has been learned and has become one’s typical mode of response”. Anastasi (1988) defines attitudes as “A tendency to react favorably or unfavorably towards a designated class of stimuli, such as a national or racial group, a custom or an institution.” The success rate of technology implementation in a university library will not only largely depend on how well the systems performs but also on how well it is accepted positively by the users directly coming in contact with that technology.

The review of concerned literature revealed that the extent of technological advancement in a library largely depends on how smart are the library users to operate a particular technology. Singh (Singh, 2003) argues that technological knowhow of users is a strong predictor that a library will be equipped more or less with modern day technology infrastructure. Vincent pleads that in due course of time an increasingly diverse user base has emerged which makes it imperative that we find out not only what services they require but also what they value most when they use those services (Vincent, 2005). Research consistency indicates that younger respondents have tend to own more mobile tools and use more social sites that ever before (Booth, 2009).

Even more women users have become techno-experts as they feel more comfortable using computers and the Internet services (Fidishun, 2007). Apart from this, training and orientation of library users in acquiring more sophisticated searching abilities and retrieval skills were strong predictors for a positive attitude towards technology (Rajpurohit, 2016). Similar to this, availability of latest ICT infrastructure, high speed Internet and adequate training facilities were important elements for positive perception among library users (Alharbi, 2016).

3. Objectives of the Study

The following objectives are adopted to carry out this study:

- 3.1 To know what is the attitude of users towards IT application in university library.
- 3.2 To ascertain whether there is a difference in the attitude of male and female users.
- 3.3 To investigate whether there is difference in users' attitude with regard to their age-group.
- 3.4 To assess whether there is a difference in the attitude of users as per university.
- 3.5 To explore whether attitude of users differs as per the concerned faculty or department of teaching and research

4. Methodology

In the present study the users of two university libraries, namely Himachal Pradesh University Shimla (HPU) and Panjab University, Chandigarh (PUC) were subjects of study. In order to investigate the attitude of library users in above two universities, a sample of three user categories which included PG Students, Research Scholars and Faculty Members was taken from the Faculty of Social Sciences and Sciences in two reputed universities. The researchers collected the data as part of their ongoing PhD research. A structured questionnaire

based on random sampling method was administered to 200 participants from each university. In response to the survey, 391 valid responses (97.75%) were received from the library users of HPU and PUC.

4. Data Analysis and Presentation

Pearson Chi-square statistical method was used to analysis the data to find the significant of relationship among the users as per their gender, age-group, university, faculty of teaching and research and the respective departments. Descriptive statistical method using the Statistical Package for Social Sciences (SPSS) software was used to analyze the data.

In order to assess the attitude of users, question statements concerning the attitude of users were analyzed and their Chi-Square values were drawn through SPSS. The output of all statements in standard cross-tabulation table is described as follows:

4.1 Whether people are the masters and technology is a tool?

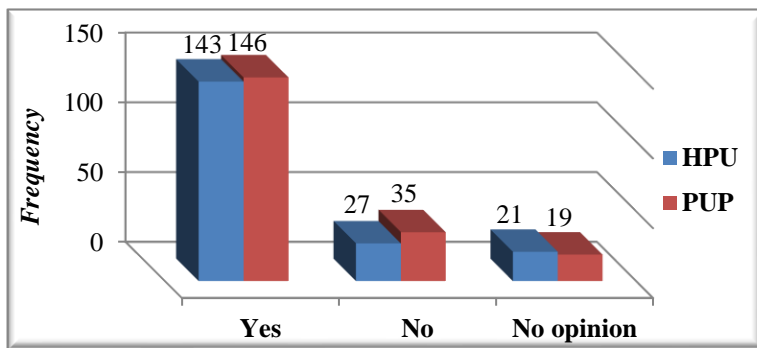
Table 4.1.1: Comparison of responses as per university

University	Specifics	Yes	No	No opinion	Total	χ^2 at 2 df (<i>p</i> -value) N=391
HPU	Count	143	27	21	191	.957 ^{NS} (.620)
	% age	74.90%	14.10%	11.00%	100.00%	
PUC	Count	146	35	19	200	
	% age	73.00%	17.50%	9.50%	100.00%	
Total	Count	289	62	40	391	
	% age	73.90%	15.90%	10.20%	100.00%	

Table 4.1.1 precisely indicates 74.90% users in Himachal Pradesh University closely followed by 73.00% in Panjab University indicate that they feel agree that people are masters and technology is a tool. On an average, 15.90% users in both the universities did not feel so whilst another 10.20% of them had no reaction to it.

The Chi-Square analysis clearly indicates that there is no significant difference in the views of users of HPU and PUP with p -value > 0.05 .

Figure 4.1.1: Comparison of responses as per university



The bar graph 4.1.1 clearly describes that there is no significant difference in the views of users as majority of them admitted that people are the masters and technology is a tool.

Table 4.1.2: Comparison of responses as per faculty

Faculty	Specifics	Yes	No	No Opinion	Total	χ^2 at 2 df (p -value) N=391
Social Sciences	Count	137	38	19	194	4.017 ^{NS} (.134)
	% age	70.60%	19.60%	9.80%	100.00%	
Sciences	Count	152	24	21	197	
	% age	77.20%	12.20%	10.70%	100.00%	

Total	Count	289	62	40	391
	% age	73.90%	15.90%	10.20%	100.00%

The views of all 391 valid responses were further analyzed using Chi-Square analysis. The data analysis reveals that 77.20% users in the Faculty of Sciences and 70.60% in Social Sciences agree that people are masters and technology is a mere tool.

The Chi-Square analysis carried on the data reveals that there is no significant difference in the views of users as per faculty with p -value > 0.05 .

Table 4.1.3: Comparison of responses as per gender

Gender	Specifics	Yes	No	No opinion	Total	χ^2 at 2 df (p -value) N=391
Male	Count	125	23	21	169	2.351 ^{NS} (.309)
	% age	74.00%	13.60%	12.40%	100.00%	
Female	Count	164	39	19	222	
	% age	73.90%	17.60%	8.60%	100.00%	
Total	Count	289	62	40	391	
	% age	73.90%	15.90%	10.20%	100.00%	

The gender-wise analysis of user responses in the table above clearly indicates that 74.00% male and 73.90% female respondents feel agree that technology is a tool and people are masters.

The Chi-Square analysis in table 4.1.3 clearly depicts that there is no significant difference in the attitude of male and female users with p -value > 0.05 .

4.2 Involvement of Users in Decision-Making of IT Application in Library.

Table 4.2.1: Comparison of responses as per university

University	Specifics	Yes	No	Total	χ^2 at 2 df (<i>p</i> -value) N=391
HPU	Count	55	136	191	2.351 ^{NS} (.309)
	% age	28.80%	71.20%	100.00%	
PUC	Count	29	171	200	
	% age	14.50%	85.50%	100.00%	
Total	Count	84	307	391	
	% age	21.50%	78.50%	100.00%	

The data analysis in table 4.2.1 clearly indicates that only 28.80% users in HPU and 14.50% in PUC were involved in decision-making of IT application in library.

The Chi-Square analysis carried on the data precisely depicts that there is no significant difference in the views of users in both the universities with *p*-value > 0.05. However, majority of users (78.50%) were not part of the decision-making process.

Table 4.2.2: Comparison of responses as per category

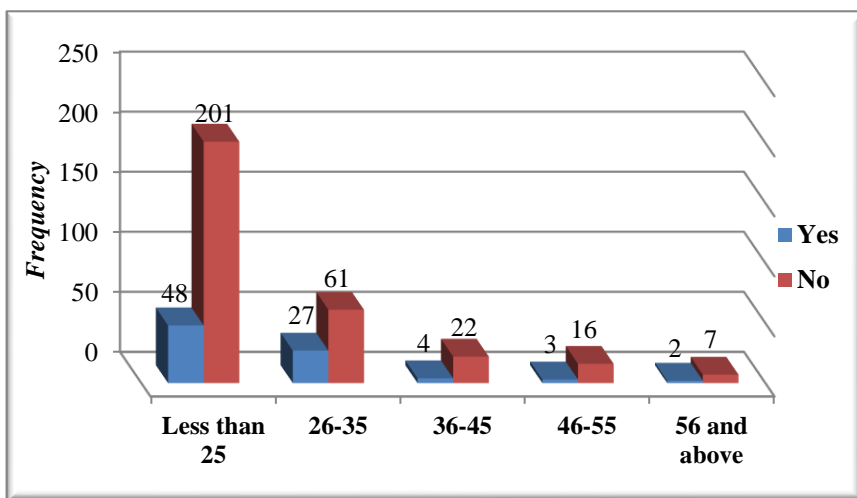
Category	Specifics	Yes	No	Total	χ^2 at 2 df (<i>p</i> -value) N=391
PG Students	Count	52	186	238	.141 ^{NS} (.932)
	% age	21.8%	78.2%	100.0%	
Research Scholars	Count	20	72	92	
	% age	21.7%	78.3%	100.0%	

Faculty Member	Count	12	49	61
	% age	19.7%	80.3%	100.0%
Total	Count	84	307	391
	% age	21.5%	78.5%	100.0%

The category-wise analysis of data precisely reveals that only 21.80% PG Students, 21.70% Research Scholars and 19.70% Faculty members were involved in the decision-making of IT application in library. On average, majority of the users in all the categories (78.50%) were not a part of decision-making process.

The Chi-Square analysis clearly describes that there is no significant difference in the views of all three user categories with p -value > 0.05 .

Figure 4.2.1: Comparison of responses as per age-group



The bar graph 4.2.1 clearly describes the views of respondents as per their age-group. The analysis reveals that on average 78.50% users in all age-groups replied that they were not part of decision-making process of IT application in the library.

4.3 Users' feelings about working on computers in the library:

The library users were further asked to express their feeling about working on computers.

Table 4.3.1: Comparison of responses as per category

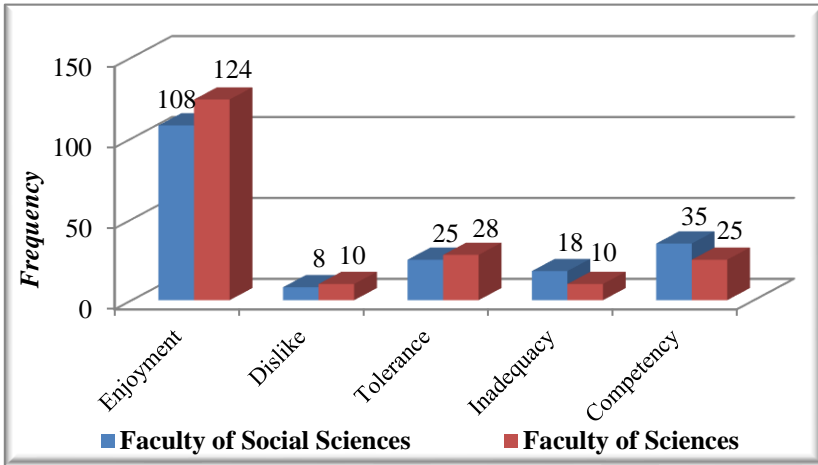
Univer- sity	Speci- fics	Enjoy- ment	Dislike	Tolerance	Inade- quacy	Compe- tency	Total	χ^2 at 4 df (p-value) N=391
HPU	Count	112	5	17	23	34	191	23.086** (.000)
	% age	58.60%	2.60%	8.90%	12.00%	17.80%	100.0%	
PUC	Count	120	13	36	5	26	200	
	% age	60.00%	6.50%	18.00%	2.50%	13.00%	100.0%	
Total	Count	232	18	53	28	60	391	
	% age	59.3%	4.6%	13.6%	7.2%	15.3%	100.00%	

** The Chi-square values are significant at 0.001 level.

The data in the table 4.3.1 clearly describes the feeling of users towards working on computers. 60.00% users in Panjab University closely followed by 58.60% in Himachal Pradesh University felt enjoyment while working on computers. On the other, 17.80% users in HPU and 13.00% in PUC indicate that they had a sense of competency while working on computers in library. 4.60% users in both the universities dislike working on computers.

The Chi-Square analysis conducted on the data was significant at 0.001 level of significant. The analysis reveals that there was a difference in the views of users with regard to their feeling of working on computers. However, the analysis reveals that majority of the users replied in positive manner as they felt a sense of enjoyment while working on computers.

Figure 4.3.1: Comparison of responses as per faculty



The bar graph 4.3.1 clearly describes the feeling of users as per faculty. It is clear that 62.90% users in the Faculty of Sciences followed by 55.70% in the Faculty of Social Sciences felt a sense of enjoyment while working on computers. 9.30% users in the Faculty of Social Sciences and 5.10% in Sciences replied that it was a sense of inadequacy to work with computers. However, majority of users replied in a positive attitude as they felt enjoyment while working on computer in library.

4.4 Users' preference to learn about using a new technology in library:

Library users were further asked to express their preference to learn about using a new technology in the library.

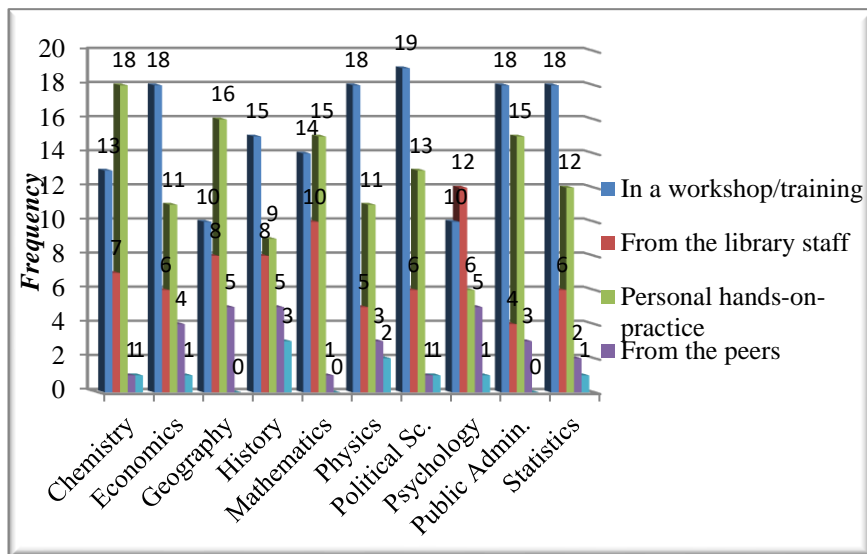
Table 4.4.1:
User's preference to learn about using a new technology

Univer sity	Specific s	In a Workshop/ Training	From the library staff	Personal Hands-On- Experience	From the peers	Don't want to learn	Total	χ^2 at 4 df (<i>p</i> -value) N=391
HPU	Count	78	35	59	15	4	191	.816 ^{NS} (.936)
	% age	40.80%	18.30%	30.90%	7.90%	2.10%	100.00%	
PUC	Count	75	37	67	15	6	200	
	% age	37.50%	18.50%	33.50%	7.50%	3.00%	100.00%	
Total	Count	153	72	126	30	10	391	
	% age	39.10%	18.40%	32.20%	7.70%	2.60%	100.00%	

Table 4.4.1 denotes the preferences of users to learn about using new technology as per university. The data analysis reveals that 40.80% users in HPU closely followed by 37.50% in PUC replied that they prefer to learn a new technology in a workshop/training session in the library. 33.50% in PUC and 30.90% in HPU replied that they could learn about using a new technology with personal hands-on-experience. Another 18.50% in PUC and 18.30% in HPU took the help of library staff to learn a new technology.

The Chi-Square analysis clearly reveals that there is no significant difference in the preference of users to learn about using a new technology with *p*-value > 0.05. The analysis revealed that majority of the users in both the universities preferred to learn about a new technology in a workshop/training, with personal hands-on-practice and from library staff respectively.

Figure 4.4.1: User's preference to learn about using a new technology



The analysis of bar graph 4.4.1 precisely shows that on average, 39.10% users in various teaching and research departments of both the universities prefer to learn about using new technology in a workshop/training followed by 32.20% who are able to learn on their own with personal hands-on-practice. 18.40% replied that they took the help of library staff whereas 7.70% learned it from the peers.

4.5 IT application has improved the process of record-keeping in library:

In order to assess the potential benefits of IT application on record-keeping of library users were further asked to give their views.

Table 4.5.1:
Effectiveness of library record-keeping with IT application

Gender	Speci- fics	More effecti- vely	Effecti- vely	Less effectively	Not at all	No impact	Total	χ^2 at 4 df (<i>p</i> - value) N=391
Male	Count	76	80	10	3	0	169	6.186 ^{NS} (.186)
	% age	45.00%	47.30%	5.90%	1.80%	0.00%	100.0%	
Female	Count	92	122	6	1	1	222	
	% age	41.40%	55.00%	2.70%	0.50%	0.50%	100.0%	
Total	Count	168	202	16	4	1	391	
	% age	43.00%	51.70%	4.10%	1.00%	0.3%	100.0%	

The table 4.5.1 make it clear that 55.00% female and 47.30 male respondents feel agree that implementation of IT has effectively improved the process of record-keeping in library. Similarly, 45.00% male and 41.40% female users find record-keeping as more effective with IT application. Mere 0.30% users replied that IT application had no bearing on the effectiveness of record-keeping process.

The Chi-Square analysis precisely reflects that there is no significant difference in the views of male and female respondents with *p*-value > 0.05. The analysis reveals that majority of users irrespective of the gender felt agree that implementation of IT has certainly improved the record-keeping in library.

4.6 Working with computer and allied technologies create health and environmental problems.

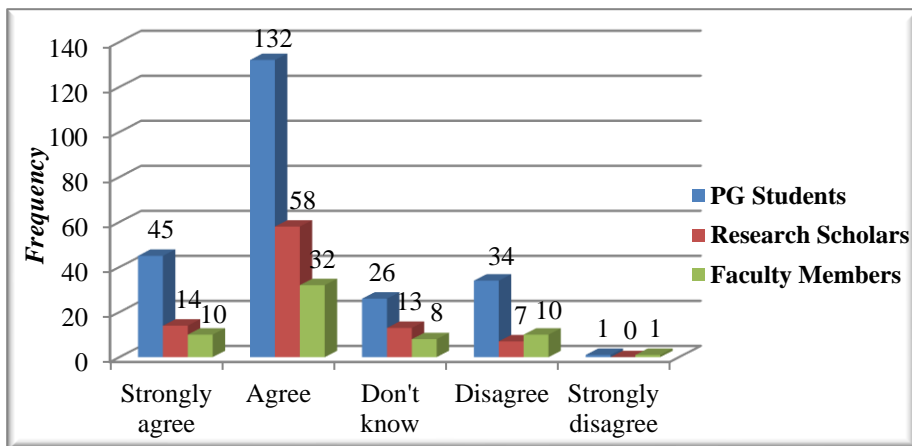
The views of users in two university libraries were further invited to know whether working with computers and allied technologies created health and environment related problems.

Table 4.6.1: Views of users as per university

Univer- sity	Speci- fics	Strongly Agree	Agree	Don't Know	Disagree	Strongly Disagree	Total	χ^2 at 4 df (<i>p</i> -value) N=391
HPU	Count	34	114	18	23	2	191	5.037 ^{NS} (.284)
	% age	17.80%	59.70%	9.40%	12.00%	1.00%	100.00%	
PUC	Count	35	108	29	28	0	200	
	% age	17.50%	54.00%	14.50%	14.00%	0.00%	100.00%	
Total	Count	69	222	47	51	2	391	
	% age	17.6%	56.80%	12.00%	13.00%	0.50%	100.00%	

The analysis of data in the table 4.6.1 precisely denotes that 17.80% users in HPU and 17.50% in PUC feel strongly agree that working with computer and allied technologies create health and environment problems. Similarly, 59.70% users in HPU closely followed by 54.00% in PUC just feel agree. 14.00% users in PUC and 12.00% in HPU reply that they do feel that working with computers create health or environment issues whereas mere 0.50% users in both the universities strongly disagree to the statement.

The Chi-Square analysis clearly shows that there was no significant difference in the views of users in both universities with *p*-value > 0.05.



4.7 Whether technology is responsible for changes in employment in libraries?

In order to know the impact of technology on the jobs of people in library, users were further asked to give their views.

Table 4.7.1: Changes in employment with IT application

Gender	Specifics	Strongly Agree	Agree	Don't Know	Disagree	Strongly Disagree	Total	χ^2 at 4 df (p-value) N=391
Male	Count	32	88	28	17	4	169	3.341 ^{NS} (.502)
	% age	18.90%	52.10%	16.60%	10.10%	2.4%	100.00%	
Female	Count	36	107	38	30	11	222	
	% age	16.20%	48.20%	17.10%	13.50%	5.0%	100.00%	
Total	Count	68	195	66	47	15	391	
	% age	17.40%	49.90%	16.90%	12.00%	3.8%	100.00%	

The gender-wise views are well reflected in the table 4.7.1 wherein 52.10% male and 48.20% female users feel agree that technology is responsible for job perspectives in libraries. 18.90% male and 16.20%

female users feel strongly agree that IT application has brought considerable changes in employment opportunities. On the whole, 16.90% male and female users do not know about it whereas 12% users in both the genders feel strongly disagree to it.

The Chi-Square analysis clearly denotes that there is no significant difference in the views of male and female users with p -value > 0.05 . However, a large majority felt agree that IT application was responsible for changes in library employments.

Findings and Discussion

The findings of the present study reveal that there is positive attitude among the users in Himachal Pradesh University, Shimla and Panjab University, Chandigarh with regard to IT application in university libraries. Majority of the users feel that people are the master and technology is a tool people operate to perform their tasks. With regard to involvement of users in the decision-making of IT application in libraries, it is found that only a few users in both the universities were part of the decision-making process and majority of them were not involved in it. Despite this, majority of the users replied that they were happy as they felt a sense of enjoyment while working on computers. Majority of the users in both university libraries tend to learn about using new technology in a workshop/training programme organized by the library, from personal hands-on-experience and from the library staff respectively. Majority of the users irrespective of gender and university felt agree that the process of record-keeping in the library had been effectively improved with IT application. Nearly sixty percent users were well aware of potential hazards of technology as they replied that working on computers and allied technologies created health and environment related problems. More than sixty percent users in both universities either felt strongly agree or just agree that IT application was responsible for changes in manpower in libraries.

Conclusion and Recommendations

The success rate of a technologically equipped library, especially in the 21st Century, will largely depend on how well the corresponding technology is satisfying the end users' needs. In this time of financial insecurity and fiscal crunch, the cost-effectiveness of a technological advancement can only be achieved if the desired user needs are well satisfied. With regard to present study it is found that there is a positive attitude among the users with regard to application of information technology in university libraries. The study further found that there is no significant difference in the views of users with regard to gender, age-group, user category, university, faculty of teaching and research and the corresponding department. However, based on the findings of this study, the researchers have offered some recommendations for more betterment of IT application in the coming future:

- Authorities in the library should ensure that more number of users are involved in decision-making of IT application in library in future.
- More initiative to organize regular training sessions and orientation programmes should be taken-up by the libraries.
- In order to achieve more transparency on future initiatives of IT application in libraries regular feedback on the relevance and effectiveness of existing technology should be taken from the users.

References:

1. Alharbi, A. (2016). User perceptions of ICT at the American University of Kuwait Library. *Library Hi Tech*, 34(1), 143-150.
2. Anastasi, A. (1988). *Psychological testing*. (6th ed.). New York: Macmillan Publishing Co.

3. Arora, Jagdish, & Trivedi, Parul (2005). Radio Frequency Identification (RFID): An automatic identification and data collection technology for libraries. *International Information Communication and Education*, 24(1), 7-19.
4. Berghammer, D. (1995). *A cost-benefit analysis of an automated circulation system of a small public library*. Masters Thesis, Texas: South Western State University.
5. Booth, C. (2009). Informing innovation: tracking student interest in emerging library technologies at Ohio University (A research report). Retrieved on August 15, 2014 from: American Library Association
<http://www.ala.org/acrl/sites/ala.org.acrl/files/content/publications/booksanddigitalresources/digital/ii-booth.pdf>.
6. Fidishun, D. (2007). Women and the public library: using technology, using the library. *Library Trends*, 5(92), 328-343.
7. Freeman, F.S. (1971). *Interests, attitudes and values*. In: Theory and Practice of Psychological Testing. New Delhi: Oxford and I.B.H. Publishing Co.
8. Kim, Imsoon (1994). *The attitude of library patrons toward new library technology*. (Doctoral Dissertation). Retrieved on June 05, 2018 from:
https://www.researchgate.net/publication/34801080_The_attitudes_of_library_patrons_toward_new_library_technology_microform
9. Perl, N. & Griffin, it. (2009). 21st Century end-user attitudes toward information technology. *Review of Business Information Systems*, 13(2), 1-10.
10. Prensky, M. (2001). Digital natives, digital immigrants: Part I. *On the Horizon*, 9(5), 1-6. Retrieved August 20, 2016 from:

https://desarrollodocente.uc.cl/images/Innovaci%C3%B3n/Juegos/Digital_Natives_Digital_Inmigrants.pdf.

11. Rajpurohit, R.S. (2016). Attitude of users towards use of information & communication technology services at medical, dental and ayurvedic college libraries of Rajasthan: a study. *International Journal of Next Generation Library & Technologies*, 2(3), pp. 1-9. Retrieved on April 16, 2018 from <http://www.ijnglt.com/files/v2i3/Rajpal%C2%A0Singh%C2%A00Rajpurohit.pdf>.
12. Ramzan, M. (2004). Effects of IT utilization and knowledge on librarians' IT attitudes. *The Electronic Library*, 22(5), 440 – 447.
13. Singh, Y. (2003). Library Automation in Academic Libraries in India: Problems and Prospects. *CALIBER-2003*. Retrieved on 06 February, 2017 from: http://ir.inflibnet.ac.in/bitstream/1944/188/2/03cali_19.pdf.
14. Vincent, J. (2005). So who are 'proper' library users then? *Public Library Journal*, 20(3), 10.
15. Yoon, Hye-Young (2016.) User Acceptance of Mobile Library Application in Academic Libraries: An Application of the Technology Acceptance Model. *The Journal of Academic Librarianship*, 42(6), 687-693.

Reading Culture in the age of Digital Era

*Monika Mukh**

“Reading is the gateway skill that makes all other learning possible” said Barak Obama.

Introduction

Reading, something gives us an impression of gaining knowledge, for students, reading is extra ordinary which not only helps them in their academics but also grooms their personality. At the times of 90s when libraries were only considered a store house where books meant for lying on the shelves, as no users were there to use those books. Parents, teachers or mentors only had the option to go the library and access the information through paper books or material available with that particular library. That option was also very much time consuming with limited learning resources. With the passage of time that trend has now totally been changed.

Due to the tremendous explosion of literature, information is now being available for the end number of users with the end number of options, everywhere. It would not be wrong if we say that the availability of the information now is just a click away. Great Google father is always there to help the patrons and saves their time as well.

But here are two questions...

- Do the different information seekers know exactly what actually they need? And;
- Do they know which would be the best or right source of information for their answer?

* *Librarian, Manav Rachna International School Mohali*

Objective

The main objective of this study is as follows...

- To know the different level of different information seekers;
- To know the special or specific information learning resources; and
- To know about the different tools of learning e resources.

“Ability to recognize, when information is needed and to locate, evaluate and use effectively the needed information”- ALA, 1989.

The Information Service Provider has the ability to recognize the basic information need of the recipient; it should be well evaluated and finally used effectively for further proceedings.

Reading Culture in Digital Era

Paper books are things of past now. Enormous development in the area of information technology has changed the information seeking behaviour of the patrons. The existence of Alpha and Z learners in this digital era do not have time to access the paper books for thorough reading as they require pin pointed information. There are so many publishers who provide e books and e journals kind of offers to the libraries. Further libraries serve its patrons' according to their area of interest through subscribing these offers.

In this education scenario, now days, Reading culture has totally been changed, no one is interested to go to the library and have long hours readings through paper books. Everybody prefers E-learning through E-resources like...

- E-books reading through Kindle;
- E-journals;
- Audio-visually through YouTube; and
- Other E-resources for online education purpose

Information Seeking Behaviour

Information seeking behaviour according to Wilson (2000) entails the totality of human behaviour in relation to sources and channels of information including active and passive information seeking. In the quest for information, different kinds of behaviour are manifested as students have different reasons for wanting information, different levels of search skill and preference for some types of information bearing materials.

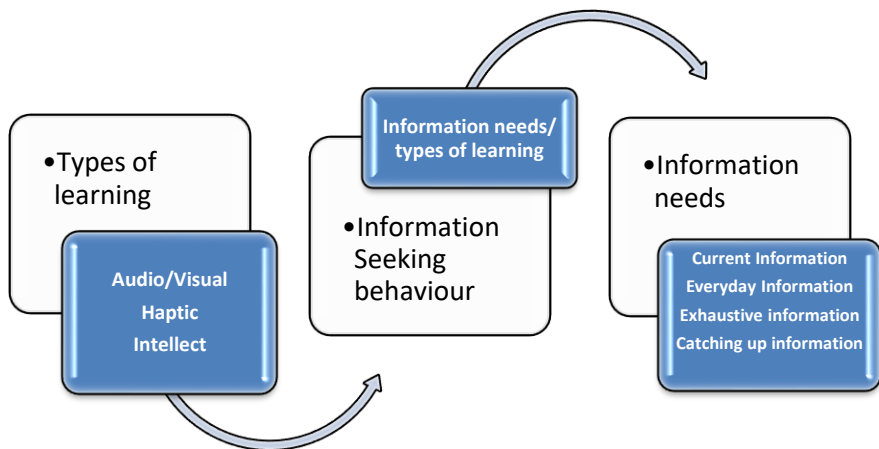


Fig. 1 Cycle of Information Seeking Behaviour of the different Patrons

As said above, due to the explosion of tremendous growth in literature, it becomes difficult for a patron to understand which would be the best source of information to access. The librarian is the person who can correlate the resources and the needs of the users better, only if he knows the nature of learning of the particular user. Following figure may be help out to know more on this through four types of learning, where a user can approach through audio, visual ,haptic and intellectually.

Types of Learning: relates to Library Practices in Digital Era



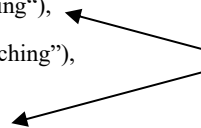
- auditive learning (“by listening and speaking“),
 - visual learning (“through the eyes, by watching”),
 - haptic learning (by touching and feeling”),
 - learning through the intellect.
- 

Fig. 2, Types of learning

Inculcating Reading Habits: a problem

In this digital age where students want to learn the things or read through electronic gadgets, no doubt it is better to use, but though, not recommended for all time access. In this context inculcating reading habits especially among children, becomes a big challenge in front of Information service providers, teachers and parents as well.

Here are few tips, which can overcome this problem...

Reading Material

If a child is surrounded by good books, he would want to read more and more books. We should always make sure that books, provided to the children should be according to their age and their area of interest. Books should not be too hard to read; it should be attractive and appealing to them. We can also keep some of the books in the living room or in the child’s room to keep them engaged in reading.

Start with Small Things

Due to the tremendous explosion of information, we generally do not take decision which book should we choose for our children to read. We have to be very clear about the need of our children. Here are a few tips which can help children to get themselves involved in reading in a more productive and convenient way.

- Board Books could be introduced in initial reading as these books have less reading text (more of pictorial representation)

- Children can be asked to read the words which flash on the screen when you are watching TV
- When in restaurants, the children could be told read the menu and make an order of their choice.
- Also children can be asked to read the name of the hotels, bus number plates etc. while travelling somewhere

Explore New Books

By visiting the nearby book shops or exploring the new titles on the internet, we can keep ourselves updated regarding the new arrivals in the market.

Include Reading Activities

Usually children get bored while reading books. They do not think of any fun with the plain reading text. They want something which should keep them charged and enthusiastic about reading. To make reading interesting, we can plan some activities while reading like-

- **Author Talk:** We can organise “Author Talks” for the children, wherein any Author can be called on special days like World Book Day or on the birthday of any renowned author’. The author could deliver some facts about different books and make an interactive session for the children.
- **Winter Reading Session:** We can have winter reading session wherein children can easily enjoy their reading while having fun under the sun.
- **Making Book Jackets:** Children may be asked to make Book Jackets or cover page of the book which they want to read or have already read. Through this activity, they will have fun while reading books.

Visit to Different Libraries

The books kept in the library always motivate children towards reading and exploring something new. Popup books are amazing to read and are the favourite books of everyone of us. We can take the children to the school library on a frequent basis and sometimes plan to visit the other libraries like state/district or public which are nearby and feasible to the children.

We can also take our children to the libraries which also offer their Library Membership free of cost or sometimes charge a very nominal fee. These libraries organise many reading programmes and activities from time to time.

Explore Magazines

Magazines are a great source of new knowledge and information. Children can read different magazines through where they can explore something new and different like...

- Short Stories
- New word Meanings
- Cross word games
- Puzzles
- Sudoku
- Colouring the pictures etc

A lot of magazines for the children are easily available in the market or online. We can get the subscription of these magazines for children according to their area of interest.

Use Technology

Now days, every organisation / institution or school are in the race of using technology. Usage of audio-visual technology aids the children to read and understand the concerned topic in a more convenient manner.

Using technology in the right way could definitely help in developing the reading habit among children.

Praise & Rewards

Acknowledge the progress of the child through words of appreciation or by providing him with rewards. One can do the same if the child...

- Reads a book completely
- Makes a wonderful book jacket
- Writes a great book review

Children do not really like doing things on their own. They want someone's company to keep themselves engaged. Accompany them for the better results in any ways.

E-resources:

E-resources, which require computer access to retrieve data via electronically for example, e-books, e-journals, image collections, or other products which are published with an aim to being marketed.

21st century libraries are in this practice to provide huge number of e-resources like...

- Online Public Access Catalogue (OPAC);
- DOAJ & DOAB;
- Wiley Online Library;
- Google Play;
- Kindle store;
- Springer;
- Mc-Graw Hill;
- Kindle E-reader Wi-Fi;
- National Digital Library (NDL) etc.

From the above said e-resources, some of them are free of cost and some come up with nominal fee. Through these resources learners can learn a lot but the only question is to consult the librarian for the right information with the right source at the right time.

To fulfil the needs of the users, a librarian plays a vital role through providing different user services. In this context, a librarian shall be much intellectual and full of skills to give best user services in better way.

An overview of Digital Library development in Jammu province (J&K) : A case study of IIM, IIT and CSIR-IIM Libraries

*Sheetal Sharma**

*Sanjay Sharma***

Abstract :

The article presents a brief overview of the digital library development taking place in the Jammu Province (J&K). For the case study, three Institutions of prominence located in the area – Indian Institute of Management (IIM), Indian Institute of Technology (IIT) & CSIR-Indian Institute of Integrative Medicine (CSIR-IIM) were select. The objective of the study is to assess the current status of digital library developments in these institutions. The paper outlines a series of significant trends that influencing the roles and responsibilities of modern libraries, particularly their content development and service challenges. The mixed-method approach was adopted to collect primary data involving semi-structured interviews of the Library Professionals working in these Institutions, and an online questionnaire. The results were analysed, and paper offers its

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recommendations that need to adopt holistically for future developments.

Keywords : Digital Libraries, Digital Library Development, e-resources, Modern technologies, Social networking, Digital environment, Information services, Web-Resources.

Introduction : The world is witnessing substantial digital interventions in the lives of human beings. Massive changes occur in the age of the internet, making it necessary to adopt and benefit from new technological innovations and digital interventions. There has been a paradigm shift from manual procedures to digital modes of operations and communication, especially during the pandemic COVID-19 phase, whereby nations are constrained to adapt these changes rapidly. Be it the banking sector, educational sector, marketing, work culture, or any other sphere directly or indirectly influencing daily human lives. This kind of digital transformation can also attribute to various other factors affecting our working environment and daily lives high-speed Internet expressways, Mobile technologies, the advent of social media platforms, ever-increasing users' expectations, and many more.

Libraries and information centers World over and in India are no exception to this change. Everyone wants to have 24x7x365 connectivity, to get the desired piece of information the moment it is generation anywhere in the world. As a result, the Libraries have also started arriving at the doorsteps of the users. The users can fetch the desired piece of information on their electronic gadgets without physically visiting the Libraries.

Libraries and information centres are considered knowledge hubs that responsible for making available the desired information in the least possible time to the end-users. To cope-up with the ever-increasing responsibility, the Libraries and Librarians have also started adapting to the new tools and technologies to transform into 'Digital Libraries.'

Various Libraries and Information centres are at different phases of their transformation. Traditional libraries are gradually transforming into digital libraries, whereas new libraries are fast adapting to the digital environment. As a result, consequently, many research and development activities carried out in this field world over.

The recent proliferation of research in digital libraries has given rise to many working digital libraries around the world and India. These digital libraries have developed & designed differently. Therefore, one's experience from one particular digital library may not be the same as other digital libraries.

Issues involved: While developing and transforming traditional libraries to Digital libraries, there are specific issues that need to take into consideration before taking up the project. Some of these are:

- a. Convincing and getting approval of the Competent Authority to take up the digitization project;
- b. Education and training;
- c. Policy studies;
- d. To protect copyright and digital rights;
- e. Upgrading the existing hardware/software;
- f. Arranging a sufficient workforce and funds;
- g. Scanning of rare documents and manuscripts;
- h. Data conversion and preservation for future use;
- i. Content management; and
- j. Digital library security

In addition to various factors listed above, the most significant challenge lies in overcoming the assumption held by many students that Google contains answers to every question. Still, it is exciting and has the potential to push librarians beyond traditional library research classes. Students need to develop searching and critical thinking skills, but they also need to experience some thrill of discovery and experience of research.

Recent Digital Library initiatives in India: Its generally accepted in many studies that digital library initiatives in India began as early in the 1990s. However, in the last couple of decades, there has been a sharp rise in it. Several institutions are setting up digital libraries, and many scholars and practitioners are researching digital libraries. Recent worth mentioning Indian Digital Library initiatives are as under:

- a. **National Digital Library of India (NDLI):** It is an online repository of e-books under MHRD. It has developed by the IIT Kharagpur, and the repository hosts content in various multiple languages on multiple subject domains, including science, humanities, technology, agriculture, and others with educational material from primary to Ph.D. level. It includes e-journals, articles, books, thesis, manuscripts, audio, and video lectures.
- b. **Traditional Knowledge Digital Library (TKDL):** TKDL project was initiate in 2001 in collaboration with the Council of Scientific and Industrial Research, Ministry of S&T and Department of AYUSH, Ministry of Health and Family Welfare, which implanted it at the CSIR. It preserves the information in languages and formats understandable by the patent examiners at International Patent Offices (IPOs), to avoid issuing patents wrongly. This project involves documenting traditional knowledge in five international languages (English, German, Japanese, French, and Spanish) and includes Ayurveda, Siddha, Unani, Yoga in digitized form.
- c. **Electronic Theses and Dissertation (ETD) Project of INFLIBNET Centre:** INFLIBNET hosts a bibliographic database of over 200,000 dissertations of about two hundred

Indian universities from 1905. The repository uses D-Space, open-source digital library software. It complies with the Open Archives Initiative (OAI) framework allowing publications to be easily searched and indexed by search engines and other indexing services.

- d. Development of E-Consortia:** Several e-resource consortia, especially e-journals consortia, have been formed in India in recent years. For example - National Knowledge Resource Consortium (NKRC-CSIR-DST)-2009; IIM Libraries Consortia-2001; UGC-INFONET Digital Libraries Consortium-2004; E-ShodhSindhu-2016; DRDO Consortium – 2009; Consortium for e-Resources in Agriculture (CeRA) – 2007; and many more.

Digital Library Initiatives in J&K : Department of Libraries, Union Territory of Jammu and Kashmir, has launched a massive digitization program under which all the libraries in the state will digitize in phase manner. The plan is to link these Libraries with the 'National Digital Library of India (NDLI)' to provide free access to the students and academicians to around 1.5 crore downloadable e-books and journals.

Case Study : In the Union Territory of J&K, there are several prestigious Institutional Libraries, including Research, Academic, Special, and Public. These have been established either by Central Govt., State Govt., Autonomous bodies, or Private Institutions. CSIR-IIIM, IIT, IIM, NIT, NIFT, CITH (ICAR), Shri Ranbir Singh Library (Oldest in J&K, est. in 1879) are a few examples. For the present study, the authors have confined their research work to the Institutional Libraries of prominence, located in the Jammu City of J&K. Indian Institute of Management (IIM), Indian Institute of Technology (IIT) & CSIR-Indian Institute of Integrative Medicine (CSIR-IIIM) selected as a case study. CSIR-IIIM is one of the oldest Special /Research Library, and IIT & IIM are the newly developing Libraries in the area.

Objectives:

- a) To study the practical issues and critical stages involved in creating a digital library of the above institutions.
- b) To check what type of online services the professionals are providing to their Scientists, Faculty, research scholars, and students during the COVID-19 pandemic period.
- c) To identify the problems being faced by these institutional libraries and their post COVID strategies and policies so far as their infrastructure and services are concerned.

Scope and Limitations: As has been mentioned above, the scope of this study confined to the libraries of CSIR-IIIM, IIT, and IIM of Jammu and the data collected during June 2020. The samples selected for the paper are information scientists, working in these Institutional Libraries. CSIR-IIIM has taken up the project to move from traditional to the digital library. In contrast, IIT and IIM have started to come up with their Digital Libraries right from their inception.

Various parameters of digital libraries upon which the Institutional Libraries evaluated:

- i. Library websites
- ii. Web-OPACs
- iii. Content development: e-Resources and online databases
- iv. Data conversion and preservation
- v. Digital policies and legal protections for authors in the digital environment
- vi. User services in a digital environment including search strategies, and
- vii. Application of social media tools for providing user services

Methodology: For the present study, a mixed-method approach, involving semi-structured interviews of the information scientists working in these Institutions and an online questionnaire used to collect the primary data. The outcome of these online questionnaires was carefully analyzed and summarised.

Data Analysis: Based on the various digital library parameters, as detailed above, the data so obtained was analysed and summarised below:

1. All the Institutional libraries under consideration have developed their Library websites and Web-OPACs. These are maintaining and updating their Library Website on their own or with the help of their IT Cell / Computer Centre. IIT and IIM update their Library Websites weekly, whereas CSIR-IIM is updating it monthly.
2. None of the Institutions under consideration have developed their Mobile Library as yet.
3. Although all the Libraries are subscribing to e-Journals and online databases, as of now, these Institutional Libraries are not subscribing to any e-Books.
4. IIT and CSIR-IIM are using DSpace, an open-source digital library software, for creating their Institutional repositories. In contrast, IIM is in the final stages of building its Institutional repository using DSpace.
5. All the three Institutional Libraries are using KOHA – Open Source Integrated Library Management Software for maintaining their Libraries and are providing links to Web-OPAC for accessing their Library resources.
6. IIT and CSIR-IIM are providing the necessary platform for carrying-out Federated/Discovery Search.

7. IIM and IIT have started providing user services using Social Media Tools (Facebook and Whatsapp), whereas CSIR-IIIM has yet to begin using social media tools to provide user services.
8. All the Institutional Libraries are members of their respective Consortia, whereas IT is also a member of the National Digital Library of India (NDLI).

Other observations of the study are as under:

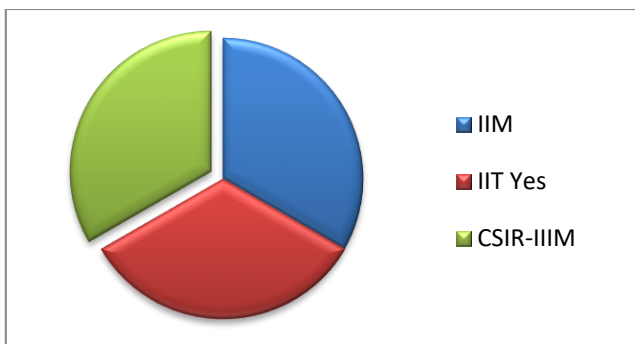


Fig.1. Shows the current status of Remote Access facility to Library e-Resources

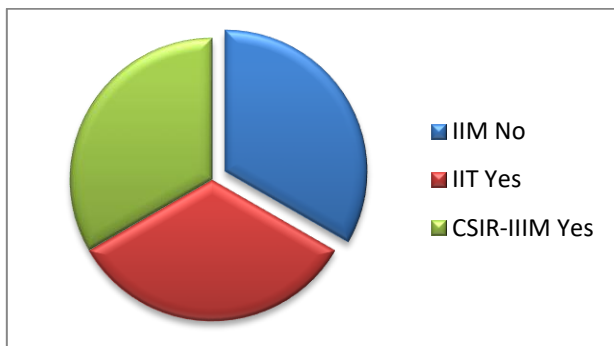


Fig.2. Shows current status of federated and discovery search facility

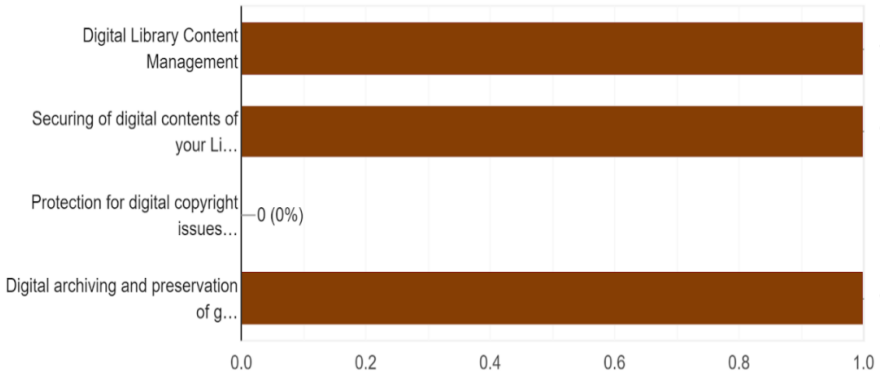


Fig.3. Shows the policies adopted by IIM, IIT, and CSIR-IIM to set-up Digital Libraries

Findings:

- i. Information scientists show a positive attitude towards the digitization of information resources to serve users' information needs;
- ii. Presently all the libraries, as mentioned above, have completed about 25% of their digitization work;
- iii. The analysis shows that libraries follow their institutional guidelines and policies to maintain their digital libraries.
- iv. All the Institutional libraries under consideration are proactively involved in checking the menace of Plagiarism in their respective Institutions. IIM, IIT, and CSIR-IIM are using Turnitin, Urkund, and iThenticate Anti-Plagiarism Software, respectively.
- v. The librarian's overall response shows that their institutional libraries have started a digitization project to keep pace with global developments.

Conclusions: The study confirms that digital libraries in the present scenario have been quite useful. However, there is a need for further improvements in user interfaces and information facilities. The provision of personalized information services is an emerging trend in digital libraries that provides a higher-level functionality to support users' specific information needs and preferred advanced search and retrieval strategies.

All the Institutions covered in the case study have to focus on their digitization efforts and collection building for developing digital libraries and creating a unique and useful digital collection, which meets the functional requirement of their institutions. At present, all the Libraries of IIM, IIT & CSIR-IIIM are in their Hybrid stage of development. These have still had a long way to go before claiming to be fully-fledged 'Digital Libraries.'

Future recommendations: Although much has achieved, India still lacks behind the developed nations who have state of the art digital libraries.

- a. To survey the digital libraries in India and understand the present status of digital library initiatives' at the National level. It assumes importance because the few studies on Indian digital library initiatives are primarily based on information available on websites or from other published sources. Such a survey would help understand the present situation and draw up an action plan for focused digital library development in India;
- b. To sustain the digital world with networking & social media environment, the libraries and Information professionals need to strengthen their relationships with user communities, play influential roles in support of learning, and adopt a user-centric proactive approach;

- c. New measures of quality, productivity, innovation, communication, and leadership must take into consideration;
- d. User and user studies of digital libraries in India are lacking. This area is of paramount importance for assessing the existing digital libraries and creating new digital libraries in India. It must back by supporting infra and funding in a phased manner. No doubt, we have a long way to go, but we are certainly on the right track;
- e. Digital Library Policies need to frame at the National level, including legal protections for authors in the digital environment. Local Library Legislations can play an important role;
- f. Libraries must strive to think out-of-box and reach the users through social media platforms rather than expecting users to approach them.

Acknowledgment

The authors are thankful to Dr. Nilesh Kumar, Assistant Librarian, IIT, Jammu, and Dr. S. Lohiya, Librarian, IIM, Jammu for the support rendered by them in data collection for this paper.

References:

1. *J&K students to get online access to 1.5 crore e-books and journals*. (2017, December 12). Hindustan Times. <https://www.hindustantimes.com/education/j-k-students-to-get-online-access-to-1-5-crore-e-books-and-journals/story-8ompt0vciMe9g8Y6xMb53H.html>
2. Kitturand, G., & Biradar, K. (2017). Digital Library Initiatives: A Boon for Preservation of Information Resources in India. *International Journal of Science and Research (IJSR)*, 6(1), 2133–2136. <https://doi.org/10.21275/art20164546>
3. Mahesh, G., & Mittal, R. (2008). Digital Libraries in India: A

Review. *Libri*, 58(1). <https://doi.org/10.1515/libr.2008.002>

4. Meyyappan, N., Chowdhury, G. G., & Foo, S. (2000). A review of the status of 20 digital libraries. *Journal of Information Science*, 26(5), 337–355. <https://doi.org/10.1177/016555150002600506>

Use of E-Resources among Faculty Members Of Degree Colleges in Haryana A Case Study

*Anju Saini**

Abstract :

The present study deals with the use of e-resources among the faculty members of degree colleges in Haryana. Questionnaire method was used to collect data from the faculty members of degree colleges. One hundred questionnaires were distributed among the respondents, out of which 82 were returned. This paper finding shows that majority of the faculty members are well aware about the e-resources. Users are using home and library more for accessing the information. The study also reveals that almost all the staff members are satisfied with the facilities available for accessing e-resources. Most of the respondents indicate that lack of time is the major problem while they use e-resources.

Keyword :

E-Resources, Faculty members, E-books, e-journals, User studies.

Introduction: Information and communication technology (ICT) has affected our society over the past two decades rapidly. The value and use of information resources especially e- resources have increased with the time .Electronic resources are materials in digital format accessible electronically. An e-resource is defined as resources which require computer access or any electronic product that delivers a

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collection of data. E-resources usually consist of e-journals, e-books, e-databases, e-thesis, e-newspapers, digital collections, online databases which are likely to be the alternative of the printed sources. Okiki and Asiru (2011) defined electronic resources as information stored and transmitted in digital, electronic or computerized format such as CD-ROM database, online public access catalogue (OPAC) , information gateways.

Objectives of the study: The study has been undertaken with the following objectives;

- To study the use of different types of e-resources used by faculty members.
- To find out the frequency of using e-resources among the faculty members.
- To identify the database used for accessing e-resources.
- To study the level of satisfaction of users of e-resources.
- To know the place of accessing the e-resources.
- To find out the difficulties faced by the users while accessing e-resources.

Research Methodology : For the present study, a detailed, well-structured questionnaire was designed to collect data regarding use of electronic resources among faculty members of degree colleges in Haryana. For this purpose a total of hundred questionnaires were distributed among the faculty members, out of hundred questionnaires 82 were completed by the faculty and returned. The collected data has been analyzed with the help of a tool called as Statistical Package for Social Science (SPSS).

Scope of the study: The scope of the present study is limited to the use of e-resources by the art, commerce and science faculty members of

degree colleges in Haryana. It does not include research scholar and students.

Data analysis and Interpretation:

Table 1:

Gender

	Frequency	Valid Percent
Male	24	29.3%
Female	58	70.7%
Total	82	100.0%

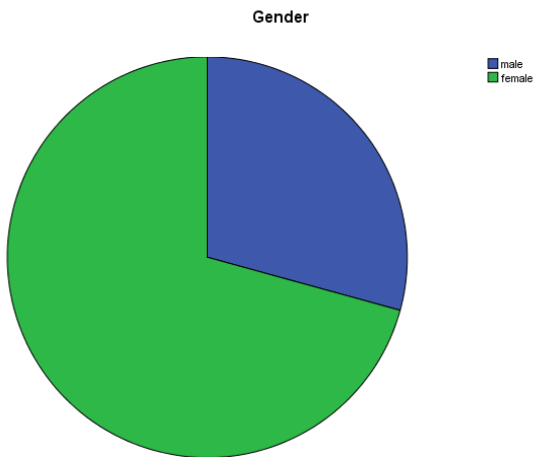


Table 1 shows that gender-wise distribution of respondents; in this study 70.7% of the respondents belong to the category of female where as 29.3 % of the respondent belong to the category of male.

Table 2:

Aware of e-resources?

	Frequency	Valid Percent
Yes	80	97.6%
No	2	2.4%
Total	82	100%

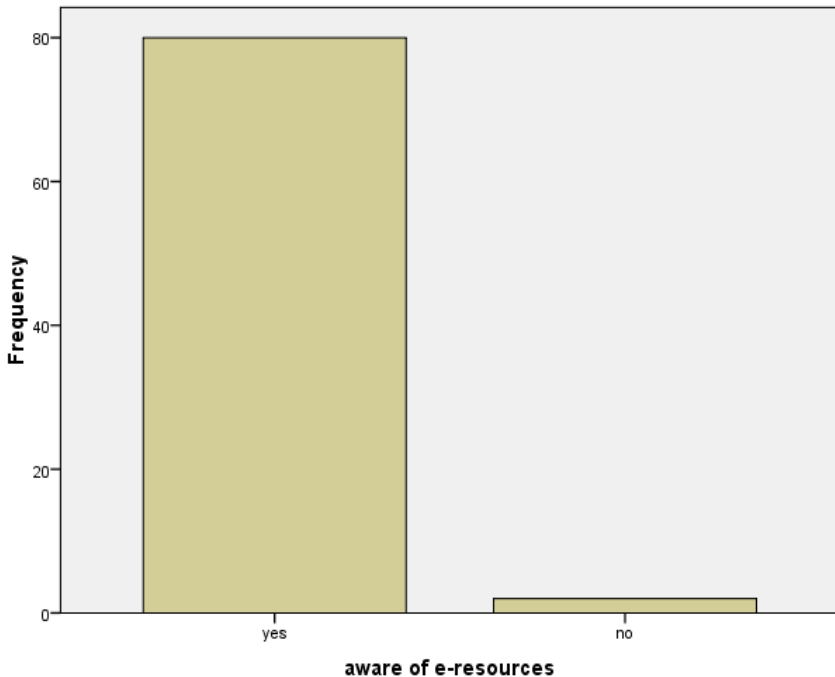


Table 2 shows that the aware of e-resources by the respondents. Table shows that 97.6% respondents are aware about the e-resources whereas 2.4% respondents are not aware about e-resources. The result implies towards a positive sign regarding use of e-resources by the faculty members of degree colleges in Haryana.

Table: 3

Place of accessing electronic resources?

	Frequency	Valid Percent
Library	22	26.8%
Department	14	17.1%
Home	41	50.0%
Cyber cafe	1	1.2%
Any others	4	4.9%
Total	82	100%

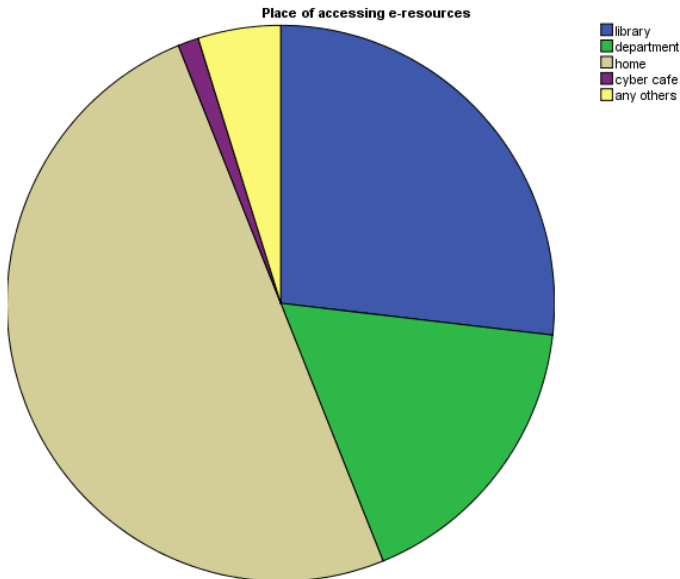
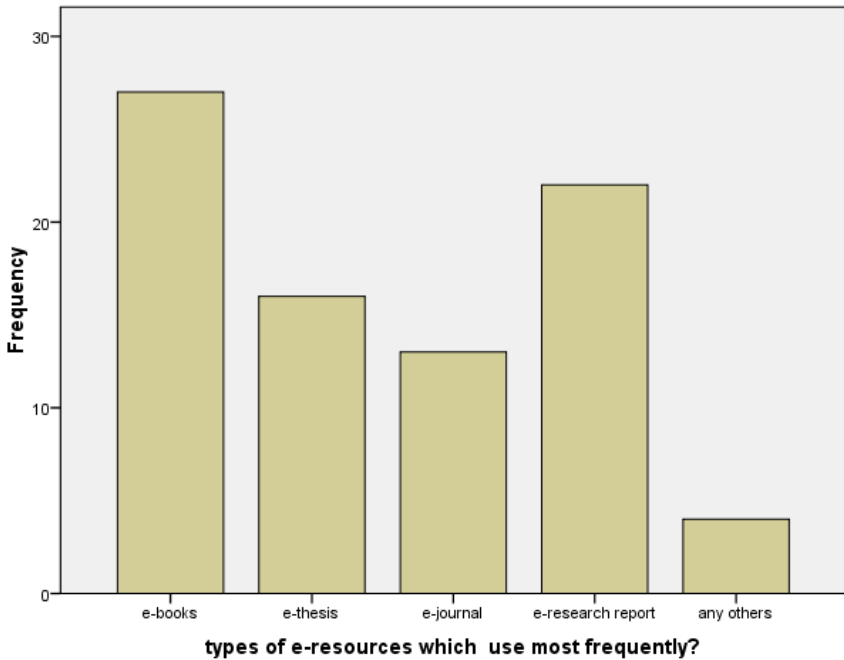


Table 3 shows the place of accessing the e-resources by faculty members. Result shows that 50% respondents used Internet in their home, followed by its use at library (26.8%), at respective departments (17.1%) and at other place (4.9%).

Table 4:

Types of e-resources which use most frequently?

	Frequency	Valid Percent
E-books	27	32.9%
E-thesis	16	19.5%
E-journal	13	15.9%
E-research report	22	26.85
any others	4	4.9%
Total	82	100%



The analysis of data in Table 4 shows that e-books and e-research papers were the most used resources by the respondents as seen from their responses which are (32.9%) and (26.85%). It is followed by use of e-thesis (19.5%), e-journal (15.9%). A further 4.9% response indicates that they use others type of e-resources.

Table 5 :

Limitation / barrier you feel for using the electronic resources.

	Frequency	Valid Percent
Lack of time	39	47.6%
Uncomfortable	8	9.8%
No knowledge of using	9	11.0%
Not easy to use	11	13.4%
Any others	15	18.3%
Total	82	100%

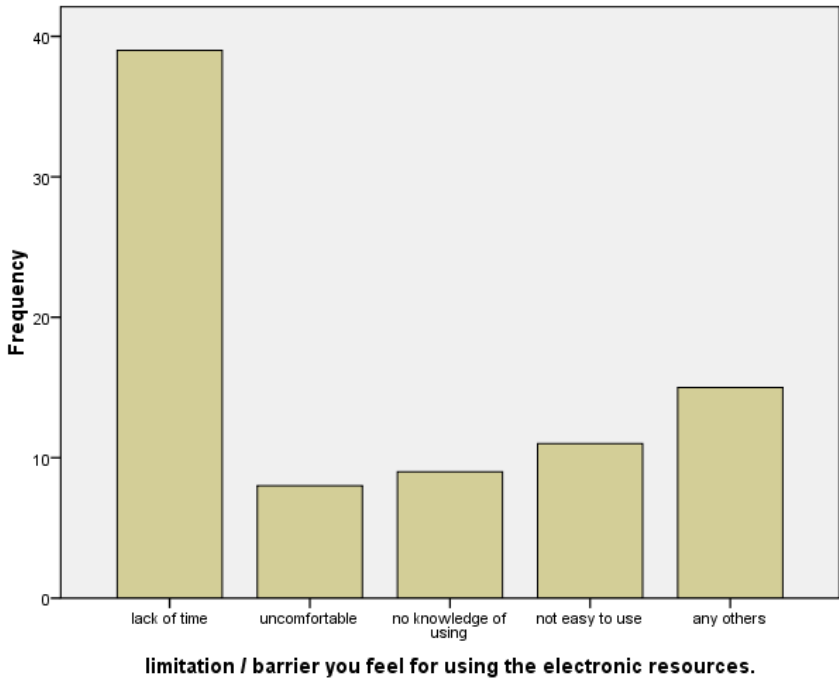
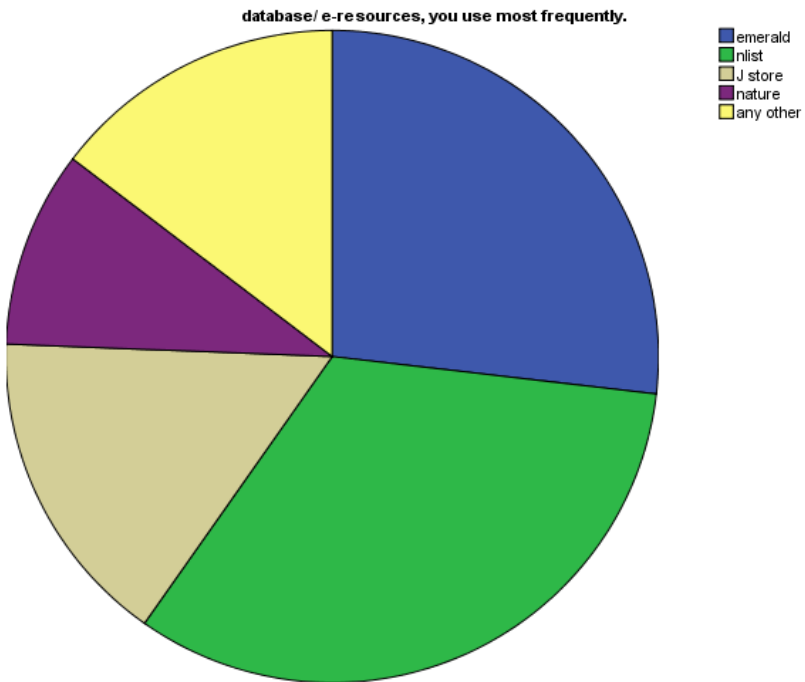


Table 5 indicates that main barriers faced by the faculty members while accessing e resources. The analyses revealed that majority of the respondents indicate lack of time (47.6%) as the major problem while using e-resources. The respondents also faces barrier like no knowledge of use (11.0%), noeasy to use (13.4%) and others (18.3%).

Table 6:

Database/ e-resources, you use most frequently.

	Frequency	Valid Percent
Emerald	22	26.8%
Nlist	27	32.9%
Jstore	13	15.9%
Nature	8	9.8%
Any other	12	14.6%
Total	82	100%



As indicated in Table 6 that 32.9% respondents are using NLIST database for accessing the e-resources, 26.8% respondents are using Emerald database, 15.9% respondents are using J store databases for accessing the e-resources.

Table 7:

Level of satisfaction when use the e-resources?

	Frequency	Valid Percent
Satisfied	59	72.0%
Very satisfied	11	13.4%
Neutral	11	13.4%
Dissatisfied	1	1.2%
Total	82	100%

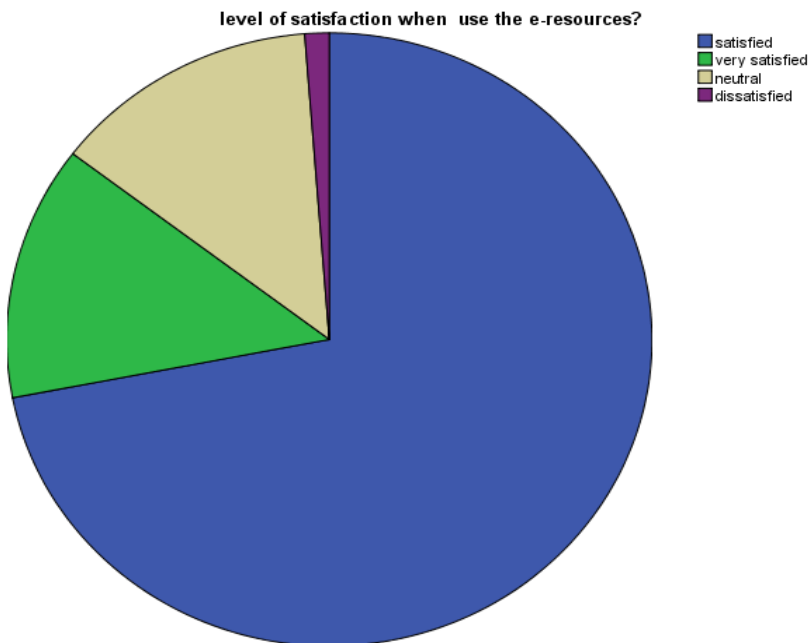


Table 7 shows that most of the faculty members (72%) are satisfied with the e-resources available and facilities for accessing the e-resources. But at the same time some of the faculty members find it difficult to get the required e-resources and facilities for accessing the e-resources.

Literature Review :

Sivakami and Rajendran (2019) conducted a study and found that majority of the male users (86.59%) and (84.48%) female users were aware about the availability of e-resources. The analysis also reveals that most of the respondents use e-resources only for lecturer notes. Kalbande, Shinde and Ingle (2013) conduct a study and found that users are using e-resources and they are using department and home more for accessing the information. The printed material is being quickly replaced by the electronic resources. kavitha (2013) studied and found that 32.75% respondents are most prefer to use e-journal.73.24% of respondents are most prefer to using keep up-to-date on subject interest. Majority of the teacher found that too much of the information retrieve and access to computers being the problems to use e-resources. Tahir, Mahmood and Shafique (2010) found that most of the users have access to computer and internet at office and home. Although faced with many problems, they perceive that modern technology made their work easier. Ghangare(2016) found that 39.5% of the faculties said that on-line database is important source for research and study purpose. Most of the faculty members use electronic journals and e-books for research and teaching purpose.38.90% faculties opined that e-resources linked to other resources. Ibrahim (2004) conducted a survey to measure the use and perception of the United Arab Emirates University faculty members of electronic resources. Analysis confirmed frequency of use of electronic resources was low because of the time needed to focus on teaching; ineffective communication channels and language barrier. Renwick (2005) conducted a survey and found that faculty had

high awareness of the electronic resources.73% users used computer daily. Sharma and Shrivastava (2019) found that most of the respondents strongly agree that it is easy and convenient to search online resources that print version and search time is less to view online materials that print materials. Study also reveals that there is a major problem faced while accessing e-resources like internet connectivity, lack of sufficient system, getting unwanted information. Mulla (2011) found that majority of the respondents use electronic resources for finding relevant information in their area of specialization. 36.67% stated that too much information retrieve is the main barrier to use electronic resources. Prabakaran (2013) found that 30.81% of the respondents are using e-resources for research purpose. Google is the best commonly used search engine among the users. Jestin and Sornam (2016) conduct a study and found that majority of the faculty members are well aware about the e-resources. The main purpose of using e-resources is for teaching. Majority of the staff members are using desktop computers for accessing the e-resources.Elava zhagan and Udayakumar (2013) had a research study about the use of e-resources among the faculty members ‘and research scholars in BITS, Pilani Hyderabad Campus. Questionnaire based on the survey result they interpreted that most of the users indicated that they are using e-resources 2-3times in a week. But more than half of the respondents access the e-resources less than an hour/day.

Conclusion :

The study explored the use of e-resources among the faculty members of degree colleges in Haryana.32.9% respondents most prefer to use e books. 32.9% of respondents most prefer to use NLIST database for accessing the e-resources. Faculty members are dependent on e-resources for to keep themselves up-to-date in their subject area. It was also found that majority of the faculty members are satisfied with the use of e-resources.

References :

1. Subha, S., & Natarajan, N. O. (2019). Utilization and Impact of Electronic Information Resources among the Faculty Members of Arts & Science Colleges in Erode District, Tamil Nadu: A Case Study. *Asian Journal of Information Science & Technology (AJIST)*, 9(1).
2. Sharma, Parmod Kumar, Gautam , J.N.& Shrivastava, Jitendra (2019).Use of e-resources and satisfaction level of faculty members, research scholars and PG students in engineering institutions affiliated to Rajiv Gandhi Technological University, Bhopal. *Library progress (international)*,39(1), 117-124.
3. Sivakami, in & Rajendrah N. (2019). Awareness, access and usage of e-resources among faculty members in arts and science colleges. *Library philosophy and practice (e-journal)*.2549.
4. Joseph, Jestin is K &Ally, Sornam is (2016). Use of e-resources by the faculty members of engineering colleges in Kerala:a survey. *International Journal of Digital Library Services*,6(3), 31-38.
5. Kalbande Dattatraya, it. , Shinde, P.A, & Ingle, R.N. (2013). Use of E Resources by the Faculty Members: a Case Study. *International Research: Journal of Library & Information Science*,3 (3),459-469.
6. Kavita, it. (2013). Use of electronic resources by teacher of Degree College in cuddalore District. *International journal of research in engineering & applied sciences*,3 (3), 62-67.
7. Tahir, Muhammed, Mahmood, Khalid & Shafique, Farzana (2010).use of electronic informationresources and facilities by humanities scholars. *The electronic library*, 28(1),122-136.
8. Ghangare, Milind B. (2016). Electronic resources use by faculty members of engineering college libraries in RTM

Nagpuruniversity era: a study. International journal of research in library science,2 (1),196-203.

9. Ibrahim, Ahmed Elhafiz(2004). Use and user perception of electronic resources in the United Arab Emirates University (UAEU).Libri, 57,18-29.
10. Sampath Kumar. B it & Kumar G it (2010). Perception and usage of e-resources and the internet by Indian academics. The electronic library, 28(1), 137-156.
11. Renwick, Shamin (2005).knowledge and use of electronic information resources by medical science faculty at the University of the West Indies. Journal of the medical library association,93(1), 21-31.
12. Mulla, K R (2011). Use of electronic resources by faculty members in HKBK College of engineering: a survey. Library philosophy and practice (e-journal). 593.
13. Prabakaran, it. (2013). Use of e-resources among faculty members of engineering colleges in Cuddalore district. Journal of advances in library and information science,2 (2) ,71-75.
14. Kumar, V Ashok & Jayaprakash M (2017). Awareness and use of e-resources among the engineering college faculty members in Coimbatore and Tiruppur districts, Tamilnadu; a study. International journal of next generation library and technologies, 3 (4), 1-10.
15. Elava zhagan K. &Kumar, Udaya(2013). Use of E-Resources in the BITS,Pilani–Hyderabad Campus:AStudy. International Research:Journal of Library&Information Science,3 (3),70-79.

Project of Digital Library in India

*Radha Kumari**

Introduction :

The digital insurgency has a thoughtful impact on libraries. Digital libraries study now a days seen as computer science and engineering examine, convey by a domain research across disciplines, applicable to broad set off scientific and non scientific problems. The expression digital libraries continues to be a powerful for discussion in the internet age. Digital contented has become the driver of internet growth. The interagency Digital Libraries initiative was an entrepreneur program in coinciding with transformational changes in the bigger expertise environment.

Initiatives of Digital Libraries :

The digital libraries initiatives began with modest investment from NSF,DARPA and NASA .The newly enacted Federal High performance computing program was attempting to coordinate and stimulate collaboration among agency computing and networking activities. The digital libraries initiatives funded six university based projects focusing on fundamental information technology research, technology testbeds and partnership building.

Definitions of Digital Library

The definition of “digital libraries” continues to evolve in step with research accomplishments, news technologies, and internet based capabilities and resources.”

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A digital library can be defined as, “Computer based information system for acquiring, storing, organizing, searching, distributed and displaying digital materials for end user access, not necessarily networked based but designed and constructed so as to capable of attaching or being attached to a network”

“A digital library may be defined as the new type of carrying out the function of libraries encompassing new type of information resources, new approaches to acquisition new methods of storing and preservation, new approaches to classification and cataloguing, intensive use of electronic system and networks and dramatic shifts in intellectual organizational and electronic practices.” R. Lakshmi and P. Suma.

According to Digital Library Federation (DLF) :

“Digital library as an organization that provide the resources including the specialized staff to select, structure, offer intellectual access to, interpret, distribute, preserve the integrity of, and ensures the persistence over time of collection of digital work so that they are readily and economically available for use by a defined community or a set of communities.”

Digitization

The digital library kept different types of information in digital formats. The older collection are digitized through a retro conversion process, in which documents in print format on paper converting texts into different languages, (i.e. analogue to digital conversion) It requires careful consideration of character sets. Unicode provides a standard scheme to encrypting World’s important languages. Chadrakar (2004) elaborate Unicode and the other related technologies available for localizing Indian language materials.

Gaur's(2003) in their paper "Rethinking the Indian Digital Divide: The Present state of digitization in Indian Management Libraries" shows the status of library automation of the Indian Management Institute's libraries. There is only a passing mention of digital library initiatives dismal. This is alsomore emphasis on library automation and its facets rather than on digitization or digital libraries. The paper Murthy (2005) however shares the practical experience digitization at the National Tuberculosis Institute, Bangalore.

Features of Digital Library

Digital Library requires undoubtedly Information and communication Technology of today's era. The digital library is a one kind of heterogeneous library that existprint to online systems i.e. hard copy to digital mode. The full-fledged digital library has the conceptthat all the information is available in the digital form. It may, however be difficult to achieve, until recently, it consisted of mostly electronic documents which are of reference type."

Few Advantages of Digital Libraries

- Access anywhere and any time
- Cross reference to other documents
- Reducing searching time
- Wide exploration and exploitation of the Information
- Distributed storage-Central access
- Better Cataloguing
- Full text/context search
- Protected/secured Information source

Goals of Digital Libraries

- The main goals of digital libraries is focused on communities of researchers, practitioners and user continually inspired and informed the programs direction and management.

- Second goal of digital library is to begin exploring the resources for the national science Digital Library. Still other agencies participated as partners, joining in planning and working group discussions and all projects meetings.
- Third generation digital library : The third generation digital libraries focusing instead on fully integrating digital material into the library's collections through modular system architecture.

Issues :

- Official/Govt. document
- Right to use copy and archive copy
- Folder capacity in size
- Storage Space Media (CD, Hard Disc)
- File Format(TIFF, JPEG, PNG)

Challenges :

- Digital collections and preservation of national importance from existing texts, documents, images.
- Create new digital documents and linking them.
- Developing/ adapting management tools for digital collections.
- Providing access to digital collections and other library collections.
- Subject Portals: Selecting and maintaining open source digital resources.
- Addressing social, legal, policy issues.

Types of Digital Libraries

Digital Libraries can be categorised/grouped into the following ways:

- Digital Libraries developed in USA as part of DLI1 and DLI2 (Digital Library Initiatives).

- Digital Libraries that are part of National Libraries.
- Digital Libraries that are part of universities or by period.
- Digital Libraries developed in the course of eLib (electronic libraries) Programme In UK.
- Digital Libraries built by individual Institutions.

Digital Library Sustain in India

- ❖ Ministry of Human Resources Development (MHRD).
- ❖ Manuscript Mission of India. National Mission for Manuscripts.
- ❖ All India Council for Technical Education (AICTE).
- ❖ Department of Scientific and Industrial Research (DSIR-TRP).
- ❖ Ministry of Communication and Information Technology (MIT).
- ❖ Digital Library Initiatives' In India
- ❖ University Grants Commission, New delhi (UGC).

Digital Library Sources of Funding :

- The Library Budget (Library Fund)
- Project Subsidies
- Cost recovery
- Cost Sharing

Digital Library in India

The main mission is to create a website or gateway for the Digital Library of India which will foster creativity and free access to all human knowledge. It is piloted by the office of the Principal Scientific Advisor to the Government of India. Ministry of Communication and Information Technology with Indian Institute of Science and Carnegie Mellon University, USA as partners. Eleven academic Institutions,

four Government and research agencies, and two research institutions in India are participating in this Programme. The status of scanning centers of Digital Library of Indian is detailed:

Language-wise report as on the 8th April 2008.

Sl. No.	Books	Pages	Language
1	2	1059	Bengali
2	36283	13464420	English
3	155	38269	Hindi
4	6	4660	Italian
5	30	11304	French
6	511	100655	Kannada
7	1130	352032	Persian
8	2233	752880	Sanskrit
9	8	3455	Spanish
10	41	23305	German
11	278	37350	Tamil
12	5	1452	Norwegian
13	14182	2854286	Telugu
14	921	244355	Unknown
15	1433	332222	Urdu

➤ INFLIBNET (www.dspace.inflibnet.ac.in)

INFLIBNET has taken initiative and developed a digital library by using open source software i.e.Dspace and by using this , INFLIBNET has digitized their resources i.e. conference proceedings namely, Caliber and Planner through this software. INFLIBNET provide the facility to access and download the full-text articles from its databases.

➤ Kalasampada (<http://www.ignca.gov.in/dgt-0001.htm>)

IGNCA (Indira Gandhi National Centre for the Arts)with thecollaboration of Ministry of Communication and Information Technology started a project named,Kalasampada (digital library: resources of age Indian Cultural Heritage). There was a need to encompass and preserve the distributed fragments of Indian art, heritage and culture, and to serve as a major resource centre for the arts for the development of databank of cultural heritage. This initiative provides access to over couple of lakhs of slides, thousands of rare books, rare photographs, audio and video along with highly researched publications of the IGNCA from a single window.

➤ Librarians Digital Library(<http://drtc/slbang.ac.in/>)

Documentation Research and Training Centre (DRTC) has developed the Librarian Digital Library, which contains full text papers/ research articles related to Indian Librarianship. At present,Librarian Digital Library contains full-text research papers submitted in DRTC papers,seminars. It was submitted by LIS professionals, and these/dissertations of students during various conferences, seminars, etc. It also has plans to include conference proceeding of Indian LIS Associations in this database.

➤ Nalanda Digital Library (<http://www.nalanda.nit.ac.in/>)

National Digital Library initiated in the year 1999 at the NIT (National Institute of Technology)Calicut. It was decided the NIT meetings that Nalanda helps members to their academic and research needs by providing timely and up-to date information with value added services in all the areas of engineering, science and technology.

National Library of India

The Library preserves the print collection i.e. rare and brittle books and other documents by the scanning and archives it on compact disc. The library has planed to digitize the books and documents in first phase, which were published before 1900 and available. Indian publications prior to 1920, There were 6,600 books selected in Indian and English language have already been scanned and stored.

➤ Raman Research Institute (<http://dSPACE.RRI.res.in>)

Raman Research Institute has started to digitize their research publications of the institute authored by their faculty and students. The Institute has also digitized their all annual report and newspapers clippings, which were available till date.

➤ Universal Digital Library
(<http://www.iiita.ac.in/research/udl.html>)

Universal Digital Library requires digitizing books of common interest to different communities of interest (COI) and making them available in a manner that is independent of language, location and time. A complete solution for this was developed by Carnegie-Mellon University, USA involving state of the art planetary scanners for scanning, cropping, OCR, and XML converting. Apart from Indian Institute of Science (IISc), other Indian Institutions involved in this project are NCST Mumbai, and iT, Hyderabad.

- Vidyanidhi Digital Library and e-scholarship portal (<http://210.212.200.226/index/html>)

Vidyanidhi is an depository of e-thesis and known as a digital library. It is a portal of resources and tools, and facilities doctoral research in India. Vidyanidhi is envisioned to evolve as a national repository and a consortium for e-theses through participation with universities, academic institutions and other stake holders. It will enhance the access to Indian theses and will also enlarge the reach and audience for Indian doctoral research.

- Development Of ETD

Many research and educational Institutions have taken initiative to develop Electronic Theses and Dissertations(ETD) basically includes theses and dissertations submitted in their own institution are : iSC, Bangalore (<http://eprint.iiitd.ac.in/dspace>); Indira Gandhi Institute of Development Research , Mumbai (<http://oii.igidr.ac.in.8888/dspace/>);and Sri Venkateswara University Tirupati(<http://202.141.117.109.8080/dspace/>).

Interdisciplinarity

Progress in digital libraries research is dependent upon collaboration across the disciplines. Digital libraries initiatives was highly interdisciplinary and prospered intellectually accordingly.

The Chatham Workshop Report commented that:

“Over the last few years, digital library research has become the most interdisciplinary area at NSF, including researchers from 35 different academic departments. The program also engaged international partners, with several U.S. projects coordinated with counterpart projects in the United Kingdom and Germany, as well as with broader international projects involving the European Union and Asian countries. Moreover, the kinds of information created and examined has moved well beyond text and books –like objects to

include CT-scans of fossils ,images of dolphin fins, cuneiform tablets, and videos of human motion, potentially enabling more sophisticated analysis in domains that rang from archeology and paleontology to physiology, while exploring the engineering problems that such investigations expose”.

Programmes and Projects:

In the last 1980 NSF began concerted funding of networking research and infrastructure, primarily in support of the supercomputer program. The Supercomputer program itself was created in response to a series of reports in the 1980 encouraging rapid development of computational science capabilities. NSFNET was then viewed as a means to aggregate and share computational resources at the supercomputers centers. With the connection if international networks and transition from government –sponsored systems .One of the graduate student funded under the NSF-supported Digital Library initiatives project at standford, Larry Page .took an interest in the web as collection.”

Digital Library Projects

University	Projects
Carnegie Mellon University	Digital Videos Libraries
University Of California Santa Barbara	Geographical Information Systems
University Of Michigan	Intelligent Agent Architecture
University Of Illinois	Intelligent Search and the Net
Standford University	Uniform Access
University Of California Berkeley	Media Integration And Access

References :

1. <http://www.dlib.org>.
2. <http://www.ulib.org>.
3. A digital library for education: the PEN-DOR project. The electronic library, 17(2), 75-82.
4. Government of India 2000 IT for the common man: The millennium IT policy. Development.
5. Mahesh. G 2008. Digital Libraries in India: National Institute of Science Communication and Information Resources,(15-24).
6. <http://www.dli.iiit.ac.in/>(Accessed on 25.08.2014).
7. www.info librarian. Com.
8. Ramsden, A. et al. ELINOR. Electronic project. Bowker- Saur, London, 1998.
9. Leiner, Barry M. The scope of digital library. <http://www.dlib.org/metrics/public/papers/dig-lib-scope.html>
10. <http://www.si.umich.edu/santafe/>
11. <http://diglib.stanford.edu/diglib/pub/reports/iita-dlw/main.html>.

A Study on Digital Libraries and Best Practices in the Selected Colleges Affiliated to Assam University Silchar.

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1. Abstract

Purpose: *it is primetime for we professionals to implement digital libraries to host digital contents such as e books, e-journals, e-contents etc. to cope up and meet the user satisfaction in the 21st century. The boom of internet resources and social media contents made critical situation for we librarians to guide authenticate knowledge's therefore libraries has to implement digital libraries and best practices to fulfill our motto of services, quality and trust.*

Methodology: *Survey method with the help of structured questionnaire is applied in this study along with interview and observation has been used to conduct this study. The colleges which are visited by NAAC found well equipped to have a digital library therefore the present study limited and selected 13 colleges from the total population 24 degree colleges affiliated to Assam University, Silchar, on the basis of NAAC Accreditation.*

Findings: *the initiatives of digital library among the study population found in initial stage. 76.92% of college libraries started digitization and 23.07% have yet to start. Most of the colleges initially started*

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digitizing the previous year question papers. Only 38.46 % of libraries are using digital library software and mostly DSpace which is 23.53%.

Originality: this study is an original research output conducted on the colleges libraries affiliated to Assam University, Silchar.

Key words: College Library, Digital Library, Best Practices, NAAC, Assam University.

2. Introduction

The usage of manual library is decreasing day by day due to information explosion over internet and insufficient awareness about library resources and services. It is prime time for we professionals to survive our profession. In this context we must be proactive towards our duties and responsibilities and adapt/implement the latest technological advantage as early as possible. Use of ICT, library Automation, Digitization, enhancement of e-resources, use of social networking platform, development of e- content on MOOCs, active collaboration among the sister colleges and consortium to meet user satisfaction which are necessary to realize the importance of library and influence of librarian in the world of no physical existence. Our prime motto should be “services first, quality must, for everlasting trust”.

3. Statement Of The Problem

Modern libraries are now treated as information centre, resource center, knowledge hub, learning center due to the changing face of libraries and usage. Libraries are accepting new changes to keep in pace with inevitable conditions and the need of the hour. In information society libraries have to satisfy user’s needs by adopting changes from conventional to digital libraries and best practices to manage library services to survive.

4. Objectives of The Study

The present study carried out to achieve qualitative and quantitative analysis of digital libraries and best practices of college libraries affiliated to Assam University, Silchar on the following objectives:

- i) To find out the Status of ICT infrastructure among the College libraries affiliated to Assam University, Silchar.
- ii) To understand the status of digital library in libraries of Colleges affiliated to Assam University, Silchar.
- iii) To observe the use of digital library Software's in the respective college libraries.
- iv) To examine the usage of e- resources from various library networks in the study population.

Scope and Limitation of the Study

The present study will help to understand the present status of ICT infrastructure, growth and development of digital libraries in the degree colleges affiliated to Assam University, Silchar. The study is limited to the libraries of degree colleges affiliated to Assam University, Silchar. There are 24 Govt. Degree Colleges but this study is covering 13 colleges which are Assessed and Accredited by NAAC only.

5. Methodology

The methodology of the study is discussed under the following heads.

5.1 METHOD USED : Survey method with the help of structures questionnaire is applied in this study along with interview and observation has been used to conduct this study.

5.2 SAMPLE SIZE : The colleges which are visited by NAAC found well equipped to have a digital library therefore the present study limited and selected 13 colleges from the total population 24

degree colleges affiliated to Assam University, Silchar, on the basis of NAAC Accreditation.

5.3 Sample Selection : Purposive sampling method has been used to select the study population in this study.

5.4 Designing Of Questionnaire : A structured questionnaire designed for the Librarian and distributed to collect the data from the whole population.

5.5 Statistical Measures : After collecting the data from the selected colleges affiliated to Assam University has been tabulated and analyzed to find out the frequency, percentage and graphical representation to the data according to the study objectives.

5.6 Data Sources : The data source is the library data provide by the librarian in the questionnaire distribute during the survey from entire study population is total data source used in this study.

6. Literature Review

An intensive study has been made to reach out the depth of the problem and to find out different studies on ICT in college libraries, digital libraries and best practices has been practiced in the academic libraries. The survey of literature throughout the study has been enlisted below on alphabetical arrangement.

Ahmed, Merina and Pal, Birender (2012). have been emphasized that due to NAAC assessment most of the colleges started to develop their libraries but quite a large number of colleges have not realized the importance of libraries due to lack of professional staff.

Choudhury, S. and Sarmah (2017) conducted a study on ICT infrastructure and application in the degree colleges of Cachar Districts. The study discussed the availability of ICT infrastructure and issues related to the implementation ICT in the colleges.

Dey, N. C. , Singh, S. K. and Deka, P. K. (2017) in their study “Emerging Functions and Activities of Library Consortia with reference to Best Practices in LICs of Higher Education in Assam”

Jotwani, D. (2008) has made a study at international and national levels for the development of best practices for modern libraries. He defines, “Best practices are the best ways to perform a process or a function, or an activity that leads to a superior performance.”

Konwar and Sinha (2014) discussed the status of ICT infrastructure and development of library network among the major colleges of Barak Valley, Assam. The study opined that most of the college libraries are not well of in context to ICT infrastructure, internet connectivity.

Vyas, S. D. (2009) in his study on Best practices in Academic Libraries in India suggested few best practices such as developing and updating library website, maintain library statistics. Assessing expert’s opinion he further prepared set of best practices based on NAAC on best practices to be followed for academic libraries.

7. Data Analysis and Interpretation

The study covers the whole population of the selected Degree Colleges affiliated to Assam University Silchar, There are 24 Degree colleges in Barak valley affiliated to Assam University Silchar, but present study is covering 13 college libraries assessed and accredited by NAAC. The data collected through questionnaire from 13 Colleges are being tabulated and analyzed step by step according to the study objectives.

7.1. List Of Colleges Surveyed

SL. NO.	NAME OF THE COLLEGE	YEAR OF ESTABLISHMENT	NAME OF THE LIBRARY
HAILAKANDI			
1	S. S. College	1950	PRATAP CHANDRA NATH CENTRAL LIBRARY
2	Lala Rural College	1963	CENTRAL LIBRARY
KARIMGANJ			
3	Karimganj College	1946	CENTRAL LIBRARY
4	Nabin Chandra College	1971	CENTRAL LIBRARY
5	Rabindra Sadan College	1963	CENTRAL LIBRARY
6	Ramkrishnanagar College	1969	SISHIR GRANTHAGAR
CACHAR			
7	Cachar College	1960	CENTRAL LIBRARY
8	G. C. College	1935	B.C. GUPTA MEMORIAL LIBRARY
9	Radhamadhab College	1978	BIPIN CHANDRA MEORIAL LIBRARY
10	Women's College	1971	CENTRAL LIBRARY
11	Janata College	1964	CENTRAL LIBRARY
12	Nehru College	1971	CENTRAL LIBRARY
13	M. C. Das College	1977	CENTRAL LIBRARY

All the surveyed College libraries are serving since the establishment of the college and having a name as Central Library apart from four colleges which have separate names. There are 13 colleges who have responded and cooperated during this survey out of total population, the response rate recorded 100%.

7. 2. NAAC Accreditation with Grades

Sl. No.	NAME OF THE COLLEGE	YEAR	GRADES
1	S. S. College	2011	A
2	Lala Rural College	2004	B+
3	Karimganj College	2010	B
4	Nabin Chandra College	2019	NA
5	Rabindra Sadan College	2004	B+
6	Ramkrishna Nagar College	2012	B
7	Cachar College	2004	B+
8	G. C. College	2016	A
9	Radhamadhab College	2016	B
10	Women's College	2004	B
11	Janata College	2004	C+
12	Nehru College	2015	C
13	M. C. Das College	2016	B

Table: 7.2 NAAC Accreditation with Grades

It has been indicated from the present study that the National Assessing and Accrediting authority (NAAC) is visiting colleges after a decade's gap which affecting the enthuses and overall development of the entire academic scenario. It has been observed that the colleges are not conducting NAAC visit in time, two out of 13 colleges scored

‘A’ Grade for the overall academic achievement where library played a vital role. Being as a single assessing authority it is very difficult to look after the entire academic process of the country therefore more government organization of same perimeter are to be established in the coming days which is the need of the hour.

7. 3. Frequency Of ICT Infrastructure

The frequency distribution of devices for ICT infrusstructure has been provided above to explain the status of ICT infrustructre in the colleges libraries of Barak Valley. From the above table it can concluded that each library having atleast a Client Machine, Printer Machine, Modem along with UPS. 92.30% of libraries having Server Machine wheather its own or connected with central server for the institution. (92.30%) college libraries are covered under CCTV surveillance and 08 (61.53%) colleges having inverter or generator. (46.15%) colleges started Bacoding their library resources for managing and automating circulation system.

Sl. No.	ICT INFRASTRUCTURE	Frequency	Percentage
1	Server Machine	12	92.3076923
2	Client Machine	13	100
3	Printer	13	100
4	Scanner	12	92.3076923
5	CD/DVD writer	7	53.8461538
6	LCD Projector	4	30.7692308
7	Digital Camera	0	0
8	Web Camera	0	0
9	RFID	0	0
10	CCTV Camera	12	92.3076923

11	Telephone	9	69.2307692
12	Modem	13	100
13	Photocopy Machine	12	92.3076923
14	Bar Code Printer	6	46.1538462
15	Bar Code Reader	6	46.1538462
16	Ups	13	100
17	Inverter/Generator	8	61.5384615
18	Other	1	7.69230769

Table: 7. 3. Frequency of ICT Infrastructure

A well equipt library must need ICT intrustrure to manage library resources and servies therefore, the authority should take positive step to implement ICT facilities and be liberal for utilising library funds for ICT. Tarinned professional staff is requied for implementing and managing libraries the government must take necessary steps for the same.

7. 4. Status Of Library Digitization

It has been observed that (76.92%) libraries started the process of digitization of documents and accessing digital resources. It has to be mention that Directorate of Higher Education Govt. of Assam has taken good initiative and provided sufficient funds to implement for the digital libraries especially for newly provincialized colleges but the college authority has shown less interest in the implementation of digitization.

From the table given below it can be clearly say that the process of digitization in the study population is just in the beginning phase and making available of rare documents, previous question papers, theses/ dissertation, project reports and other materials. initially (30.76%) libraries digitizing of Rare Materials where (76.92%) libraries

digitizing previous question papers, (7.69%) libraries converting dissertation/ theses on digital format and (30.76%) of other materials such as magazine, souvenirs etc.

Sl. No.	Name of the College	Digitization		If Yes				
		Yes	No	Rare Documents	Question Papers	Dissertation /Thesis	Project Reports	Others
1	S. S. College	1	0	1	1	0	0	0
2	Lala Rural College	0	1	0	0	0	0	0
3	Karimganj College	0	1	0	0	0	0	0
4	Nabin Chandra College	1	0	0	1	0	0	1
5	Rabindra Sadan College	1	0	1	1	1	0	0
6	Ramkrishnanagar College	1	0	0	1	0	0	0
7	Cachar College	1	0	0	1	0	0	1
8	G. C. College	1	0	0	1	0	0	1
9	Radhamadhab College	1	0	1	1	0	0	1
10	Women's College	1	0	1	1	0	0	0
11	Janata College	1	0	0	1	0	0	0
12	Nehru College	0	1	0	0	0	0	0
13	M. C. Das College	1	0	0	1	0	1	0
	FREQUENCY	10	3	4	10	1	1	4
	PERCENTAGE	76.92	23.07	30.76	76.92	7.69	7.69	30.76

Table: 7. 4. Status of Library Digitization

7. 5. Use Of Digital Library Software's

A study has also been made to find out the use of digital library software's among the college libraries affiliated to Assam University,

Silchar. There are a few numbers of college libraries about (38.46%) using Digital Library software. The frequency of using different digital library software such as DSpace, Greenstone, E-Print among the study universe has been observed and found that only (23.07%) using Dspace and (15.38%) using Greenstone digital library software and remaining (7.69%) using other local software's. The use of Institutional Repository software's or Digital Library software's in the responded samples are not remarkable as the initiatives of digital library just opened its wings for the journey.

SL. NO.	NAME OF THE COLLEGE	DIGITAL LIBRARY SOFTWARE		IF YES			
		Yes	No	D Space	Green Stone	E Prints	Others
1	S. S. College	0	1	0	0	0	0
2	Lala Rural College	0	1	0	0	0	0
3	Karimganj College	0	1	0	0	0	0
4	Nabin Chandra College	1	0	1	0	0	0
5	Rabindra Sadan College	1	0	0	1	0	0
6	Ramkrishnanagar College	1	0	1	0	0	0
7	Cachar College	0	1	0	0	0	0
8	G. C. College	1	0	1	0	0	0
9	Radhamadhab College	1	0	0	0	0	1
10	Women's College	0	1	0	1	0	0
11	Janata College	0	1	0	0	0	0
12	Nehru College	0	1	0	0	0	0
13	M. C. Das College	0	1	0	0	0	0
FREQUENCY		5	8	3	2	0	1
PERCENTAGE		38.46	61.53	23.07	15.38	0	7.69

Table: 7. 5. Use of Digital Library Software's

The graphical representation of the use of digital library software's has been given below clear understanding of implementation of implementation of IR in the Figure: 7.5 Use of digital library Software's.

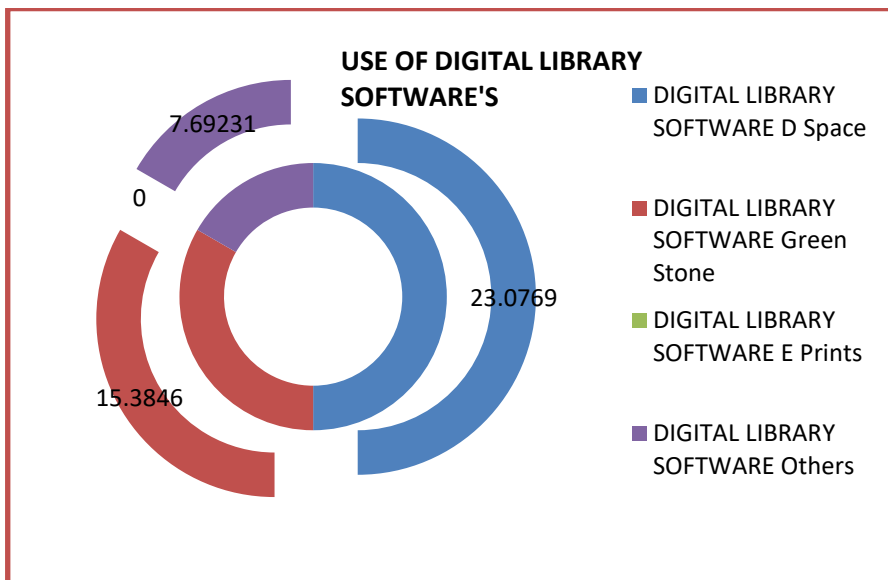


Figure: 7.5 Use of Digital Library Software's

7. 6. Library Network Memberships

Membership of library networks such as NLIST, INFLIBNET and DELNET are very important to access large amount of E-resources on consortium built by UGC. Here membership of library networks has been tested and found large numbers of library have been subscribed and connected to NLIST or INFLIBNET.

Sl. No.	Name of the Colleges	Library Networks Membership			
		INFLIBNET	DELNET	NLIST	OTHER
1	S. S. College	0	1	1	0
2	Lala Rural College	0	0	1	0
3	Karimganj College	0	0	1	0
4	Nabin Chandra College	1	0	1	1
5	Rabindra Sadan College	0	0	1	0
6	Ramkrishnanagar College	0	0	1	1
7	Cachar College	1	0	1	0
8	G. C. College	0	0	1	1
9	Radhamadhab College	0	0	1	0
10	Women's College	1	0	1	0
11	Janata College	0	0	1	0
12	Nehru College	0	0	1	0
13	M. C. Das College	1	0	1	0
FREQUENCY		4	1	13	3

Table: 7. 6. Library Network Memberships

In this study it emerged that the membership of NLIST has been taken by 13 colleges and membership of INFLIBNET taken by 4 libraries. Though the availability of library networks has been found in the

college libraries but the usage of e resources is very poor due to the insufficient ICT infrastructure.

The graphical representation of the above Table: 7.6 Membership of Library Networks are given in the pie chart above.

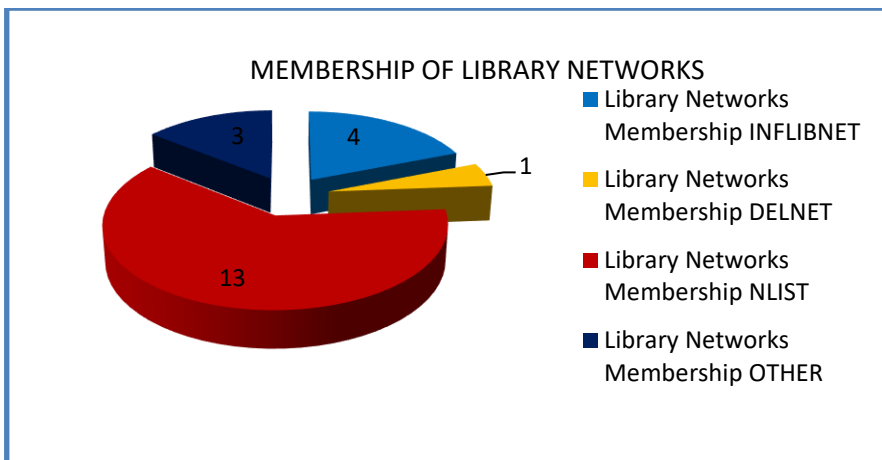


Figure: 7.6 Membership of Library Networks

7. 7. Usage Of E-Resources From Library Networks

In the Figure: 7.7 shown below about the usage of library networks in the surveyed libraries of Barak valley. The maximum numbers of librarian reported the usage of library networks as average which is (46.15%), usage of E-resources as low reported by (38.46%) and (15.38%) has responded as uncertain. Though the colleges registered for Nlist but the usage of e resources are not satisfactory. Students are not aware of NLIST services and also it has to be access from the college LAN, which not available for students.

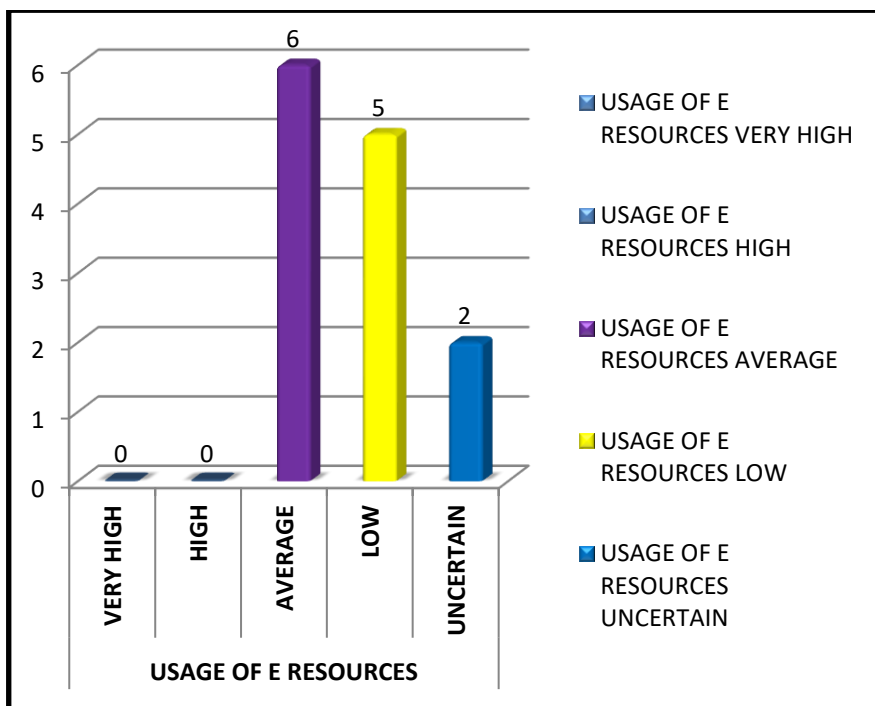


Figure: 7.7 Usages of E-Resources from Library Network

8. Findings Conclusion And Suggestions

8.1. Findings

- i) It has been observed that the colleges are not conducting NAAC visit in time, two out of 13 colleges scored 'A' Grade for the overall academic achievement where library played a vital role.
- ii) The present study revealed that each library having atleast a Client Machine, Printer Machine, Modem along with UPS. 92.30% of libraries having Server Machine wheather its own or connected with central server for the institution.
- iii) It is found that (76.92%) have started library digitization initially in the whole population. Out 10 colleges who has

started the process of digitization, mostly digitizing Rare Materials (30.76%), Previous Question papers (76.92%) and 30.76% other materials.

- iv) In point of fact only (38.46%) using digital library software's for digitization. Out of that (23.07%) found using Dspace and (15.38%0 using Greenstone software for library digitization.
- v) Membership of library networks has been tested and found large numbers of library have been subscribed 10 colleges having connected to NLIST or INFLIBNET.
- vi) The maximum numbers of librarian reported the usage of library networks as average (46.16%) in colleges, (38.46%) librarians reported as low and (15.38%) reported as uncertain.

8.2. Suggestion

- i) Digital library is the need of the hour. Every person of the 21st century is habituated with accessing the resources on display. Therefore the libraries must take quick action to implement digital library to meet the user demands and behavior.
- ii) Preserving and accessing the resources on digital platform is very comfortable now days there for the study suggest to selecting proper digital library software's like Dspace, Greenstone to have a better digital library.
- iii) Internet is the change the World of and knowledge information and it is the power which can be utilized by the libraries for their clientele, therefore the research suggest to take necessary action for the free access of internet in the library and campus.
- iv) The professionals are suggested to attend workshop, training programmes to boost up knowledge on ICT, Automation, digitization etc.

- v) Lack of funds and attitude of authority has been observed therefore, the librarian must be pro active for the initiation and completion of the digitization process.

8.3. Conclusion

The entire study suggest with requesting remark that the librarian should come out with professional attitude and ethics to meet the all possible requirements just not to keep records to face NAAC and score good but also to meet quality, services, satisfaction and academic achievements. In these connection libraries has to follow the best practices in order to improve quality and services to sustain in the everyday competition.

Use of ICT, digitization library, enhancement of e-resources, use of social networking platform, development of e- content on MOOCs, active collaboration among the sister colleges and consortium to meet user satisfaction which are necessary to realize the importance of library and influence of librarian in an academic library.

References :

1. Ahmed, Merina and Pal, Birender (2012). “Best Practices with NAAC in College Libraries of Nalbari District, Assam” presented on 8th Convention PLANNER Sikkim University, Gangtok, March 01-03, 2012 © INFLIBNET Centre, Ahmedabad.
2. Choudhury, S. and Sarmah (2017). An evaluation of ICT Infrastructure and Application in Selected College Libraries of Cachar Districts, Assam. In: International Journal of Digital Library Services. 2017, ISSN: 2250-1142.IJODLS (retrieved from: <http://www.ijodls.in/uploads/3/4/0/3/3603729/6ijdosl174.pdf>)
3. Dev, Sharma (2016). “A Study on Best Practices with Special Emphasis on Modernization in the Libraries of Degree Colleges Affiliated to Dibrugarh University, Assam”. Doctoral Thesis

Submitted to Department of Library and Information Science, Assam University, Silchar, 788011. (Retrieved from <http://shodganga.inflibnet.ac.in>)

4. Dey, N. C. , Singh, S. K. and Deka, P. K. (2017). “Emerging Functions and Activities of Library Consortia with reference to Best Practices in LICs of Higher Education in Assam”, CALIBER-2017
5. Konwar,U.K. & Sinha,M.K.(2014). Status of ICT infrastructure and development of college library network among the major colleges of Barak Valley, Southern Assam: A case study. In Jagdish Arora (Ed.),Capacity building in library and information services. 9thConventional PLANNER-2014, Dibrugarh University (pp.156-164).Ahmedabad : INFLIBNET Centre.
6. NAAC. (2006). *Best Practices in Library and Information Services*. [online] Available from: http://www.naac.gov.in/best_practices (Accessed on dt.04/08/2018)
7. National Assessment and Accreditation Council. Best practices in library and information services : a case presentation. Accessed at <http://naacindia.org/Publications/Best%20Practices%20Library%20Science.doc> (Accessed on 05/08/2018)
8. Sinha, M.K.(2013).Status of collection development of printed and electronic resources in the college libraries of Assam with special reference to Barak Valley, Assam. In D. Das, B. Choudhury & P. Boruah (Eds.), *Collection development in IT environment in the college libraries of Assam*. (pp.136-158).Guwahati: Assam College Librarians’ Association.
9. Sharmah, R. M. (2016). *A study on best practices with special emphasis on modernization in the libraries if degree colleges affiliated to Dibrugarh*

10. Vyas, S. D. (2009). Best Practices in Academic Libraries in India: A Study. In: *proceeding of International Conference on Academic Library*. 2009, 5th-8th Oct. India, New Delhi. Delhi University Library System, University
11. Wikipedia (http://en.wikipedia.org/wiki/Best_practice).
12. <https://www.gao.gov/special.pubs/bprag/bprgloss.htm>
13. <http://www.naac.gov.in>

Educating and Empowering Users in the Digital Environment

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Abstract

The library has always been described as the centre of knowledge through provision of access to information. Users traditionally trust libraries to assist them to access information through education and empowerment. There is the problem of second level digital divide which is lack of ability to access and use digital information. There is the need for new skills to access and use the digital environment where most of the information resides today. Libraries must rise up to this challenge through education and empowerment. The various responsibilities of libraries in assisting users through education and empowerment were suggested. New methods or platforms to be used were also suggested. Provision of digital literacy to users in form of education and empowerment will make it to be relevant to users throughout life.

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Keywords : Digital Environment/Space, Digital Literacy, Education, Empowerment, Information, Information Formats

Introduction :

There is an urgent need to move forward, avoid social exclusion, ensuring

social justice and access to information to all is must for this generation

(Igiamoh & Ogunwemimo, 2013; Stilwell, 2016).

Success in modern society is a function of an individual's ability to access and utilize information in various formats of its existence today. Information no longer reside mainly in books and on library shelves as before rather now in various digital environments and in various formats apart from the conventional mainly text format. There has been drastic change in the trend of events as it relates to information in its entirety of its existence. The basic things that are required to be able to access and utilize information in the past have greatly changed compared to the current. There is the need to move with the mode of understanding how to access and utilize current information resources and formats. One of the main purposes of establishing libraries is to help users gain access and apply the information they discovered for personal or community development.

Large quantity Information is presented in various modern formats (digital) and there is the need to assist the users to navigate the digital environment where these information and communication are resident to be able to get the best of them. The assistance can come basically through education and empowerment of users. Various strategies of education and empowerment that will be suitable for various classes of users must be developed by the library in order not to disenfranchise their users. In line with the position of researchers that there is an urgent need to move forward, avoid social exclusion, ensuring social justice and access to information to all is a must for this generation

(Igiamoh and Ogunwemimo, 2013; Stilwell, 2016). The library must do all in her capacity and go extra mile to ensure that no one is disenfranchise. There must be an all-inclusive agenda for libraries to ensure that users get information as desired.

Digital technology today has permeated nearly every sector of life and living (Eshet-Alkalai & Soffer, 2012), there is the need for all users of information today to be empowered in such a way that they can make use of digital information available in digital environment through digital technology or any other means. The library is in-between the digital space, technology and users to ensure access to information. The “go-between”function of the library is not just about acquisition of the digital information but include educating and empowering the users to be able to access and use the information in the digital environment. For users that are disenfranchised as a result of low digital skills, the library should come into the space to assist.

The issue with use of information on digital space goes beyond I can use a computer. Researches have shown that access and use of computer does not necessarily translate to digital literacy. Khalid & Pedersen (2016) affirmed that access to an ICT device like internet does not automatically translate to effective utilization. If digital literacy is missing there is no way to use digital information in digital space. Libraries today are moving towards the digital space because that is where large quantity of information are and there is the need to move the users along. Moving users to digital space requires education and empowerment. There is the need to educate and empower “users in digital space” (generation Y and Z) on how to use information in digital space and at the same time educate and empower those who are not in digital space to catch up with the digital environment. There should be inclusion of all to achieve an holistic information society.

Statement of problem

As more and more digital technology are released from time to time and at the same time information producers are exploring and exploiting these digital technology to their advantage. Users need to cope with this trend. There is the need for education and empowerment of users to be able to maximize the digital environment they find themselves today. Even though internet penetration continues to increase and this has led to both increase in information availability and at the same time accessibility. In the presence of this accessibility, Kenneth (2017) captured the problem that accessibility has increased but there is a gap in ability. So the digital environment benefit is not all about technology or infrastructure for access but also the real access and ability to utilize the accessed information. This leads to why there is the need for education and empowerment of users in digital environment with the notion of increasing their derivable benefits from digital space. Kenneth (2017) further stated that access does not automatically translate to use, use does not necessarily mean proficiency or competence. Hence the problems of second level digital divide which the library must not close eyes to.

Digital Literacy

IFLA has defined digital literacy as the ability that someone possess that enable the use of technology to full capacity effectively, efficiently and ethically for the purpose of meeting information needs at various spheres or levels (IFLA 2017). Digital literacy definition continues to evolve as the concept itself is not static, it ranges from basic technical knowledge, word processing, use of internet, cybersecurity, online privacy, web designs, social media or web 2.0 knowledge, legal and ethical knowledge to global citizenship. Not living out the aspect of human right, standards of behaviour and moving beyond boundaries of language, culture and religion in acceptable way. Khan and Waheed (2015) stated that digital literacy is individual's ability to effectively perform tasks in digital information environment. According to Ng (2012), digital literacy

encompasses photo visual literacy, branching/hypermedia, information literacy and socio-emotional literacy.

Brown (2014) described digitally literate people as having capabilities to: access digital technologies in their various formats, use the internet appropriately to get quality information, confidently engage digital technologies for use, be cybersecurity conscious and practice online protections, use technologies as platforms for communication, use technologies for marketing, banking and various transactions, install software on digital devices for the purpose of learning, understand copyright law and complete diverse tasks online. Ganaie (2013) described digital literate people as possessing variety of skills (cognitive and technical) ability to use various technologies effectively and appropriately to retrieve information, results interpretation, and information assessment, being able to link technologies with life-long learning, stewardship of information and personal privacy. Others are use of digital skills in communication and collaboration within different groups and actively participate in civic society with involvement in informed, vibrant, and engaged community

According to Ganaie (2013), digital literacy encompasses four dimensions: operational - computer and communication technologies use capabilities, semiotic - new multimedia language manipulation ability, cultural - new intellectual environment for the information society, and civic - rights and duties of the new technology context usage. Holistic digital literacy can be said to include information literacy, media literacy, multi-cultural literacies, critical thinking literacies, collaboration skills, and ethical online behaviour.

What Libraries can do

Where digitization is the source of inequalities, the library is not expected to fold its arm, rather it should play vital roles in combating the digitization imbalance through empowering the vulnerable people

(Lachal & Peich, 2018). This empowerment can come through appropriate digital education. Isa (2018) succinctly put it that the challenge being faced by libraries today is ensuring that their users have access to information in varied formats and from different environment/space, on time and remotely. Fourie and Meyer (2016) affirmed that libraries and librarians can play very important and significant roles in developing well informed, educated and empowerment through development of users of library.

Libraries have been known as a place for continuous life-long learning through the dissemination and application of knowledge (IFLA, 2017). Due to trust in the community and the depth of knowledge coupled with an understanding of the locals needs, library has been found to help and empower users through equitable access and use of digital tools (IFLA, 2017; Lachal & Peich, 2018). IPAC (2014) citing the words of the winner for 2016 Ken Hayock Award for promoting Librarianship that “The mission of librarians is to improve society through facilitating knowledge creation in their communities”, this requires that users have to understand the current information environment. IPAC (2014) affirmed that public librarians assist users in building their technology competencies and capacities beyond barriers to digital readiness. In a digital inclusion survey carried out by IPAC (2014) - it was discovered that librarians provide training on the general use of internet to about 89.9%, help with point of access to technology training with 79.3%, help in use of common productivity software 84.4% and assistance with basic computer skills 86.9%. Librarians are performing well in the use of new technological advances (Sasi, 2014).

Part of American Library Association National policy agenda for libraries emphasizing the role of libraries in the area of empowerment stated that “Libraries have long been champions of free and equitable access to information and education. This role is more important than ever before in this era of rapidly changing information policy and new

digital ecosystems” (ALA. 2015,Pg 2). This stresses the fact that libraries are meant to be first a skill acquisition centre for use and application of information in whatever environment the information exist before users can make an improvement to the society as a result of the information. In the digital environment where the information available digitally is in multiple of print information, the library must rise to educate and empower its users. Libraries should now be more responsible than ever in the area of building digitally inclusive users and community in a bid to baptize the users into the digital environment. Digital education and empowerment values provided by the library will go beyond just the users accessing the library resources but to nearly every other aspect of life of the users to be productive in the digital environment.

The cognitive learning that is done in the conventional classrooms may not be sufficient to make a person successful irrespective of the level of qualification because most of the information and operations that is to be used or needed to perform today are available in digital environment. Mackert, Mabry-Flynn, Champlin, Donovan, and Pounders (2016) stated that having resources and knowing where the resources are available does not guarantee access if there is lack of skills. There is therefore the need for libraries to ensure proper education and empowerment to ensure effective utilization of the digital space. As the digital space is expanding so also must the libraries expand its involvement in helping and getting the users to be connected and harness the benefits of the digital transformations around them. These digital transformations have affected every sector of living - education, employment, engagement, entrepreneurship and empowerment which are also regarded as the E’s of the library. The relevance of the library will increase when users discovered that the skills acquired in library find usefulness in other aspects of their lives.

According to Clark and Rosaa (2015), after access, the users need additional skills, appropriate technology, and benefits of the access.

This is where the place of education and empowerment comes in to the library. Information is power but if access is denied, the power cannot be accessed. People have known libraries to be a safe and trusted place for help in navigating digitally driven change (Horrigan, 2015). Davies, Fildler. & Gorbina (2020) itemized some drivers of change in digital age to include extreme longevity, rise of smart machines and systems, computational world, new media ecology, super structured organisations and globally connected world. These six drivers are what users are grappling with in digital environment to be able to access and use information; unfortunately these drivers were not native to them. Libraries must rise in these areas and assist users to overcome the barriers.

Closely related to the drivers of change are the skills needed in the digital environment to benefit from it. The skills identified by Davies, Fildler. & Gorbina (2020) are sense-making, social intelligence, novel and adaptive thinking, new media literacy, trans-disciplinarity, cognitive load management, computational thinking, design mindset, virtual collaboration and cross-cultural competency. These new skills cut across the technical, cognitive, social ethical and legal basis of using resources. These are expected to be compendium to digital literacy that libraries will give to users, it is not just about the technical know-how but an holistic digital education and empowerment.

Strategies for Library Educating and Empowering Users

Libraries as social and democratic institution should be concerned with how to promote equality among library users. The present divide in information storage with digital environment having a greater percentage of information quantity places a responsibility on libraries to ensure that there is no inequality in terms of access and usage of information by users. Ganaie (2013) proposed some roles for university libraries in promoting digital literacy to include: lecture method, practical orientation, e-learning methodology and publication of online/website for users. Some suggested strategies are:

- The library vision statement: Library vision statement must be redefined to capture the responsibilities of educating and empowering users on digital environment (Fourie & Meyer, 2016). All the staff can then be baptized into the vision statement and carry the vision along their daily work. This is the basic requirement and very fundamental in nature.
- The library staff must be well trained: the digital competence levels of library staff must be increased. Regular update of new technology and skill in digital space must always be at the fingertips of librarians. Librarians must be able to use these digital tools for services (Emiri, 2015; Cordell, 2013; Abertawe, 2013). Library staff must be navigators in the digital environment information access and usage.
- Compliant library building: the library environment must be created/upgraded to comply with digital space requirement to ease introduction to users, familiarity with users, informal attraction or invitation through presence or visibility of various digital tools, provision of digital resources within the library buildings and provision of sources of connection or workstation for users.
- Training: regular or periodic training of users must be organized to keep them abreast of the latest digital space requirement for functionalities. Abertawe (2013) affirmed that the higher the digital literacy of an individual, the better their performance in digital environment of information.
- Hybrid to upscaling of library services to users: most libraries today operate more on the hybrid system of operation. The library must be ready to carry its users along in getting to know the latest trend of digital service as the way to go and the need for them to move with trend. The level of digital services provided by most libraries is still very low.

- Provision of online services: library must operate its services to users on a digital platform as a way of encouraging them. The integration of users into digital space can be fast-tracked by providing services to them through the digital space.
- Critical thinking: giving users opportunities to develop self-efficacy, reflective thinking skills, awareness of digital environment, etc (Fourie & Meyer,2016). Training must be geared towards critical thinking by the users.
- Provision of digitized information literacy: Information literacy (IL) is highly essential to survival skills in digital age and it has to come in digital format. Let users know from onset the kind of life to face. IL will help in development of critical thinking, communication, problem solving, creativity and continuous learning ability throughout life (Kurbanoglu, 2013).
- Research: libraries must intensify efforts on various aspects of using digital space by users to understand their needs, preferences and weaknesses so that the library can serve them better. This can be described as contextualization and user centred approach (Fourie & Meyer, 2016; Lachal & Peich, 2018).

Methods and platforms that libraries can adopt

Libraries as information, education and empowerment institution has been known for certain strategy of performing the above mentioned responsibilities. The digital age requires some modification to some of the old methods of supporting users' education and empowerment. Libraries around the world are in the age of looking for methodologies to integrate their users into their services (Lachal and Peich, 2018; Isa, 2018). Some of the suggested methods include:

- i. Use of Massive Online Open Courses (MOOCs): there is the need for libraries to evolve courses and training modules on MOOC that will educate and empower the users in digital spaces utilization requirements. Most of the available courses today do not feature library as their sources and most computer based courses come with the mind of computer science and coding and users may not really be interested in this.
- ii. Use of social media or social networking tools: the world today is regarded as a global village due to the power of these tools to connect and interact. Libraries have adopted the idea of taking their services to users. Education and empowerment should not be left out on this platforms. Ready courses or training on digital environment utilization must be regularly updated on library social networks links or pages.
- iii. Use of Youtube: Youtube has been described as a powerful tool for learning as it allows for visual, audio and multiple learning. This can be leveraged upon to educate and empower the users
- iv. Virtual 3D: this will afford the users to connect with the library in a “real-life like modes”. The users can be trained right in their home as if they are in the library.
- v. Online chat: various platforms and software can be adopted for this as it will enable users to connect with the library in real time. The library staff must be tech-savvy that can respond to virtually all the queries and requests of users in the area of digital environment utilization.
- vi. OPAC/ library website should be well constructed such that users can easily connect and learn whatever they want to learn on the site as if they were in their homes or right physically in the library.

- vii. Follow up or RSS: some of the users of the library are busy and they have come to library for one purpose or the other, there is the need to follow up on them in form of update to what they have learnt or updating them on new ideas and innovations.
- viii. Collaborative tools: today education has gone beyond teacher standing physically in-front of the students but learners can contribute meaningfully to learning process. Library must rise up to the responsibility of educating and empowering its users in an environment they are to operate.

Advantages of Educating and Empowering Users in Digital Environment

Some of the advantages of educating and empowering users in digital environment as reported by Isa (2018) include improved quality and quantity of research, saving of time, improved quality of teaching, better usage of e-resources, increased relevance of librarians, better decision making; in academic environment specific situation - enhanced visibility of the researchers' institution and better performance of students.

Conclusion :

The availability of information in digital space has automatically compelled the library to move to library space. The issue today is beyond technology technicalities, infrastructural facilities availability and information availability rather it a matter of harnessing all these variables together concretely in a way that users will be capable of using information in the digital environment. Libraries roles and methodologies as highlighted in the paper should be adopted and implemented to get the best for the users. Ability of the library to make users to be digitally literate will increase the relevance of libraries to the society.

References :

1. Abertawe, P. (2013). *Information and digital literacy strategy*. Swansea: Swansea University.
2. American Library Association, (2015). A national policy agenda for libraries: The policy revolution! Initiative. <http://www.ala.org/advocacy/sites/ala.org.advocacy/files/content/pdfs/NPAfoLibraries1.pdf>
3. Brown, S. A. (2014). Conceptualizing digital literacies and digital ethics for sustainability education. *International Journal of Sustainability in Higher Education*, 15 (3), 280-290.
4. Cordell, R. M. (2013). *Information literacy and digital literacy: Competing or complementary?* Illinois: Northern Illinois University.
5. Davies, A., Fildler, D. & Gorbis, M. (2020). Future work skills 2020. https://www.iftf.org/uploads/media/SR1382A_UPRI_future_work_skills_sm.pdf
6. Emiri, O. it. (2015). Digital literacy skills among librarians in university libraries in the 21st century in Edo and Delta States, Nigeria. *International journal of scientific & technology research*, 4 (8), 153-159.
7. Eshet-Alkalai, Y. & Soffer, O. (2012). Navigating in the digital era: Digital literacy: Socio-cultural and educational aspects. *Educational Technology and Society*, 15(2), 1-5.
8. Fourie, I. & Meyer, A. (2016). Role of libraries in developing and informed and educated nation. *Library Hi Tech September*. https://repository.up.ac.za/bitstream/handle/2263/57380/Fourie_Role_2016.pdf?sequence=1
9. Ganaie, S. A. (2013). Role of University libraries in promoting the digital literacy: the Indian perspective. : <https://www.researchgate.net/publication/272506748>

10. Horrigan, J. B. (2014). *Digital Readiness*: http://jbhorrigan.weebly.com/uploads/3/0/8/0/30809311/digital_readiness.horrigan.june2014.pdf
11. IFLA (2017). IFLA Statement on Digital Literacy. [C:/Users/hp/Desktop/buhari%20conf/IFLA%20IFLA%20Statement%20on%20Digital%20Literacy%20\(18%20August%202017\).html](C:/Users/hp/Desktop/buhari%20conf/IFLA%20IFLA%20Statement%20on%20Digital%20Literacy%20(18%20August%202017).html)
12. IFLA, (2016). IFLA-IPA-IAF-RWF Statement on Literacy. https://www.ifla.org/files/assets/hq/documents/joint_statement_on_literacy_and_reading.pdf
13. Igiamoh, V. E. & Ogunwemimo, O. A. (2013), “Re-positioning public libraries in Nigeria for social inclusion services”, *World Libraries*, 20(2), available at: <http://Ojserv.dom.edu.innopac.up.ac.za/ojs/index.php/worldlib/article/viewArticle/486/469>
14. Information Policy and Access Centre, (2014). Public libraries and digital literacy: digital inclusion survey. <http://digitalinclusion.umd.edu/>
15. Isa, S. A. (2018). Digital literacy: Survival skill for librarians in the digital era. *Information Impact: Journal of Information and Knowledge Management*, 9(4), 107-116.
16. Kenneth, A. (2017). Emerging roles: Academic libraries crossing the digital divide. *SLIS Connecting*: 6(1), Article 5. DOI: 10.18785/slis.0601.05 Available at: <http://aquila.usm.edu/slisconnecting/vol6/iss1/5>
17. Khan, S. A. & Waheed, A. (2015). Digital literacy practices for library users at Government College University Libraries. Lahore: University Libraries.
18. Kurbanoglu, S. (2013). Empowering information literacy and continuing professional development of librarians: new paradigms for learning. *Springer International Publishing ECIL*, 2013, CCIS

397, 647-654. https://link.springer.com/chapter/10.1007/978-3-319-03919-0_87

19. Lachal, J. & Peich, M. (2018). Libraries as empowerment levers; defining the collections and the contents with the users- the example of the ideas box. Paper presented at IFLA WLIC, Kuala Lumpur, 28th-29th August, 2018. <http://library.ifla.org/2417/>
20. Mackert, M., Mabry-Flynn, A., Champlin, S., Donovan, E. E., & Pounders, K. (2016). Health literacy and health information technology adoption: The potential for a new digital divide. *Journal of Medical Internet Research*, 18(10), e264.
21. Ng, W. (2012). Can we teach digital natives digital literacy? *Computers & Education*. 59(2), 1065–1078.
22. Sasi, P. K. (2014). Role of public libraries on women empowerment: a study with special reference to district library Malappuram. *IOSR Journal of Humanities and Social Science*, 19(10), 36-42.
23. Stilwell, C. (2016), “The public library as institutional capital: towards measures for addressing social inclusion and combating poverty”, *Information Development*, 32(1), 44-59.

Research and Ethics in the Era of Digitalization : A Critical Study

*Debabrata Basu**

Abstract

Research is a very useful term associated with the research community. It is a systematic search on a particular topic to get a solution. In general words, research may be called an investigation of finding a solution to a specific problem in hand by the research. It is a new way of searching for discovery of unknown fact. For any research, research methodology plays very important role. Research methodology is a science of conducting research in a right direction. The methodology of research may vary from one discipline to another. Research methods are procedures or designs used by the researcher in a research. In any research, either empirical or doctrinal, method plays an important role to analysis the information and finds a solution. The progress of a Nation depends on how much research is going on by the research community and therefore the results assume much importance for the development of the Nation. It is the responsibility of the researcher to strictly abide by the research ethics.

Keywords : Research, Ethics, Digitalization, Law

1. Introduction :

In this article the author first try to discuss what research is and then describe what research ethics is. Research is systematic investigation of study of any particular topic chosen by the researcher. Generally, it

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includes various steps for doing the research. A topic may be chosen by the researcher from his inquest of which he does not get any solution till date.⁶ Generally a research may include various processes⁷ like identify the problem to be investigated; review of literature; plan of the research; methodology; study area of the research; fixed the research universe; select the tool for data collection; collection of the data; analysis of the data; testing of Hypothesis and generalization of a formula. While doing research, ethics plays an important role. Ethics is a concept which defines and delimits the goodness or badness of human conduct.⁸ Every research must be beyond reasonable doubt free from ethical consideration. Now the author will discuss the various processes of research one by one in the context/topic of **“working of the law relating to the protection of hand-rickshaw puller in India : A Critical Study of Kolkata Municipal Corporation”**. This article is mainly descriptive in nature.

1.1 Research Background :

The object of law is to seek justice. It is a fact that without the necessary freedom, equality and justice no individual can develop his life. The main task of society is to give justice to all through the medium of law. Due to changing nature of society, new challenges emerge and therefore the legal system needs to meet the challenges. The main object of the social order in general and law in particular is to give meaningful life to all segments of society. Therefore, why the

6. *The author has tried to describe ‘research’ from his own concept which he acquired while doing research (Ph.d.) in Law.*

7. <https://us.humankinetics.com/blogs/excerpt/steps-of-the-research-process>, assessed on 08.08.2020

8. <http://hdl.handel.net/10603/162165>, Pp. 1.

hand-rickshaw puller⁹ is facing constant harassment for securing their livelihood may be a background for doing research on the above mentioned topic.

1.2 Identification of the Problem :

The identification of the problem on the above-mentioned topic may be stated in this way that we all know that our country had enacted the Social Security Act, 2008 and the Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014. Despite that nothing has been done to secure the livelihood of the hand-rickshaw puller by the government. They still remained marginalized segment of the society. A society, which functions within the framework of welfare state as envisaged in new Indian polity aiming at ensuring a minimum desirable standard of living to each and every member, is obliged to come forward to understand the needs of them and to undertake various measures that should be helpful in the fullest development of their life. So the problem lies because the authority still availing various statutes viz, the Indian Penal Code, 1860 (Sections 186,188, 268, 272,273, 283,290); The Code of Criminal Procedure, 1973 (Sections 133, 135, 136, 143, 149, 151); The Police Act, 1861 (Sections 23, 24, 31, 34); The Motor Vehicles Act, 1988 (Section 201); The Public Premises(Eviction of Unauthorized Occupants) Act, 1971; and respective Municipalities Act for imposing restriction on them, despite their having specific Act.

9. "According to Section 2 (1) (l) of the Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014 "street vendor" means a person engaged in vending of articles, goods, wares, food items or merchandise of everyday use or offering services to the general public, in a street, lane, side walk, footpath, pavement, public park or any other public place or private area, from a temporary built up structure or by moving from place to place and includes hawker, peddler, squatter and all other synonymous terms which may be local or region specific; and the words "street vending" with their grammatical variations and cognate expressions, shall be construed accordingly;"

1.3 Literature Review:

In any study, literature review plays an important role. It is a required homework that ought to have been done carefully. It depicts the pictures about what work has been done in the past of the topic chosen by the researcher. The main aspect of literature review is that it judge, sums up, compares and contrasts, connects various books, articles, other relevant sources that are very much related to the present study. A comprehensive review of relevant literature is essential as it place the research study in its proper perspective by narrating the amount of work already done in the related area, so that the gap can be identified.

1.4 Rationale of the Study:

We all know that our Parliament enacted the Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014 to handle the issue of hand-rickshaw puller. They are substantially fall under Section 2 (1) (l) of the Act of 2014. There are so many legal protections as given in the Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014. To answer the question ‘does this Act has any relevance in the life of hand-rickshaw puller?’ is the need of the hour. Despite our 73 years of Independence, why they are still marginalized is a big question at present. The scope of this study may be to inquire into the existence and implementation of the law to deal with hand-rickshaw puller of Kolkata Municipal Corporation. The Constitution of India is the supreme law of the land and Part ii¹⁰ of our Constitution has mentioned six types of Fundamental Rights i.e. Right to Equality¹¹; Right to Freedom¹²; Right against exploitation¹³; Right to freedom of

10 Article 12 to 35.

11 Article 14 to 18.

12 Article 19 to 22.

13 Article 23 to 24.

religion¹⁴; Cultural and educational Rights¹⁵; Right to Constitutional remedies¹⁶. The main aspect of right to Equality is to provide political, social and economic equality in the society.¹⁷ For any democracy, equality is the basic pillar and is a necessary corollary of Rule of Law.¹⁸ Equal protection of laws postulates among equals the law should be equally applicable, that the like should be treated alike without discrimination of religion, race, caste, sex, place of birth or any of them.¹⁹ The Hon'ble Supreme Court in M. G. Badappanavar's case has held that "Equality is a basic feature of the Constitution of India and any treatment of equals unequally or unequal as equal will be violation of the basic structure of the Constitution of India".²⁰ The Hon'ble Supreme Court in M. Nagaraj case has held that "there can be no justice without the equality".²¹ Equality permits reasonable classification and prohibits class legislation. In Deepak Sibal case, the Hon'ble Supreme Court has pointed out that a classification need not be made with "mathematical precision."²² The Articles dealing with fundamental rights are applicable to all including hand-rickshaw puller. Apart from that, another important principal is right to live to all citizens which mean that every person has a right to live with dignity. Therefore it may be said that the hand-rickshaw puller like

14 Article 25 to 28.

15 Article 29 to 30.

16 Article 32 to 35.

17 Jitender Singh Dhull, 'The Concept of Equality under Indian Constitution: Its Dimensions', a thesis submitted at Maharshi Dayanand University, 2007.

Available at <http://hdl.handle.net/10603/129410>

18 M. P. Jain, *Indian Constitutional Law, Fifth Edition, Reprint 2007*, Wadhwa and company, Nagpur

19 Jagannath Prasad v. State of Uttar Pradesh, AIR 1961 SC 1245.

20 M.G. Badappanavar v. State of Karanataka AIR 2001 SC 260.

21 M. Nagaraj v. Union of India SCC 2006 Vol 8, p 248.

22 Deepak Sibal v. Punjab University, AIR 1989 SC 903.

other people possess all basic human rights and fundamental rights²³. Article 14²⁴, Article 19 (1) (g), Article 21²⁵, Article 32, Article 37, Article 38²⁶, Article 39²⁷, Articles 39A, Article 41²⁸,

23 *Human rights are the basic and inalienable rights that possess every human being from the moment of his birth. Section 2 (d) of the Protection of Human Rights Act, 1993 defines 'Human Rights means the rights relating to life, liberty, equality and dignity of the individual guaranteed by the Constitution or embodied in the International Covenants and enforceable by the courts in India'.*

24 *Equality before law. —The State shall not deny to any person equality before the law or the equal protection of the laws within the territory of India.*

25 *Protection of life and personal liberty. —No person shall be deprived of his life or personal liberty except according to procedure established by law.*

26 *State to secure a social order for the promotion of welfare of the people.—(1) The State shall strive to promote the welfare of the people by securing and protecting as effectively as it may a social order in which justice, social, economic and political, shall inform all the institutions of the national life.*

(2) The State shall, in particular, strive to minimize the inequalities in income, and endeavor to eliminate inequalities in status, facilities and opportunities, not only amongst individuals but also amongst groups of people residing in different areas or engaged in different vocations.

27 *Certain principles of policy to be followed by the State.—The State shall, in particular, direct its policy towards securing—*

(a) that the citizens, men and women equally, have the right to an adequate means of livelihood;

(b) that the ownership and control of the material resources of the community are so distributed as best to sub serve the common good;

(c) that the operation of the economic system does not result in the concentration of wealth and means of production to the common detriment;

(d) that there is equal pay for equal work for both men and women;

(e) that the health and strength of workers, men and women, and the tender age of children are not abused and that citizens are not forced by economic necessity to enter avocations unsuited to their age or strength;

(f) that children are given opportunities and facilities to develop in a healthy manner and in conditions of freedom and dignity and that childhood and youth are protected against exploitation and against moral and material abandonment.

28 *Right to work, to education and to public assistance in certain cases.—The State shall, within the limits of its economic capacity and development, make effective provision for securing the right to work, to education and to public assistance in cases of unemployment, old age, sickness and disablement, and in other cases of undeserved want.*

Article 42²⁹, Article 43³⁰, Article 43A, Article 47, Article 226 are very relevant for promoting a dignified life.

II. v. Research Methodology:

The author is discussing the various processes of research on the topic **“working of the law relating to the protection of hand-rickshaw puller in India: a critical study of Kolkata Municipal Corporation”**. Therefore, research methodology on this topic may be doctrinal or empirical or partly empirical or partly doctrinal depending upon the researcher. In Doctrinal part, two types of reference may be used i.e. primary sources and secondary sources. Primary sources consist of statute and legislations and secondary sources are books, journals, articles. In Empirical part, the primary data may be obtained by field survey from Kolkata Municipal Corporation Area. The sample of fixed persons may be taken up for the purpose of data analysis. For empirical study the researcher may propose to adopt field survey method or direct participation method or observation method for data collection from the study area. In empirical method, generally the Questionnaire method is helpful to collect data from large, diverse and widely scattered people through stratified random sampling method. The data obtained through the field survey will be processed and presented in appropriate table, columns, pie and line for deriving conclusions. For doctrinal study, there is no scope of field survey rather the researcher may collect material from the library. On the above-mentioned topic, the study area is Kolkata Municipal

29 Provision for just and humane conditions of work and maternity relief. —The State shall make provision for securing just and humane conditions of work and for maternity relief.

30 Living wage, etc., for workers.—The State shall endeavor to secure, by suitable legislation or economic organization or in any other way, to all workers, agricultural, industrial or otherwise, work, a living wage, conditions of work ensuring a decent standard of life and full enjoyment of leisure and social and cultural opportunities and, in particular, the State shall endeavor to promote cottage industries on an individual or co-operative basis in rural areas.

Corporation and the sample universe may be 100 or 200 or more depending upon the research plan of the researcher. The sample universe may be divided into four strata i.e. (a) hand-rickshaw puller; (b) association member of the hand-rickshaw puller; (c) opinion of the common people and (d) official of the Kolkata Municipal Corporation.

II. vi. Research Questions:

The basic questions may be raised for considerations are:

1. What is the specific law to protect the interests of hand-rickshaw puller?
2. Is the existing law on hand-rickshaw puller adequate to protect their rights?
3. Whether the concerned government allotted space to hand-rickshaw puller?
4. What role so far played by the Town Vending Committee for social inclusion of hand-rickshaw puller?

II. vii. Hypothesis:

The following Hypothesis related to the present topic have been formulated:

“The Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014 is deficient to protect and secure the rights of hand-rickshaw puller of Kolkata Municipal Corporation.”

II. viii. Writing of Research Report:

In any research, writing of report is the last and very important step without which the process remains incomplete. In general words it may be called the thesis. Report is the outcome of the study which the researcher has investigated. The report may include from the selection of the problem to the solution of the problem. The report may be presented in various chapters like introduction; literature review;

historical development, international aspect; Indian law dealing with the issue; role of judiciary, data analysis; conclusion.

III. Research Ethics:

Generally, by the term ethics we mean the value of society which man ought to follow. It derives from the Greek word 'ethos' which mean goodness or justness of a thing or behavior or conduct or value system.³¹ Ethics plays an important role for moral purification of a man. There are various values in the life of a man like moral values; social values; family values; National values; universal values; community values. So, in any research, ethical values plays very important role. Ethical value may include 'care' which requires conscious engagement on moral values that would guide the research.³² In the empirical research, consent of the participant is very important ethical issue. Issuance of consent form and/or obtaining the consent from the participant is highly required ethical issue. The researcher should disclose the true purpose of the research to the participant before obtaining consent so that the participant may become fear free. There are various ethical principles in research, such as, honesty (report data and results); bias free research design; integrity; carefulness (carefully examine the work); openness for criticism and new ideas; respect copyright; avoid plagiarism; confidentiality; promote social good through research; maximize benefit while doing research on human aspect.³³ There are many reasons for adherence to ethical norms in research. Firstly, promote the aims of research; secondly, promote values that are essential to combined work; thirdly, build public support and lastly enhance social values.³⁴

31 <http://hdl.handel.net/10603/162165>, Pp. 4.

32 <http://hdl.handel.net/10603/16132> , Pp. 65.

33 <https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm>
assessed on 08.08.2020.

34 *Ibid.*

IV. Digitization:

Today's era is an era of digitization and therefore the approach towards research has been also changed. Now no one need to go to the physical library rather library is at our home. Plenty of materials may be obtained in a fraction of seconds by clicking the mouse or the mobile. At present no one wants to go to the library and they are much more comfortable with the mobile or computer for availing the benefit of resources. There are so many repository containing e-database maintained by the government or institution or NGO level.³⁵ So far as the research is concerned, there is also increasing tendency for utilizing digital resources by the researchers. Both doctrinal and empirical research can be done by using information technology but there is growing tendency of doing doctrinal research. In case of hard copy resources, there is a time limit for availing material but in case of soft copy resources, it is all time available and further there is no need to spend money for getting materials. Digital revolution has reduced cost and time of getting resources. It is a blessing to the academic fraternity.

V. Conclusion:

In the era of digitalization there is a growing tendency of copy right violation and plagiarism, which is against the research ethics. At any cost, the ethics of research must be adhered to. There is no difference

35 The reference of these website are obtained from the official website of Hooghly Mohsin College (<https://www.hooghlymohsincollege.org/>) and they are as follows:

swayam.gov.in; http://ugcmoocs.inflibnet.ac.in/ugcmoocs/moocs_courses.php; <https://epgp.inflibnet.ac.in/>; <http://cec.nic.in/>; <https://swayamprabha.gov.in/>; <https://www.youtube.com/user/cecedusat>; <https://ndl.iitkgp.ac.in/>; <https://shodhganga.inflibnet.ac.in/>; <https://shodhganga.intlibnet.ac.in/>; <https://vidwan.inflibnet.ac.in/>

between hard copy and soft copy based research, only difference in e resources based research is that the researcher need not go to the physical library. There is no question of departure from ethical value in e-based research. Everything which is applicable to the conventional research is also applicable to the e resource-based research. The researcher should take extra care for avoiding copy right violation and plagiarism. The library is also well equipped with the e resources and in case of any doubt, the researcher must contact to the librarian for avoiding copy right violation and plagiarism. The author thinks that the librarians are the knowledge hub in the era of digitalization and they must be consulted at periodic interval or at any point of doubt. By professional reason, the author knows so many librarians and is of the view that the librarians possess huge knowledge and may guide any researcher in a right path.

Information Retrieval Behavior of Postgraduate Students of the Postgraduate Institute of Archaeology, Sri Lanka.

*G.H. Inoka Dilhani**

Abstract

As a library and information professionals, we have responsibilities to enhance the skills of users who use the library and information centers. To obtain the Sustainable Development Goals, the library and information centers should organize orientation programmes to improve their knowledge and skills. This study aims to identify the information searching and retrieving techniques used by the postgraduate students of the Postgraduate Institute of Archaeology (PGIAR). The main objectives of this study is to understand the information retrieving behavior and tools among the PG students of the PGIAR. Other objectives are to identify the information retrieval systems and information retrieval tools used by the students and the problems that they face, in retrieving information for their studies/ Research. The study selected population is 80 postgraduate students registered in the academic year 2018/2019. The multiple questionnaire method was used for this survey. It reveals that the majority of students prefer to use the library to find the information what they need. The students' information search/ retrieving skills should be improved. The library Catalogue should be upgraded up to online standard (Online Public Access Catalogue). It reveals that the

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users are quite satisfied with the resources and facilities provide by PGIAR Library.

Keywords: Information Retrieval Behavior; PG Students: Information resources; Information retrieval tools, Sri Lanka

Introduction

Information retrieval is the activity of obtaining information resources relevant to an information need from a collection of information resources (Dutta and Das, 2014). An information retrieval process begins when a user enter a query in to the system. It is depend on their purpose knowledge, experience and efficiency.

Students need scholarly information in order to fulfill their curriculum. Scholarly information is intellectual information that written by experts in particular field and it have a few elements such as the use of technical writing, references and peer-reviewed. (Shuib, Abdullah and Ismail, 2010). Most students depend on information retrieval tools to satisfy their needs.

Information retrieval tool can be in any form of printed or electronic catalogue, index, bibliographic records or application that facilitates information retrieval. With the volume of information available today, it is difficult to find accurate information that suits students' need. The main problem is to find the right information for the needs.

Information is available in the library in different formats i.e. print, non-print (electronic), In different categories i.e. Primary, secondary and tertiary and in different channels i.e. formal and informal. As a library and information professionals have responsibilities to enhance the skills of users who come to the library and information centers. At present, the library owns approximately a collection of 20,000 books belong to the discipline of Archeology and its related and Journals, Documents, Maps, Audio –Visual, Ola-leaf, Reports, Estampages,

To obtain the Sustainable Development Goals the library and

information centers should organized orientation programmes to improve their knowledge and skills. This study aims to identify the information searching and retrieving techniques used by the postgraduate students of the Postgraduate Institute of Archaeology (PGIAR).

Literature Review

According to research published in 2010 on the use of information retrieval tools by the postgraduate students of higher educational institutes of Pakistan by Rahool, Nagarand Bhutto said that the outcome of the respondents make use of information retrieval tools for a variety of purposes and that university library's user education and information literacy program forms the key source of their knowledge of information retrieval tools usage. This study also revealed that the use of the information retrieval tools has impacted positively on their social and academic life and has also enhanced their knowledge. In this study majority of postgraduate students were interested to use the internet resources for the searching of information. The paper concludes with recommendations that the OPAC is an important tool to find out the available resources in the library.

Fordjour, Badu, Adjei in 2010 investigated from their research that the students from all the faculties considered are highly aware of the information retrieval systems. The study also showed that the use of information retrieval tools to retrieve relevant information depends on According to the research conducted by Avijit Dutta and Subara Kumar Das in 2014 reveals that the significant number of users search information regarding the library material through OPAC despite encountering problems. Lack of basic skills among users was found to be the major reason for not utilizing full features of OPAC, improper query formulation and non-use of search operators while surf the web. It is suggested that library should organize quality instruction programmes to improve knowledge and skills of the users.

Significance of the Study

In this era of competitive research and knowledge acquisition, university students now visit their university libraries to retrieve accurate and current information from resources available in all subjects. However, the optimal use of electronic resources by students may depend on their information retrieval skills. Information retrieval skills are crucial for retrieving information in this era of technology that most of the information needed for research can be retrieved from electronic sources. However, students' efforts to complement their work with electronic resources may be limited due to lack of skills. Therefore knowledge of skills is necessary to selectively retrieve accurate, relevant and up-to-date information stored in documents instead of all the information that may not be relevant for their school work.

The PGIAR Library are to promote the knowledge of Archaeology and its related disciplines; appropriate, improve, upgrade and disseminate the knowledge of Archaeology and its related disciplines and produce the knowledge required to study the text, to conduct field research and to engage in relevant practices of Archaeology. The intention of this study is to utilize the results in order to improve the service quality of the PGIAR Library.

Objectives of the Study

1. To study the information retrieving behaviour and tools among the PG students of the Postgraduate Institute of Archaeology.
2. To identify the information retrieval systems and information retrieval tools used by the students.
3. To identify the problems that they face, in retrieving information for their studies/Research.

Methodology

This study used multiple questionnaire method for survey. Informal

conversations with the students were also done to obtain the unrevealed information which was not in the questionnaire. For the collecting data, 80 questionnaires were distributed among students randomly.

Altogether, number of responses received from 52 out of 80 (65%) for this preliminary study. All the respondents specially MA/MSc students, were much happy about this survey and shared their ideas and experience for further development. The questionnaire contains the aspects like channel of Information seeking, preferred location, search strategies and tools and ability to find information.

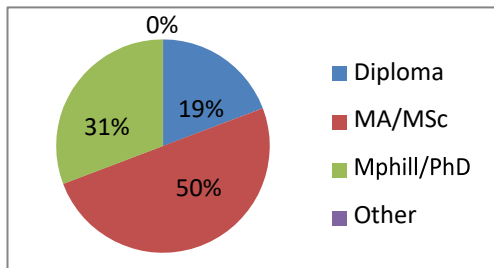


Figure 1: Population according to the course type.

Findings

The major findings that are generated from this study are:

i) Search Tools

1. Majority of the Students 69% are preferred to use the library to find the information for their studies/Research. 15% are preferred to get information through internet surfing, 8% preferred to find information through electric resources and other.
2. Most of the students search their required books/information through the Library catalogue 40% , 23% form searching printed information sources like Bibliographies, Indexes etc. and 15% use internet. 12% of students were get help from teachers and colleagues. 10% use electronic databases.

Information searching tools	No of Students	%
Library Catalogue	21	40%
Printed Materials	12	23%
Internet	8	15%
e-resources	5	10%
Teachers/Colleagues	6	12%
Total	52	100%

Table 1: : Number of respondents according to Information resources

- Most of the students had an idea about the Indexes and abstracts, Indexed journals; Non- indexed journals, Citation indexes, Google scholars and Research gate. Majority of them have learnt from lectures and from internet. About this issue Library contribution were very poor. Library should have to initiate the programmes to develop their knowledge and facilities about these tools.

ii) Use of Information Resources

- 75% of the students preferred to use Printed materials, 13% preferred to use internet and 06% preferred to use e-resources and other. The students who were preferred to use printed materials, the majority were like to use books (58%).

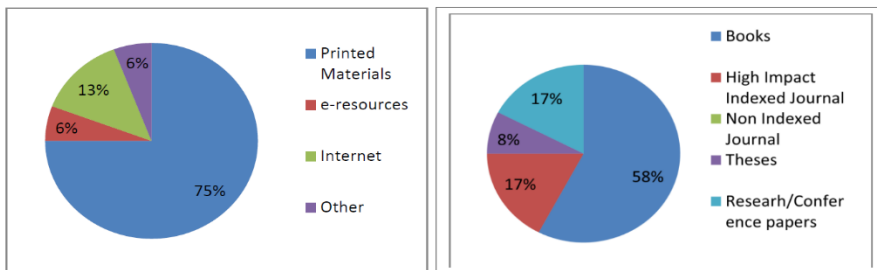


Figure 3: Usage of information resources

iii) Use of Library facilities

1. 77% of the students use the library computerized catalogue for searching information. 23% are not using the library, out of 23%, 13% of students do not know how to operate the catalogue. Majority of students (94%) use the library catalogue and 80% needed the help of library staff. It reveals that they are facing problems due to lack of knowledge and confuse to use the computerized catalogue. The students, who do not use the catalogue, mentioned that they were unhappy to disturb the library staff.
2. Most of the students use the library on weekends and spent 1-2 hours (63%) for the purpose. Most of them are from reveals they unable manage their time to use the library because of they are coming from far away and also employed.

iv) Search strategy

1. Majority of the students search their required books, through Keywords/ Subject headings (44%). Students search their books by title 31% and only author 19%. 6% of them had no idea.

Search Types	Response	%
By Author	10	19%
By title	16	31%
By keywords/Subject headings	23	44%
Other	0	0%
Don't know	3	6%

Table 2 : Number of respondents according to the search strategy

2. A very few number of students has used operator formulae for their quires. Search Operators are commands that helps filter and refine search engine results. There are two types of search operators mostly used, Boolean and Truncation. Boolean Operators are used to connect and define the relationship between

the search terms. When searching electronic databases, can use Boolean operators to either narrow or broaden record sets. Truncation is also known as *wildcard searching*. It lets search for a term and variant spellings of that term.

It had seen that the minimum number of students have an idea about search operators. According to the population, 75% of respondents were preferred free surfing without using any techniques.

Retrieving techniques	No. of respondents	%
Used Booleans operator	4	8%
used Free Searching	39	75%
used both above techniques	9	17%

Table 3: percentage on searching operators

v) Usage of Information Communication Technology (ICT)

- Majority of them have good Information communication skills. They have better knowledge on using email, Internet, Short message services and Social media (FB).

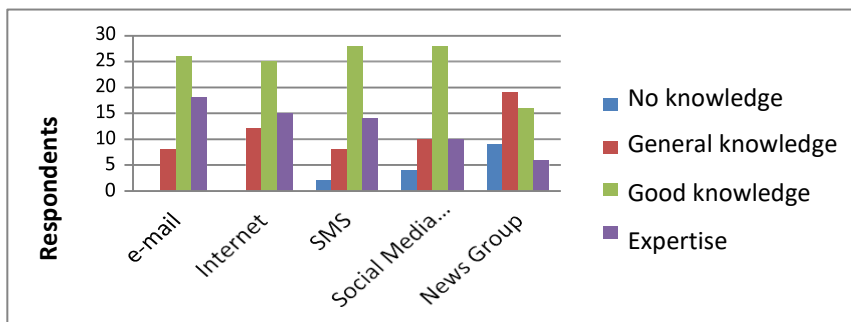


Figure 4 : usage of ICT

- Electronic format (Pdf, ebooks etc.) was used by 54% of the respondents for their readings. Printed format used were used by

42% and 4% had used other formats (HTML etc) for their readings.

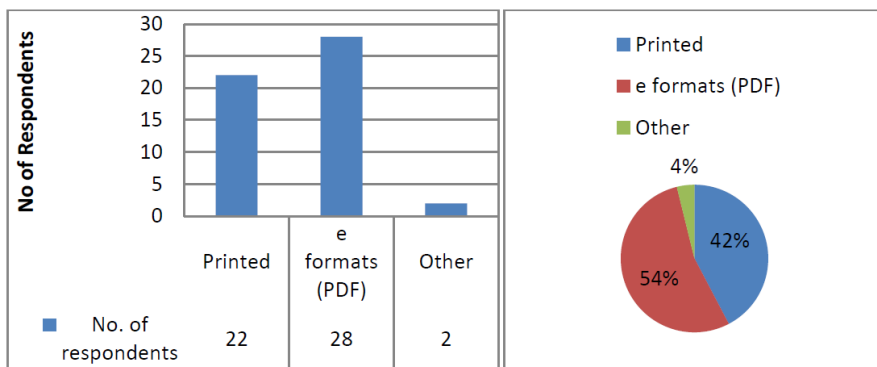


Figure 5: Usage of reading formats

The Library already used these methods for dissemination of information for the students. Electronic formats of the required reading has distributed by email for students. It is much popular facility among the students/ researches.

Suggestion and Conclusion

Information environment is very large and complex. Today information is available in the different formats. Therefore, readers unable to find the information what they need. Appropriate use of search techniques can help the user to get required information pinpointedly, exhaustively, timely and economically. It is very useful to do their study/ research success. The findings of this study reveal that students from the postgraduate students of the Postgraduate Institute of Archaeology considered were aware of the information retrieval systems but them not practicing.

This study indicates that the Most of the students are satisfied with the resources in the Library and they were preferred to use the library Catalogue, and it must be developed as online (Online Public Access Catalogue). Online Public Access Catalogue (OPAC) is an important tool to use the library to find out the available resources may be an electronic of hard format.

The study identified the information search/ retrieving skills need to be improved. Students need more training for electronic resources used for academic development. User education programmes has to be developed and teaching information retrieval skills, research methods and skills to the students should be embedded in to the curriculum and it is much useful their studies and research. The Library has to be initiating the digitization projects and make available in digital facilities for the students. The existing information literacy programmes should be improved. The study reveals that the users are more satisfied with the Library resources and services.

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References:

1. Ariyapala, P. and N. Edzan, 2002. Foreign postgraduate students and the online catalogue at the university of Malaya library. *Malaysian Journal of Library & Information Science*, 7(1): 1-11.
2. Dutta, Avijit & Das, Subarna Kumar (2014) Information Retrieval Techniques used by the Midnapore College (Autonomous) Library Users: A Study. INFLIBNET Centre [Available at: <http://ir.inflibnet.ac.in/handle/1944/1819>] visited on 22.05.2019
3. Edeama, Onwuchekwa,(2011) Information Retrieval Methods in Libraries and Information Centers. *African Research Review*. Vol. 5, no. 6, Nov. (Pp. 108-120) [Available at : <http://www.ajol.info/index.php/afrrrev/article/viewFile/72348/61276>] visited on 15.05.2019
4. Ekenna, Margaret-Mary & Iyabo, Mabawonku (2013) Information Retrieval Skills and Use of Library Electronic Resources by University Undergraduates in Nigeria In *Information and Knowledge Management*, 3 (9).
5. Fordjour, R., Badu, E.E. & Adjei, E., 2010. The Prospects and Challenges of Information Retrieval by University Students: A case study of Post Graduate Students of the University of Ghana, Legon done by Fordjour, Badu, Adjei, 2010 [available at : https://www.academia.edu/2515712/The_challenges_of_information_retrieval_by_University_students_A_case_study_of_post_graduate_students_of_the_University_of_GhanaLegon] visited on 15.05.2019
6. Nazim, M., 2008. Information searching behavior in the internet age: A users' study of Aligarh muslim University. *The International Information & Library Review*, 40(1): 73-81. [Available at: <https://doi.org/10.1016/j.iilr.2007.11.001>.] visited on 20.05.2019

The Scope of Artificial Intelligence Manipulation on Social Media: Rising Privacy Concerns

*Vijaya Singh**

Abstract

This is an attempt to address the growing concerns over the privacy regime virtually due to the advancement in technology. Artificial Intelligence, Internet of Things and Big Data has severely changed the utility of social networking which makes it imperative to delve into the possibilities of issues which may arise. A need exists to study the recent Psychographic Profiling events and the scope of usage of technology to better guard the interest of netizens. Proper governance and policy framework can not only lead to upheaval of privacy rights but also prevent further such activities. We live in an era where we are constantly under the threat of digital invasion this research will augment the existing literature by suggesting measures to prevent digital privacy breaches in light of the latest technology development ie. Artificial Intelligence.

Keywords: Psychographic Profiling, data privacy, artificial intelligence, internet, informational privacy

1. Data : A by-product of Social Networking

The invention of the internet has changed the way of life. We daily interact with Google, Facebook, YouTube and LinkedIn. It is close to impossible to leave the internet citizenship we live in the era of

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netizens. The closure of the gap between people has made every citizen identifiable and visible. The increase in addiction for gadgets – cell phones, tablets, laptops and digitalization of sound systems, vehicles etc. has made our life more public and traceable. ¹With the usage of digital gadgets we create a huge amount of data which can help others trace back to us.² The creation of data online is facilitated by increment in technology and storing spaces which can help in creating your digital profile which invariably contains all the information pertaining to usage of the internet. Also, allied details are stored via GPS, usage of different applications etc. Astounding amount of information can be received by data recovery centralizing a person. The revelation of one's life patterns and choices not only affect fundamental human rights like privacy and security but also lays the individual at risk for exploitation as all preferences or life patterns lays exposed to the data handler.³ The data collected online is not managed by governments of any nation but by profit making corporations.⁴ The increase in use of the internet and pacing of science makes humans one of the most vulnerable species. Data in the present world is claimed to be the new oil by some.⁵ It has the ability to make any corporation rich by mere analysing the preferences of an individual and developing the product as per preferences of people to deem attractive. Data can be manipulated in several forms and it is more valuable than diamond in the present age. Information extracted from data can be used to induce several results revealing various information about people. This leads to datafication of netizens. Datafication seeps way for the commercialization of data.⁶ The revenue generation in this process is dependent on the Frank Buytendijk and Jay Heiser, *Confronting the privacy and ethical risks of Big Data*, FINANCIAL TIMES (Sept. 25, 2013), <https://www.ft.com/content/105e30a4-2549-11e3-b349-00144feab7de>

- 1 Louise Masakis, *The WIRED Guide to Your Personal Data (and Who Is Using It)*, THE WIRED (Feb. 15, 2019), <https://www.wired.com/story/wired-guide-personal-data-collection/>.
- 2 Oracle, *Transformational Technologies: Today: How IoT , AI and blockchain will revolutionise the business*, ORACLE (2018), <http://www.oracle.com/us/solutions/cloud/tt-technologies-white-paper-4498079.pdf>.
- 3 Christoph Stückelberger & Pavan Dugga, *Cyber Ethics 4.0: Serving Humanity with Values*, GLOBEETHICS GLOBAL SERIES 17 61-66 (2018)

extraction of relevant data by the system or data which is converted into information so that it can be made useful. Also, for the common understanding of mankind one's identity is ingrained in data as recognized by government and agencies. Everything that is relevant to mankind has been digitized hence spearheading the datafied era.

The acronym “FAANG giants” which is used to denote - Facebook, Amazon, Apple, Netflix and Google possess a net worth of \$3.5 trillion.⁷ Which is equivalent to the GDP of Germany, the world’s fourth largest economy. The shares of Facebook in 2018 were said to fall by a number so that it was said to be the largest one- day drop in the entire history of the stock market.⁸ This low was due to the adherence and change in policies by Facebook to follow the European privacy rules. Not only Facebook but almost all in the FAANG were struck hard by the European privacy policies.⁹ The profit generated not only makes us realize the worth of our data and usage of net but also how deeply our privacy is continually being breached online as when regulations are complied with these companies are severely affected.

2. The interplay between Data Privacy & Artificial Intelligence

Privacy concerns are real and important to present day society as privacy is a complex concept. It is even more difficult to implement it in the age of technology. Every person has a right to be left alone.¹⁰ The right to freedom of expression, no arbitrary interference, right to associate and not to be watched in the private sphere of life are one of the evolving facets of privacy.¹¹ Privacy is the sphere in which it is reasonably expected to not be monitored.¹² Several legislations¹³ and judgments¹⁴ have been passed to protect the right to privacy of people but with the increase in technology and voids in statutes it has become easier to violate the right of privacy.

The growth in science has also affected the growth in dangers surrounding humanity. The discovery of the nuclear bomb has put the earth in constant fear of war. The growth in connecting technologies has shrunk the world and has increased the privacy threats. Data which is the new identity or definition of each person as your identification record, medical record, financial record, travelling data, shopping habits, eating habits etc. all have been datafied. This is one of the consequences of use of technology or involvement of technology in almost all aspects of life. Every detail of a person with digitalization is present on data and privacy breach is not an uncommon site. Such data can be more effectively stolen by AIs and put to use for politics, better marketing, addiction of use, ease of use etc. Breach of data leads to the breach of privacy of the data principals. All these breaches cost millions of dollars every year.

- a. The data can be extracted more efficiently by AI and can be processed to infer information not available before. For example- Facebook collects our data and sells it to users to cater to their database to let them know which place is most frequented, restaurants more visited, etc. With the usage of AI the data can

be processed and analyzed at professional levels. Like our face can be scanned and a database can be created *Id.*

- b. Promotion and protection of human rights: human rights questions, including alternative approaches for improving the effective enjoyment of human rights and fundamental freedoms, U.N. Doc. A/C.3/71/L.39/Rev.1 (2016).
- c. Iceland: Data Protection Act, 2000; Germany: Federal Data Protection Act, 2001; France: Federal Data Protection Act, 1978; European Union : General Data Protection Regulations, 2016, (EU) 2016/679 (GDPR) [hereinafter “EU GDPR”]; India: Information Technology Act, 2000.

Justice K.S. Puttaswamy (Retd) v. Union Of India, (2017) 10 SCC 1

seeing our activities the AI can calculate our nature, predict our behavior, general opinion on our criminal record, comment on our relationships with others etc. Data can be analyzed by AI and can be used to deduce complex conclusions which might not have been possible earlier. The data breach can serve millions of dollars to different industries and has power to infiltrate our lives to the nearest possible. The advancement in technology helps to monitor objects, arrange or even to come to a conclusion and act more speedily and accurately. It basically renders privacy more vulnerable in the hands of users of AIs.

The recent allegation against China of violating the privacy of minority Muslim community and tracing their footsteps and invading their personal space by monitoring them via public surveillance camera all over China.¹⁵ It is said the activity has been undertaken to monitor the minority community and to track

them. More than 500,000 face scans have already been taken by facial recognition software.

3. Psychographic Profiling: Mutual Interference of AI and Social Networking

It is a term which is used to study or profile the lifestyle, value system, personal beliefs and faith, views, attitude in short the whole personality trait of an individual. This makes the person an open book. The knowledge of a person's habit and views is worth a lot in the world. Organizations, governments, markets, religion or anything in this world feeds on human information. The knowledge about humans can be extracted and manipulated or put in use for huge profits.

Human psychology can not only be interpreted but also be manipulated to tag political, religious, terror etc. agendas. The brain can be manipulated by extracting data to what appeals to the minds. The recent event pertaining to psychographic profiling was the Cambridge Analytica profiling of Americans. Trump's victory is decorated on the head of this software which analyzed the data from Facebook and is alleged to have profiled the Americans and tailored the election propaganda accordingly.¹⁶ This is certainly not the first incident of data theft or manipulation with the help of intelligent technology which can be evaluated and analysed critically to garnish information. Information can be generated keeping in mind the likes and choices of people which can not only endanger a democracy but the entire mankind.

The ability to captivate thinking can be achieved by the usage of AI. AI can not only monitor us extensively which no human is capable of at a time but also evaluate the observations to ruin or lower our senses. We often get tempted by the ads featuring things which we may need or like. The game of manipulation and addiction is not new to the cyber world. Also every information which is being observed has the

potential of getting misplaced or hacked. This provides a vicious loop of privacy breaches. The digitalization of life with not adequate laws and policies is severely affecting world citizens at large. Countries with less exposure to digitalization or 3rd world countries remain safe from such breaches. The profiling coupled with AI can hijack people's ideas and change the way one thinks. It can also lead to propaganda politics earlier seen to be professed by Hitler. The ability to govern minds or choices can lead to instigation of hatred, bad ideas, fights or stir wars between communities, religions, nations and regions. The upcoming wars will not be facilitated with machine guns and tankers but with hatred inside humans via usage of internet and which may be incidental outcome or direct outcome is profiling.¹⁷ Also, data subjects are not to be subjected to automated processing including profiling by processed data.¹⁸

4. Recommendations

In absence of a proper policy and law making in respect with privacy will lead to rule of algorithm or algocracy. The data theft and deception will be made easy, systematized and unconceivable with the growth

of AI. The AIs can help humans to enhance data quality and understanding and breach privacy of people. Some suggestion while analyzing the loopholes will be for AIs in regard with privacy –

- Norms for securing the origin, numbering and identification of AI with its potential working skills which help in identification of AI - company to be held responsible for terms of breach.
- The legal code to be encoded in all AI in regard with privacy even an AI bot dealing in farming is capable of extracting data and breaching privacy of the user, neighbor etc . so in short inclusion of law decrypted in AI will make them law abiding bots.

- Privacy policy to be held public by all companies or governments working with personal data of people.
- Profiling to be prohibited and penalized in all nations.
- Working guidelines in the regime of privacy to work out internationally for a global abundance and uniformity of law.
- Privacy to be enacted as a basic human right in all nations by statute or constitution.

The ability to claim non- interference or to be left alone is exceptional and is limited to human beings. Ways and methods to well preserve the right shall be strived for with good practices and implementation of all. AI are inevitable for the future of human beings. A well thought future will help in keeping the balance of the society and also in the development. The sync of law and science is necessary with the unprecedented growth in technology. A deliberate and calculated law regime can help the enjoyment of science. The privacy breach incidents and growing cyber menace can be fueled with the incoming of AI. In the present the policies regarding neither AI nor privacy is clear in the world. The destruction and chaos brought in the society by the misuse and mishandling of them can be disastrous. The need for discussion and law in this field is necessary to protect human interest.

References

1. Justice K.S. Puttaswamy (Retd) v. Union Of India, (2017) 10 SCC 1.
2. Paul Mozur, *One Month, 500,000 Face Scans: How China Is Using A.I. to Profile a Minority*, THE NEW YORK TIMES (Apr. 14, 2019), <https://www.nytimes.com/2019/04/14/technology/china-surveillance-artificial-intelligence-racial-profiling.html>.

3. Christoph Stückelberger & Pavan Dugga, *Cyber Ethics 4.0: Serving Humanity with Values*,
4. GLOBEETHICS GLOBAL SERIES 17 61-66 (2018)
5. Techvidian Team, *Data Science Career Opportunities and Future Scope*, TECHVIDIAN (Apr. 21, 2020), <https://techvidvan.com/tutorials/data-science-career/>.
6. Louise Masakis, *The WIRED Guide to Your Personal Data (and Who Is Using It)*, THE WIRED (Feb. 15, 2019), <https://www.wired.com/story/wired-guide-personal-data-collection/>.
7. Promotion and protection of human rights: human rights questions, including alternative approaches for improving the effective enjoyment of human rights and fundamental freedoms, U.N. Doc. A/C.3/71/L.39/Rev.1 (2016).

Use of Social Networking Applications in National Law Universities: A Study

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Abstract

This study attempts to provide the information about the use of social networking sites and applications in the 22 universities under consortium of National Law Universities in India. In the present digital scenario higher educational institutions are promoting and using social networking applications to connect the students, faculties, research scholars, and others through sharing the information of their activities in the form of e-text, video, image, audio, etc. Universities are marketing their best practices and exposing their competence through Facebook, YouTube, Twitter, Instagram, and LinkedIn. In India, these networks are connecting the academic community in a very elegant way. This study highlights the significance of social networks and gives assistance to the authorities and administration of universities to establish their social connectivity and instant sharing of information.

Keywords

Social Networking Sites, Applications, Consortium, Websites, National Law Universities, Content Analysis, Legal Education, Internet.

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Introduction

These days Social Networking Sites and its Applications are the immense platform to connect and share with world within a fraction of second. These networks are assembled and interconnected through the Internet. These networks are helpful for business centers, job aspirants, recruiters, developers, investors, marketing, media, non profits, educators, etc. The following are the most popular social networking sites which are being used in India for academic and educational purpose.

- **Facebook:** This was developed by Mark Zuckerberg in 2004 and “It’s quick and easy” is the tagline of this network. It is basically a video and audio streaming network. In addition to this, institutions shall advertise by using this regarding their activities, academics, admissions, facilities, etc. They can also market themselves and popularise their academic activities such as seminars, conferences, workshops etc. It allows the users to upload photos, videos, audios, slides, etc.
- **YouTube:** Chad Hurley, Steve Chen, & Jawed Karim developed this in the year 2005 and “Broadcast yourself” is the tagline of this network. This is a video streaming network and using this network institution can create their own channel to broadcast videos of their choice.
- **Twitter:** In the year 2006 Jack Dorsey, Noah Glass, Biz Stone, and Evan Williams developed this network. “It’s what’s happening” is the tagline of this network and it is a micro blogging network service. It is a short messaging service network and let the users to tweet messages about their institutional activities up to 280 characters. It also allows to tweet audio & video up to 140 seconds.
- **Instagram:** It was developed by Kevin Systrom and Mike Krieger in the year 2010. “Capture and share the world’s moment” is the

tagline of Instagram. It is an audio & video streaming network to share the videos and photos of individual or institutional activities. Day by day Instagram is becoming more popular compared to other social networking applications among young learners.

- **LinkedIn:** This networking application was developed by Reid Hoffman, Konstantin Guericke, Jean-Luc Vaillant, Allen Blue, and Eric Ly in the year 2003. It is mainly used to connect professionals of similar interest through this network. Institutions shall post their recruitment and admission related information. Professionals also have and send their curriculum vitae to the institutions. This is a better place to connect the academicians, subject experts, and similar interest people.

Consortium of National Law Universities

Legal education in India is regulated by the Bar Council of India. The BCI, a highest authoritative body, as and when it is necessary it amends the Rules for the betterment of Legal Education. In India, 500+ institutions offering courses on legal education, 25+ states run law colleges, universities have separate department of law, and few autonomous colleges were established and runs the courses on law. Apart from these, 22 universities especially in law with national importance are imparting the legal skills and professional knowledge to the young minds. In 2017, the Consortium of National Law Universities was established to improve the standards of legal education in India. These institutions are focusing on undergraduate, graduate, postgraduate, doctoral programmes, certificate courses, and research in Law.

Objectives of the Study

The objectives of this study are

- To find out social networking sites & applications linked on the websites of National Law Universities.

- To analyse the use and popularity of social networking applications.

Methodology and Limitations of the Study

The study needs a tabular form and it is created in MS Excel sheet. The data required for the study is collected by accessing the websites of the National Law Universities. After recording the data in tabular form it is tabulated and represented in tabular and graphical form for the further analysis. The study is restricted to the websites of Consortium of National Law Universities which are established in India. The data is collected only from the websites which can be retrieved through Google search engine and also by accessing the direct links/ URLs of the universities.

Data Analysis & Interpretation

After the successful completion of data collection the major analysis and interpretation of the data is as follows. The following Chart-1, Chart-2, and Chart-3 show the information and results of the study regarding the use of 5 social networking applications among the National Law Universities.

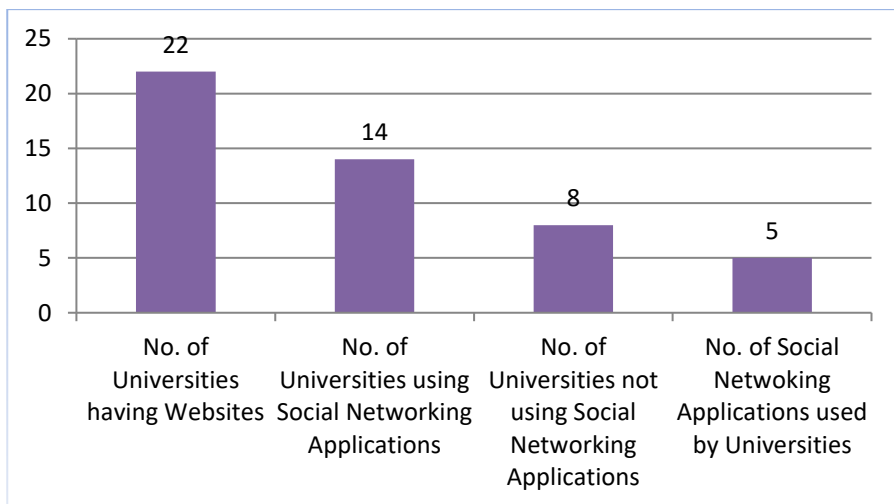


Chart-1

The Chart-1 shows that all 22 universities which are selected for the study are having their own website. Out of 22 universities 14 (64%) are having links of social networking applications and 8 (36%) universities are not having them. The universities have connected themselves with 5 popular networking applications are Facebook, Twitter, YouTube, Instagram & LinkedIn.

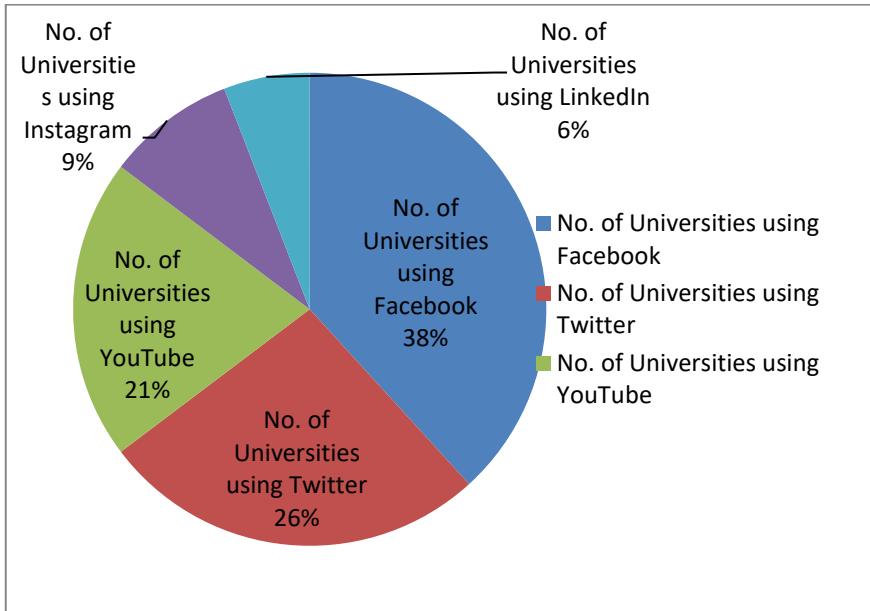


Chart-2

The Chart-2 provides information regarding the percentage of social networks applications utilized by the universities. Among 22 universities 13 (38%) universities are using Facebook, 9 (26%) universities are using Twitter, 7 (21%) universities are using YouTube, 3 (9%) universities are using Instagram, and 2 (6%) universities are using LinkedIn applications.

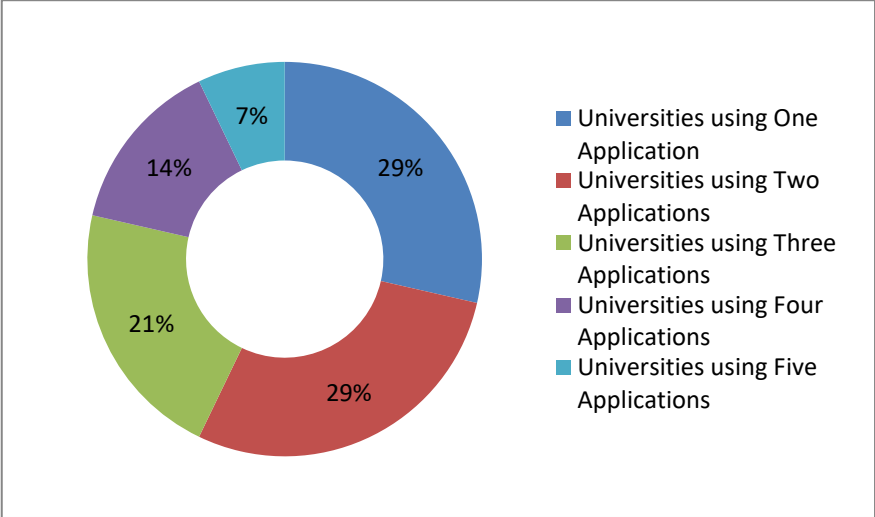


Chart-3

The Chart-3 indicates that out of 22 universities 14 are using 5 social networking applications. Among 14 universities 4 (29%) are using 1 application, 4 (29%) universities are using 2 applications, 3 (21%) universities are using 3 applications, 2 (14%) universities are using 4 applications, and 1 (7%) university is using 5 applications.

Findings & Conclusion

Following are the findings of the study along with concluding remarks.

- In the websites of Consortium of National Law Universities, it is found that among 22 universities 14 have connected with the social networking sites and applications to promote their developmental and academic activities to the users in every corner of the world. They are using 5 social networking applications and among these Facebook (38%) is the highest and LinkedIn (6%) is the lowest in use.

- Even though there are around 60 social networking sites available on the web only these 5 sites are popular in the higher education system and out of these Facebook is the popular out of five.
- In the present information communication technology scenario social networking applications are playing a major role in doing great work of sharing the information across the world. These are instantaneously connecting the students, faculty, academicians, professionals, researchers, alumni in the enormous ways at the academic environment. Any educational institutions use these sites and applications to market themselves and to promote their existence in the digital way other than traditional ways through online videos, online classes, webinars, workshops, conferences, etc.
- These days most of the people came to know about the latest updates and happenings through these sites and applications. Majority of people instead of accessing the websites of an institution to get the updates they are simply connect with these social networking applications without much effort.

References

1. Malik, Dr. Lokendra. (2014) Legal Education in India. Lucknow: Universal Law Publishing Co.
2. Bar Council of India. (2011) Centres of Legal Education in India. New Delhi: Bar Council of India.
3. Bao, X. (2000) Academic Library Home Pages: Link Location and Database Provision. The Journal of Academic Librarianship. 26: 191-195.
4. Shukla, Akhandanand & Tripathi, Aditya. (2010) Establishing Content Awareness Evaluation Criteria for Library Websites. ALIS 57: 403-416

5. Rekha, H. R. (2017) Content Analysis of Medical College Websites in India. University of Mysore.
6. Kazemian, Shakiba & Grant, Susan. (2020) Challenges of internal Social Networking for Higher Education: a Brief Review of the Literature. Journal of Data, Information and Management. Accessed on 14.07.2020 from <https://www.researchgate.net/publication/340985080>

Appendix

List of Websites / URL of the National Law Universities

1. <http://ili.ac.in/>
2. <https://www.nls.ac.in/>
3. <https://www.nujs.edu/>
4. <https://www.nliu.ac.in/>
5. <http://www.nlujodhpur.ac.in/index-main.php>
6. <https://www.nalsar.ac.in/>
7. <https://www.gnlu.ac.in/GNLU/Home>
8. <https://www.hnlu.ac.in/>
9. <http://www.nuals.ac.in/>
10. <http://www.rmlnlu.ac.in/>
11. <https://rgnul.ac.in/>
12. <https://www.cnlu.ac.in/>
13. <https://nludelhi.ac.in/home.aspx>
14. <https://www.nluo.ac.in/>
15. <http://www.nusrlranchi.in/>
16. <http://www.nluassam.ac.in/index.htm>
17. <https://dsnlu.ac.in/>
18. <https://www.tnnlu.ac.in/>
19. <http://mnlumumbai.edu.in/>
20. <https://www.nlunagpur.ac.in/>
21. <https://hpnlu.ac.in/contact.aspx>
22. <https://www.mnlua.ac.in/>

Use of Social Networking Sites (SNSs) in the University Libraries of Assam: A Case Study of the Central Universities in Assam

*Shekharjyoti Neog**

Abstract

The purpose of carrying out this study is to investigate the scenario of using Social Networking Sites (SNS) by the libraries of Central Universities in Assam. Structured questionnaire were sent to the University Librarians of the Central Universities of Assam. It is found from the results that Facebook is the most used SNS for providing library resources and services. The study revealed that the mostly delivered library services by the university libraries under this study through SNSs include Current Awareness Services (CAS), 'Library orientation', 'Information about library events' and 'News on library services'. 'Lack of official/policy guidelines', 'Lack of awareness of library staff about potential benefits of using SNS', 'Low response of users' and 'Non availability of experienced personnel' were found to be the challenges faced by the University Libraries in delivering library services through SNS. The study concluded that the library users should be made aware about the availability of SNS based services of the libraries for optimum utility of the service.

Keywords : Social Networking Sites, Central Universities, University libraries, Assam

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1. Introduction

Libraries have the responsibilities of disseminating right information to the right user at right time. At present day's environment where library users are gadget freaks and tech savvy and want to access information on the go, it has become a necessity for the libraries to reorient and promote its resources and services in a way that is convenient and easily accessible to the patrons in the new environment.

The drastic changes emerged in the field of Information & Communication Technology (ICT) have revolutionized a new mode of communication viz., Social Networking Sites (SNSs). With the passing time these SNSs have gained such popularity that at present out of total 7.75 billion population of the world at least 3.8 billion people are active on Social media (Digital 2020: Global digital overview).

Emergence of Social Networking Sites have opened new path for the libraries to promote and deliver their products and services in a popular and user friendly way to reach and attract more numbers of potential users. Adoption of SNSs also enhances the visibility of the library to a larger and potential user community and hence increases the consumption of resources and services. Various traditional activities and services like library orientation programs, library news and events, Current Awareness Services (CAS), Selective Dissemination of Information (SDI), Document Delivery Service (DDS), etc. can be redesigned and delivered through the new platform like Social Networking Sites.

This study has been carried out with an objective to investigate the present scenario of using Social Networking Sites (SNS) by the university libraries of Central Universities in Assam. The study tried to investigate the different library services provided/promoted by the

university libraries through their SNS pages, user participation in the SNSs used by the libraries.

2. Social Networking Sites (SNSs):

Social Networking Sites (SNSs) are those websites which allow users to create their public profile within that website and allow them to make social relations with other users of that particular website. SNSs allow users to search and invite friends to connect, interact and work collaboratively with other users. The users of SNSs can post their views, events, discussions, share posts of other users, share reviews, comment and many more.

Now a days, SNSs are being used in libraries for communicating with their users. By using SNSs users are informed about the new arrivals, new services added in the library. Users also informed about library events, news, etc. through SNSs. Hence SNSs are being used as marketing tools for library resources and services and as a tool to reach the unreached users.

3. Overview of the Central Universities in Assam

At present there are 2 (two) Central Universities in Assam located at Silchar and Tezpur respectively.

Assam University: Assam University was established in 1994 at Silchar. It is a teaching cum affiliating university. At present the university has 16 Schools of study comprising of 36 postgraduate departments in Silchar campus. The University also has one satellite campus at Diphu with ten departments. The five districts of Barak Valley of Assam come under the jurisdiction of Assam University and there are 62 affiliated colleges under Assam University across these five districts (Source: Assam University website: <http://www.aus.ac.in/wp-content/uploads/2018/04/Annual-Report-in-English-2016-17.pdf>).

Tezpur University: Tezpur University was established in 1994. It is a teaching and residential university. Tezpur University has 22 Academic Departments and 4 Academic Centers which are under 4 School of studies. A total of 75 undergraduate, post graduate and doctoral programmes are being offered by Tezpur University (Source: Tezpur University website:

http://www.tezu.ernet.in/Annual_Reports/2017-18/Annual_Report_English_17_18.pdf).

4. Literature Review

Akporhonor and Olise (2015) found that Facebook and Blogs are the most popular and most commonly used social media tools for promoting and delivering library resources and services in university libraries in Nigeria. The study also revealed that social media are used to collect feedback from the users.

Ashraf and Haneefa (2016) in their study emphasized the need for popularizing social media among the students.

Baro et al., (2013) found that social networking sites in the university libraries in Nigeria are used especially for providing online reference services, providing information related to library events, orientation, etc.

Brookbank (2015) argued that social media strategy should be adopted on the basis of local users' needs and effectiveness of social media platforms should be evaluated regularly to ensure library's online presence dynamically. The study also revealed that the students use social media with the purpose to get up-to-date information related to different research techniques and tips, library events, library instruction to use collections, and online resources.

Chakraborty (2012) found that SNSs were used for education and research point of view by most of the researchers from social science background. The study on the other hand revealed that according to

scholars from pure science Social Networking sites has no role on research and education.

Chu and Du (2013) in their study found that Facebook, Instant Messaging and Wikis are the most popular social media tool among academic librarians. The study reported that hesitancy among library and lack of user participation were the main constraints in adopting social media in libraries.

Ezeani and Igwesi (2012) found that social media were used for providing Current Awareness Service, information about New Arrivals, Referral service. The study also revealed that social media were used to collect feedback and comments from the library users.

Islam and Habiba (2015) in their study, aimed to discuss the use of social media in library marketing and promotion in Bangladesh, found that Facebook, LinkedIn and SlideShare were popular among libraries.

Kalita and Hazarika (2016) found that a number of university libraries in Assam are using Social Networking Services.

Kaushik (2016) suggested the need of adopting a well-drafted social media policy for getting maximum benefit and success for using social media in libraries.

5. Statement of the problem

It is observed that university libraries in the advanced countries have been successfully using the social networking sites for promoting library resources and services. India is still far behind in the race and the same is seen the case of the state of Assam.

To step up with the time, it has become necessary for the libraries to implement various library services so that the techno savvy potential users can be attracted towards the library.

Therefore this study has been taken up to investigate the extent of use of Social Networking Sites in the libraries of Central Universities in Assam.

6. Scope and Limitation of the study

The scope of the present study is limited to examine the use of Social Networking Sites (SNSs) in the university libraries of Central Universities in Assam.

7. Significance of the study

This study is significant as the findings would enable libraries to formulate effective strategies and to make proper policy on the use of Social Networking Sites (SNSs) for promoting and delivering library resources and services more effectively in the future.

8. Objectives of the study

The main objective of this study is to investigate about the application of social networking sites by the University libraries of Central Universities of Assam for providing library services. In order to meet the objective, a number of specific objectives have been lined up as given below:

1. To identify the different social networking sites used by the libraries of the Central Universities of Assam for delivering library services.
2. To find out the types of library services delivered through social networking sites by the libraries of the Central Universities of Assam.
3. To understand the challenges faced by the libraries of the Central Universities of Assam in usages of social network sites.

9. Research questions

A number of research questions, as given below, were raised to guide this study:

1. What types of Social Networking Sites do the libraries of Central Universities in Assam use for promoting their library services?
2. What types of services are provided through Social Networks by the libraries of Central Universities in Assam?
3. What are the challenges the librarians encounter in the use of Social Networking Sites for promoting library and information resources and services in the libraries of Central Universities in Assam?

10. Methodology

Method used for the study: To meet the objectives of the study survey method was employed for carrying out the study.

Population of the study: The population of the study was the Librarians of the University libraries of the Central Universities in Assam.

For collecting the relevant data regarding the study a questionnaire was structured and distributed.

The collected data from the Librarians were scrutinized tabulated and analyzed using MS-Excel spreadsheet.

11. Data Analysis and Results

For data collection from the university libraries under the study, a structured questionnaire was designed and presented before the Librarians by paying personal visit. The responses received are given in the Table 1.

Table 1: Responses received from the university libraries of Assam under study

Mode of questionnaire distribution	Questionnaire sent	Response received	Percentage
Physical visit	2	2	100%

The data received on different parameters from the libraries have been analyzed, interpreted and presented as under.

11.1 Present status of use of SNS by the surveyed university libraries

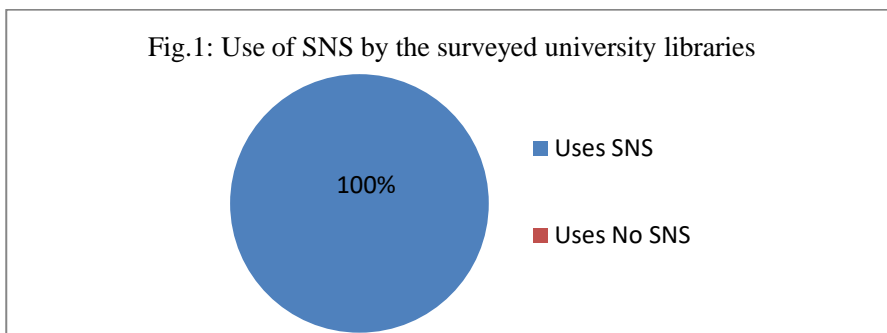
The status of use of SNS by the university libraries under this study are presented in the Table 2.

Table 2: Present status of use of SNS by the surveyed university libraries

Sl. No.	University Library	Length of using SNS
1	AU	1 year-5 years
2	TU	1 year-5 years

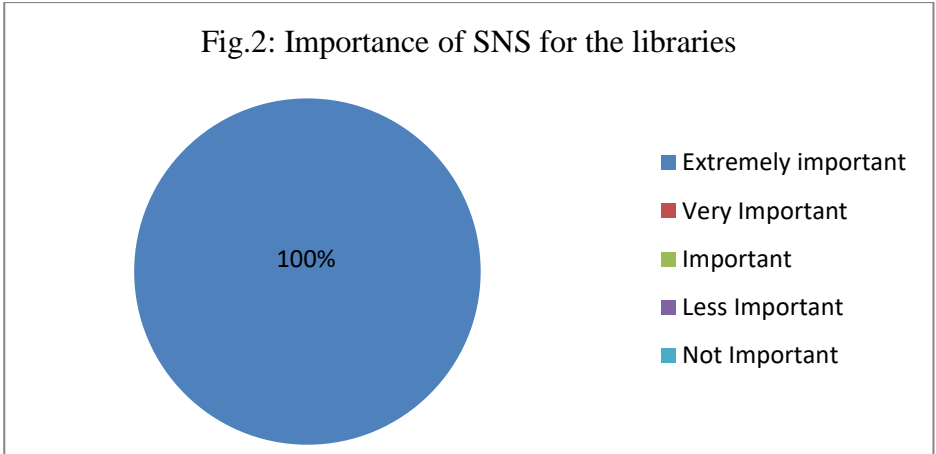
Source: Field study and the websites of the surveyed universities

From the table it is clear that the libraries under study have been using SNS for a period of 1 year-5 years. Hence, it is found that 100% of the surveyed university libraries use SNS for promoting and providing library resources and services to their uses.



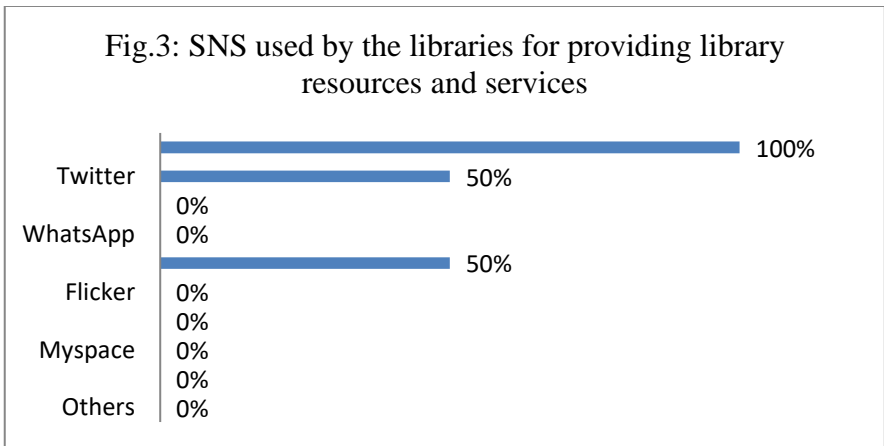
11.2 Importance of using of SNS for the libraries

Fig.2 shows that the libraries under this study considered the use of SNS as important. 100% of the libraries opined that it is ‘extremely important’ to use SNS for delivering library resources and services.



11.3 SNS used by the libraries for providing library resources and services

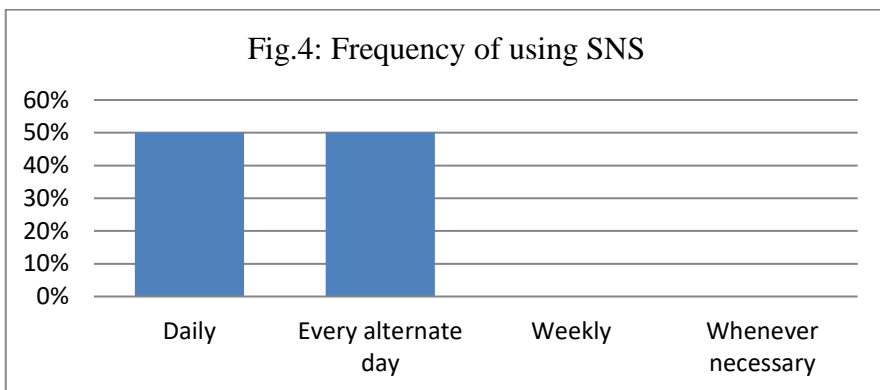
Fig.3 is the representation of SNS used by the libraries under this study for providing library resources and services.



It was found that Facebook has been used by 100% of the University libraries under this study for delivering library resources and services. Twitter and Youtube have been used by 50% of the university libraries for serving the purpose.

11.4 Frequency of using SNS by the university libraries

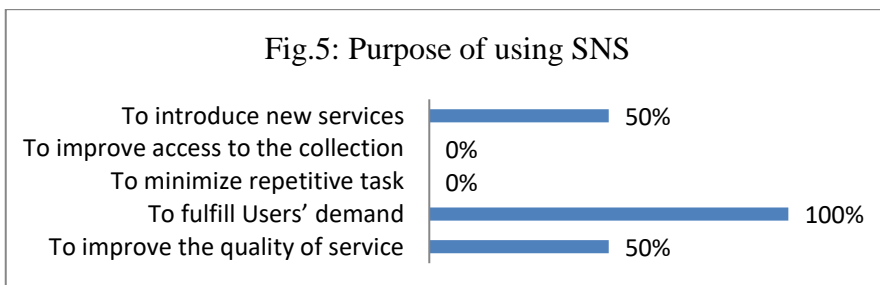
The frequency of using SNS by the university libraries under this study can be seen in the Fig.4.



The figure shows that 50% of the university libraries under this study have been using SNS on daily basis, while the other 50% of the libraries have been using SNS on every alternate day.

11.5 Purpose of using SNS

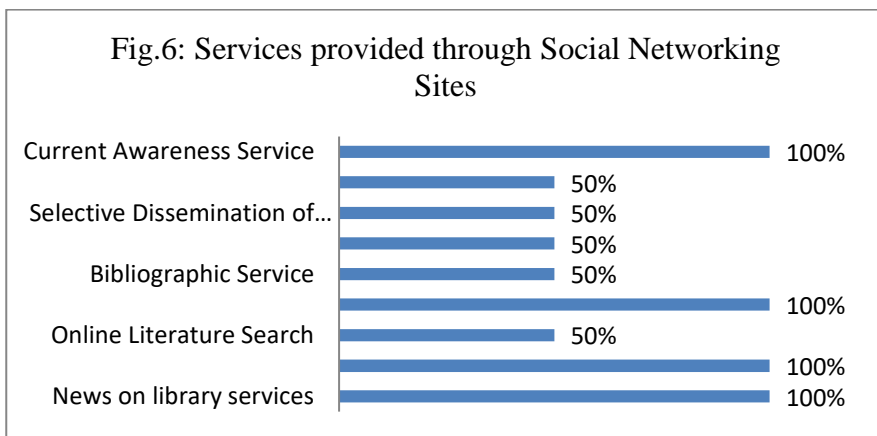
From the Fig.5, it can be understood about the purpose of using SNS by the university libraries under this study.



The study reveals that 100% of the libraries under this study have been using SNS for fulfilling users' demand. The purpose of using SNS by 50% of the university libraries under this study is 'to introduce new services' and 'to improve the quality of service'.

11.6 Services provided through Social Networking Sites

The services provided by the university libraries under study through SNS have been represented in the Fig.2.

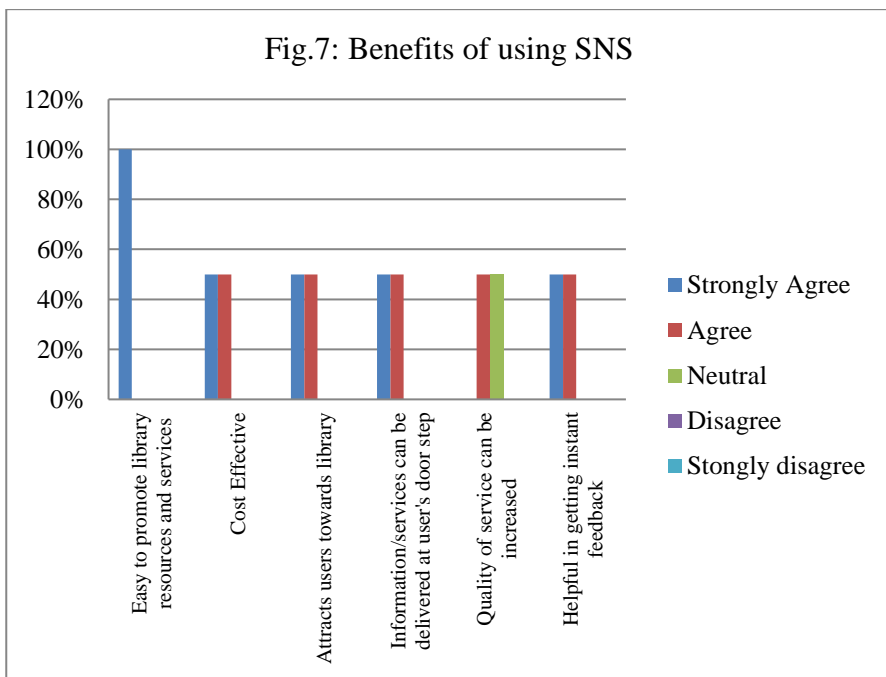


It can be understood from the Fig.2 that 100% of the surveyed university libraries use SNS for providing 'Current Awareness Service (CAS)', 'Library orientation', 'Information about library events' and 'News on library services'. The figure also shows that 50% of the university libraries under this study use SNS for providing 'Document Delivery Service (DDS)', 'Selective Dissemination of Information', 'Reference Service', 'Bibliographic Service' and 'Online Literature Search'.

11.7 Benefits of using Social Networking Sites

It can be learned from the Fig.7 about the benefits achieved by the university libraries from using SNSs.

According to 100% of the university libraries under this study, it is ‘easy to promote library resources and services’ by using SNS.



While 50% of the libraries ‘strongly agreed’ with the statement that SNS are ‘Cost effective’, the other 50% ‘agreed’ with the statement.

50% of the university libraries under this study observed and ‘strongly agreed’ that use of SNS ‘attracts users towards library’ while the other 50% ‘agreed’ to the statement.

While 50% of the university libraries expressed that they ‘strongly agree’ that ‘information/service can be delivered at user’s doorstep’ by using SNS, the other 50% library expressed that they ‘agree’ with the statement.

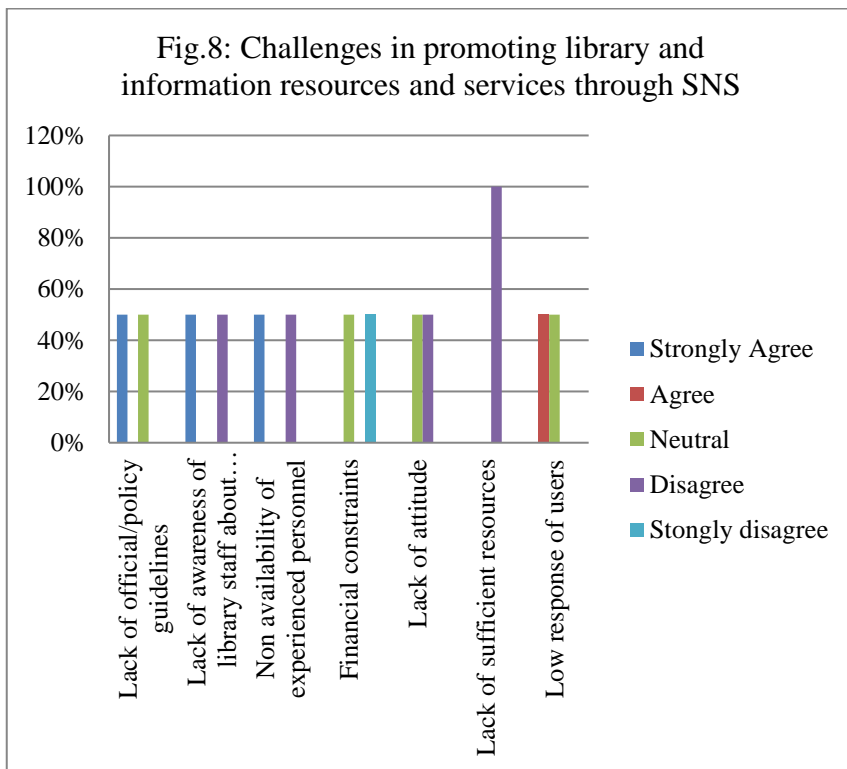
From the university libraries under this study, 50% expressed that they ‘agree’ that the ‘quality of services can be increased’ by using SNSs, the other 50% libraries remain ‘neutral’ regarding the same.

Out of the libraries under this study, 50% opined that they ‘strongly agree’ that use of SNS is ‘helpful in getting instant feedback’ while the other 50% expressed that they ‘agree’ with the statement.

11.8 Challenges in promoting library and information resources and services through SNS

Fig.8 is the representation of the challenges in promoting library and information resources and services through SNS.

50% of the surveyed libraries ‘strongly agreed’ that ‘Lack of official/policy guidelines’ is one of the challenges in promoting library and information resources and services through SNS. The other 50% libraries remain ‘neutral’ on the statement.



50% of the university library under this study ‘strongly agreed’ that ‘Lack of awareness of library staff about potential benefits of using SNS’ is one of the challenges of using SNS while the other 50% libraries ‘disagreed’ with the statement.

While 50% of the surveyed libraries found ‘Non availability of experienced personnel’ as one of the challenges in using SNS for promoting library and information resources and services, the other 50% surveyed libraries have no challenges regarding that.

From the surveyed libraries, 50% opined that they have no challenges regarding ‘Financial constraints’ in using SNS for promoting library resources and services and the other 50% libraries responded ‘neutral’ response regarding the matter.

According to 50% of the university libraries under this study, they have no challenges regarding ‘Lack of attitude’ in using SNS for promoting library resources and services and the other 50% forwarded ‘neutral’ response regarding the same.

According to 100% of the surveyed university libraries, there is no challenge regarding ‘Lack of sufficient resources’ for using SNS for library resources and services.

50% of the surveyed university libraries under this study found ‘Low response of users’ as one of the challenges in promoting library resources and services through SNS and the 50% forwarded ‘neutral’ response regarding the challenge.

12. Discussion

From the study it was found that Facebook is the most used (100%) Social Networking Site by the university libraries under this study for promoting library resources and services. This is followed by Twitter and Youtube (50% each).

The study revealed that SNSs are used by 100% of the university libraries under this study for providing CAS, ‘Library orientation’,

‘Information about library events’ and ‘News on library services’. The study also revealed that DDS, SDI, ‘Reference Service’, ‘Bibliographic Service’ and ‘Online Literature Search’ are provided by 50% of the university libraries under this study using SNSs.

In this study, 50% of the surveyed university libraries pointed out ‘lack of official/policy guidelines’, ‘Lack of awareness of library staff about potential benefits of using SNS’, ‘Low response of users’ and ‘Non availability of experienced personnel’ as the challenges in promoting library resources and services through SNS.

13. Suggestions and recommendations

From the study, it is learned that though the university libraries are using SNSs for providing various services to the users, they are getting low response from the users. To overcome this challenge, some user awareness programs should have to be initiated by the libraries regarding their services through social media. For getting good responses, the libraries can also appeal the users, send friend requests to the users to join/follow the social media accounts of the libraries.

Proper social media policy should be adopted/formulated by the universities for implementing and operating the Social Networking based services. Inculcation of positive attitude among the library professionals as well as among the users towards the potentials of social networking sites may also be instrumental in optimum use of SNS for academic development.

14. Conclusion

The university libraries of Central Universities in Assam are in an initial stage of using SNS based library services. The new age library users are techno-savvy and they love to have the information on the go. To attract such users and to reach out wide range of users, utilization of SNS based library services can be an effective tool.

15. References

1. Akporhonor, B. A., & Olise, F. N. (2015). Librarians' use of social media for promoting library and information resources and services in university libraries in South-South Nigeria. *Information and Knowledge Management*, 5(6), 1–8.
2. Baro, E. E., Ebiagbe, E. J., & Godfrey, V. Z. (2013). Web 2.0 tools usage: A Comparative study of Librarians in University Libraries in Nigeria and South Africa. *Library Hi Tech News*, 30(5), 10–20. <https://doi.org/10.1108/LHTN-04-2013-0021>
3. Brookbank, E. (2015). So much social media, so little time: Using student feedback to guide academic library social media strategy. *Journal of Electronic Resources Librarianship*, 27(4), 232–247. <https://doi.org/10.1080/1941126X.2015.1092344>
4. Chakraborty, N. (2012). Activities and reasons for using social networking sites by research scholars in NEHU: A study on Facebook and Research Gate. *PLANNER-2012*. 8th Convention Planner, Gangtok. <http://hdl.handle.net/1944/1666>
5. Chu, S., & Du, H. (2012). Social Networking Tools for Academic Libraries. *Journal of Librarianship and Information Science*, 45(1), 64–75. <https://doi.org/10.1177%2F0961000611434361>
6. Deepthi, Tadasad, P. G., & Patil, S. (2017). Use of online social networking services in university libraries: A study of university libraries of Karnataka, India. *DESIDOC Journal of Library & Information Technology*, 37(4), 249–258. <https://doi.org/10.14429/djlit.37.4.10498>
7. Ezeani, C. N., & Igwesi, U. (2012). Using social media for dynamic library service delivery: The Nigeria experience. *Library Philosophy and Practice*, 1–8.
8. Gichora, F. G., & Kwanya, it. (2015). The impact of web 2.0 tools on academic libraries in Kenya. *International Journal of Library*

and Information Science, 7(2), 21–26. <https://doi.org/10.5897/IJLIS2014.0518>

9. Islam, Md. M., & Habiba, U. (n.d.). Use of social media in marketing of library and information services in Bangladesh. *DESIDOC Journal of Library & Information Technology*, 35(4), 299–303. <https://doi.org/10.14429/djlit.35.4.8455>
10. Kalita, D., & Hazarika, it. (n.d.). Web based interactive services in the university libraries in Assam and perception of library managers and users: A case study. *ACLA Bulletin*, 8, 10–20.
11. Kaushik, A. (2016). Use of SNS Tools and Services by LIS Professionals for Libraries: A Survey. *DESIDOC Journal of Library & Information Technology*, 36(5), 284–290. <https://doi.org/10.14429/djlit.36.5.10283>
12. Mustafa, A., Zainuddin, I. N., Idris, S. R. A., & Aziz, M. F. A. (2016). Social media promotional tools in academic library. *International Journal of Computer Theory and Engineering*, 8(3), 260–264. <https://doi.org/10.7763/IJCTE.2016.V8.1055>
13. Sahoo, D. R., & Sharma, D. (n.d.). Social Networking tools for library services. *International Journal of Innovative Science, Engineering & Technology*, 2(3), 702–714.
14. Siddike, A. K., & Kiran, K. (2015). Marketing of academic library services through social networking sites: Implications of electronic word-of-mouth. *Education for Information*, 31, 143–159. <https://doi.org/10.3233/EFI-150955>
15. Tella, A., & Oyedokun, it. T. (2014). An evaluation of online reference services through Social Networking Sites in selected Nigerian University Libraries. *The Reference Librarian*, 55(4), 343–367. <https://doi.org/10.1080/02763877.2014.947889>

A Study on Social Media Usage Pattern Among Undergraduate Engineering Students Belonging to School of Technology, Assam University, Silchar

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*Nilutpal Saikia***

Abstract

Information is the power of a vital source for human beings. Social media has been using by the masses to integrate with their colleagues, friends, teachers, and family members. There are several social media like Facebook, WhatsApp, Instagram, Twitter. Also, there are many academic, social media such as LinkedIn, Researchgate, Academi.edu, Social Science Research Network (SSRN) which are used by different category of people viz., students, researchers, teachers and all people of the society for their day to day activities and seeking desired information, sharing information among the peers, friends and family members. It is a prevalent means of communication among the younger generation population.

Objectives of the Study: The main objectives of this paper is to examine the usage pattern of Social Media among Undergraduate Engineering Students belonging to the School of Technology, Assam

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University, Silchar in University Campuses and in their place of stay which highlight the library visit pattern, information searching behaviour, Internet, and social media use pattern, interface for using social media, preference of Internet Service Providers, preferred time to access social media.

Research Methodology and Research Design: Survey method was used in this study, and self -designed questionnaire has been used for data collection. In the present study, purposive sampling technique has been used for the selection of the sample. From January 2018 to April 2018, this study was conducted on select 250 samples belonging to undergraduate students of the School of Technology, Assam University, and Silchar.

Essential Findings: The survey findings reveal that most of the Undergraduate students are aware of Social Media usage; they use mainly Smart Phone to access Social media, and they are most of the time connected with Internet except class hours. They use social media for sharing information with their family members, friends, and many of them have a good number of friends in their friend list. Many more exciting findings are illustrated in the paper, reflecting the penetration of the Internet and Social media among the U.G. students of SOT under study.

Recommendations and Suggestions: Although social media is a valuable source of seeking and sharing information, it has a negative psychological impact and habit formation. Therefore, it is recommended for judicious use of social media for academic and entertainment purposes as and when required. The students should not always connect themselves with social media, which may negatively impact on their studies. The facility of use of social media should also be available in Library in select computer terminals/workstations where one may access and share information with their family and friends.

Keywords: *Information Seeking Behavior, Information Needs, Engineering Students, Social media*

1.0 Introduction

Social media is a sociological tool of information and communication, which helps our day to day life—generally, its means composed of society or persons interacting with each other. In the modern era, the 21st century is the way of communication social media play a crucial role in the field of Library and information centers as quickly use to sharing their information one person to group persons. Information communication technologies and social media provide a new dimension to share any kind of information among the people in this environment.

In the present era, social media is the most popular among the younger generation. Several social media roles play like Facebook, WhatsApp, LinkedIn, Twitter, Instagram, and other academic, social media, which are used by all seeking people of the society for their day today. We know that social media is a means of social networking. It is not that social media only provides the data and information to us, but it also helps create a social relationship among the people.

This paper deals with “**A Study on Social Media Use Pattern Among Undergraduate Engineering Students School of Technology, Assam University, Silchar**” enumerates the information searching on visit patterns, Internet and social media use pattern, search strategies, sources of information needs.

1.1 Background of the Study

The emergence of the concept of social media can be understood by knowing the origin of communication, dissemination, and retrieval of information. However, social media is the interaction among people who create, share, and exchange ideas in virtual communication and networks. The main of this study is to ascertain how to use social

media among the undergraduate engineering students of the School of Technology, Assam University, and Silchar.

1.2 Objectives of the Study

The study conducted with the following objectives:

1. To identify the information needs through social media usages among the students in School of Technology, Assam University, Silchar;
2. To examine the library visit pattern, preference of time, and place to access information by the users;
3. To evaluate the purpose and frequency of using the Internet;
4. To find out the preference of search engines for information searching;
5. To identify the various mass media channels/websites through which information is accessed or used by the respondents;
6. Suggest some remedy that may help the undergraduate engineering students use internet services and social media for their academic assessments effectively.

1.3 Scope of the Study

The present study has been undertaken to know the status of social media usages among the undergraduate engineering students towards the possesses immense potential for entertaining, informing, and sharing ideas among the masses all over the world. It is a fact that social media is the most effective in the minds of everyone living in a society in the present era.

1.4 Limitation of the study

The following are the limitations of the study:

- This study's scope is confined to students studying in the School of Technology, Assam University, Silchar.

- The study has been further delimited to the social media usages among the undergraduate engineering students of the School of Technology, Assam University, Silchar.
- The Structured Questionnaire has been used to collect data from the select respondents.

Ii. Review of Literature

For the present study, the primary, as well as the secondary source of literature, has been consulted. The journal articles and Ph.D. / M.Phil theses & Dissertations are also used to have a greater understanding of the topic under study. Previously many studies have been carried out in recent years on the use of Internet in the university library (Mishra and Satyanarayana, 2001) Internet for Libraries. (Kamlavijayan, 2001); Internet and its use in SJCE (Kumbar and Shirun, 2003); Internet usage by students and faculty members of Kuvempu University (Birader, Rajashekhar, and Sampat Kumar, 2004); Use of the Internet by teachers and students in Shaheed Bhagat Singh College of Engineering and Technology (Rajiv Kumar and Amritpal Kaur 2004); Internet use by the researchers in Punjab University, Chandigarh (Mahajan 2005); Internet use by the Research Scholars in the University of Delhi (Madhusudan, 2007); Use of the Internet in Engineering College of three Districts of Karnataka State (Kumbhar and Vasunatha 2007); Sharma, Singh and Mishra, 2008 has also studied the usage pattern of Internet by the teachers and research scholars of Kurushetra University; Use of Internet by the Students of Bidhan Chandra Krishi Viswavidyalaya (West Bengal) (Das and Basu (2009); and Use of Internet among the Research Scholars of the Faculty of Science, University of Allahabad (Devender Kumar and Shukla, 2009).

Sinha (2009) has surveyed a specialized group of samples who belongs to scientific disciplines (Participants of Workshop on Basic Science Research) in terms of ICT and Internet awareness and

observed similar trends of finding towards awareness of ICT and Internet and utilization of E-Resources available under UGC-INFONET Programme. Rahman and Ali (2010) conducted a study on the access and utilization of the Internet based library services available to the faculty members of Z.H. College of Engineering and Technology, Aligarh Muslim University. Many studies have been conducted on Information Resources on the Libraries in Karnataka (Gowda and Shivalingaiah, 2009), Use and Impact of Digital Resources (Mendhe, Taksande and Taksande 2009; Use and Usage Statistics of Electronic Resources at Central Library, Tezpur a University (Mishra and Gohain, 2010). Internet for Higher Education and Research (Parekh, Harsha. 1999); Use of E-Resources by I.T. Professionals (Gireesh and Rajashekara, 2009); Use of Information Resources by the Researchers in the University.

Except few study conducted by Sinha, 2004 on Internet Use pattern of the academic community and local population of Barak Valley; another study on Information Communication Technology (ICT) and Internet Awareness Amongst the College and University Teachers (Sinha, 2008), ICT and Internet Awareness amongst the participants of Workshop on Basic Science Research (Sinha, 2009) and Internet Usage (Borthakur, Das and Gohain, 2010), Status of the Internet and Social Media Usage Pattern among the Media Professionals of North East India (Sinha, M. K, Bhattacharjee, S., & Bhattacharjee, S. 2014), Status of the Internet and Social Media Usage Pattern among Media Professional of Cachar and Guwahati (Sinha, MK, and Yadav, is 2017), Status of the Internet and Social Media Usage Pastern among undergraduate students of Nehru College(Yadav, S, and Sinha, M.K., 2017).

Therefore, in present studies, an attempt has been taken to study the Social Media usage Pattern among Undergraduate Engineering Students, School of Technology, Assam University, Silchar.

III. Research Methodology and Research Design

3.1 Source of Data

The present study used the survey method of research using mainly questionnaires as a data collection tool of the respondents in some cases. Required data were collected from the school of technology undergraduate engineering students, including the respondents from Assam University, Silchar.

The study mainly focusses on the primary data collected from the university through a well-designed questionnaire. Besides, the secondary data were also collected from sources like textbooks, reference books, national and international journals, and various e-resources.

3.2 Tools for the Collection of Data

The data collection tools translate the research objectives into specific questions/items, the respondents to which will provide the data required to achieve the research objectives. For the present study, a questionnaire was used for the collection of data about the present study.

3.2.1 Questionnaire

The questionnaire is a widely used tool for data collection in research. It is a systematic compilation of questions logically related to the problem under study. It is mentioned that the information given by the respondents would be used for the research purpose only would be kept to be confidential.

3.2.2 Description of Questionnaire

The designed questionnaire consists of two main parts. The first part consists of "*Demography profiles of the respondents,*" The second part consists of "*Social Media Use Pattern Among Undergraduate Engineering Students.*"

3.3. Sample Size

Three engineering departments were selected from SOT, Assam University, Silchar. As this is a small, whole belongs only samples were selected for distribution of the questionnaire, only 150 distributed among the students to three departments under SOT, Assam University, Silchar.

3.4 Data Analysis

Data was collected through questionnaires and analysed. The data were tabulated and analysed using statistical package SPSS. Statistical analysis techniques such as frequency distribution for percentage calculation was applied.

IV. Analysis of data among the Undergraduate Engineering Students of School of Technology, Assam University, Silchar.

Part- A: Demography Profile of the Respondents

4.1 Responses Received from the Respondents

Table 1: Responses Received from the Student of SOT, Assam University, Silchar *(N=120)

Questionnaire	Number of Questionnaires	Percentage (%)
Received	120	80%
Not Received	30	20%
Total Distributed	150	100%

Table 1 shows the distribution of questionnaires among the respondents. Altogether **150** questionnaires were distributed among the respondents, and **120** filled in questionnaires were received back by the researcher.

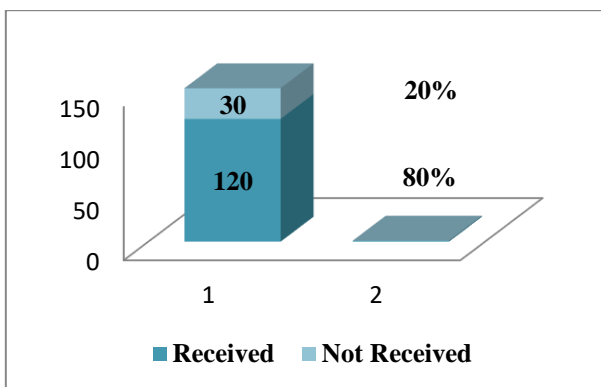


Figure 1: Distribution of Responses.

4.2 Department -Wise Distribution of Respondents.

Table 2: Department Wise Distribution of Respondents*(N=120)

Department	Frequency	Percentage
CSE	42	35%
ECE	37	30.83%
A.E.	41	34.16%
Total	120	100%

Table 2 shows the department wise distribution of the respondents, which defines the number of responses received from different departments of the School of Technology, Assam University, Silchar. The survey firstly shows that **42(35%)** of the responses were received from the CSE Department, **37(30.83%)** from ECE Department, and **41 (34.16%)** responses from the A.E. Department, which reveals that a maximum number of responses have been received from CSE, Department.

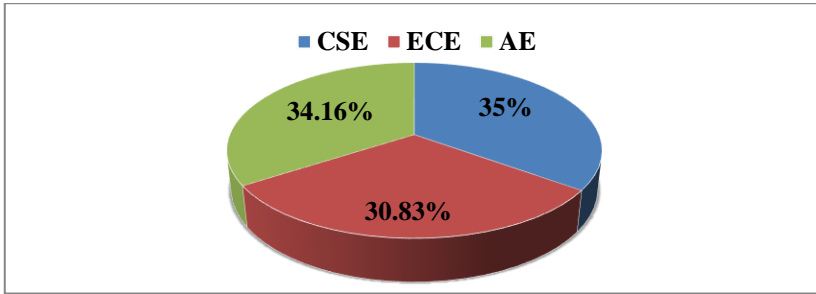


Figure 2: Department Wise Distribution of Respondents

4.3 Age Wise Distribution of Respondents

Table 3: Agewise Differentiation of the Respondents *(N=120)

Age	Frequency	Percentage
Below 18 years	8	6.67%
18-23 years	104	86.66%
Above 23 years	8	6.67%
Total	120	100%

Table 3 shows the age-wise distribution of the respondents. The survey findings reveal that majority of respondents (104=86.66 %) belong to the 18-23 Years age group, which is followed by 8 (6.67 %)p respondents each who belongs to below 18 years age group and above 23 years age group.

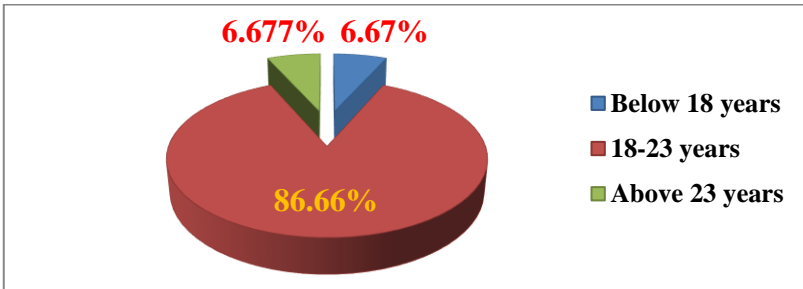


Figure 3: Agewise Distribution of Respondents

4.4 Gender Wise Distribution of Responses

Table 4: Gender Wise Differentiation of the Respondents
*(N=120)

Gender	Frequency	Percentages
Male	89	74.16%
Female	31	25.84%
Total	120	100%

Table 4 shows the gender-wise distribution of the respondents. The table shows that **89(74.16%)** of the responses were received from male respondents, and **31(25.84%)** of the responses were received from female respondents, revealing that male respondents were more than female respondents.

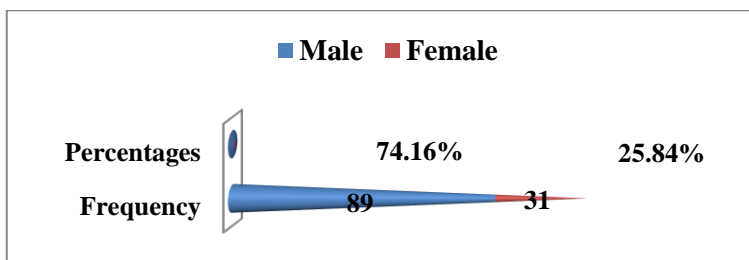


Figure 4: Gender Wise Distribution of Respondents.

Part- B: Social Media Use Pattern Among Undergraduate Engineering Students School of Technology, Assam University, Silchar

4.5 Using Internet/Access Social Media

Table 5: Using Internet/Access Social Media *(N=120)

Using Internet/ Social media	Frequency	Percentage
Yes	120	100%

No	0	0%
Total	120	100%

Table 5 focuses on the ‘Using internet/access social media’ by the respondents. The table shows that **120(100%)** respondents using Internet/accessing social media and **0(0%)** is not available who do not use internet/access social media.

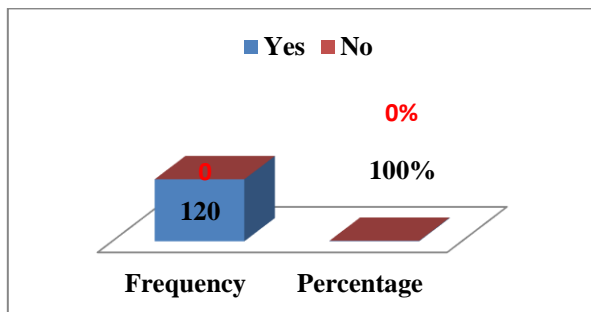


Figure 5: Using Internet/Access Social Media

4.6 Preference of Time by the Respondents.

Table 6: Preference of Time *(N=120)

Time	Frequency	Percentage
Morning	30	25%
Evening	61	50.83%
Afternoon	15	12.5%
Night	14	11.67%
Total	120	100%

Table 6 shows that the preference of time by the respondents. The table shows that **30(25%)** of the respondents marked ‘**Morning**’ about time preference. **61(50.83%)** respondents marked ‘**Evening**’ as the preference of time, **15(12.5%)** of the respondents marked

‘**Afternoon**’ as the preference of time, and **14(11.67%)** of the respondents marked ‘**Night**’ as the preference of time.

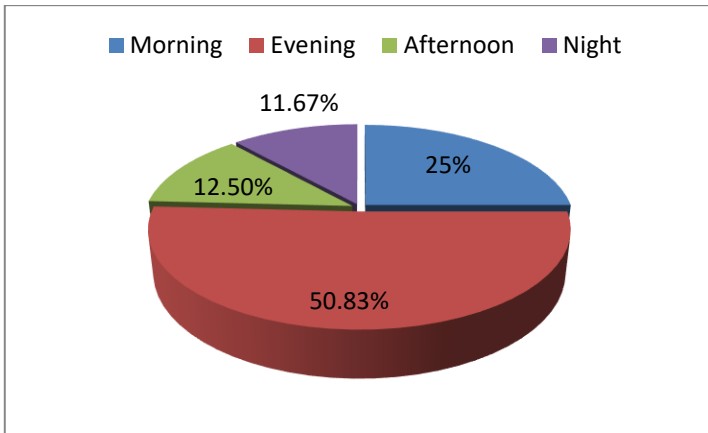


Figure 6: Preference of Time

4.7 Preference of Place

Table 7: Preference of Place *(N=120)

Place	Frequency	Percentage
Library	17	14.17%
Hostel	80	66.67%
Home	15	12.5%
Department	4	3.33%
On the go	4	3.33%
Total	120	100%

Table 7 shows that the preference of place by the respondents. **Majority** of respondents (**80= 66.67%**) preferred ‘**Hostel**’ at the first

place, followed by 17(14.17%) respondents who kept Library at second Rank, Home (15= 12.5%) on the third Rank, Department and On the Go (4= 3.33%) on fourth and fifth Rank respectively for access Internet and Social Media.

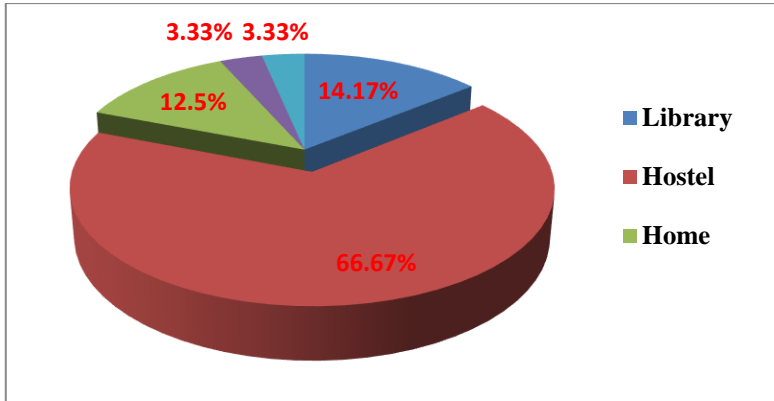


Figure 7: Preference of Place

4.8 Preference of Interface

Table 8: Preference of Interface*(N=120)

Interface	Frequency	Percentage
Smartphone	27	22.5%
Laptop	74	61.66%
Tablet	9	7.5%
Computer	8	6.67%
Palmtop	2	1.67%
Total	120	100%

Table 8 shows that the ‘Preference of Interface’ by the respondents. The table shows that **27(22.5%)** of the respondents marked ‘**Smartphone**’ about the preference of interface. **74(61.66%)** of the respondents marked ‘**Laptop**’ as the preference of interface, **9(7.5%)**

of the respondents marked ‘**Tablet**’ as the preference of interface, **8(6.67%)** of the respondents marked ‘**Computer**’ and **2(1.67%)** of the respondents marked ‘**Palmtop**’ as the preference of interface.

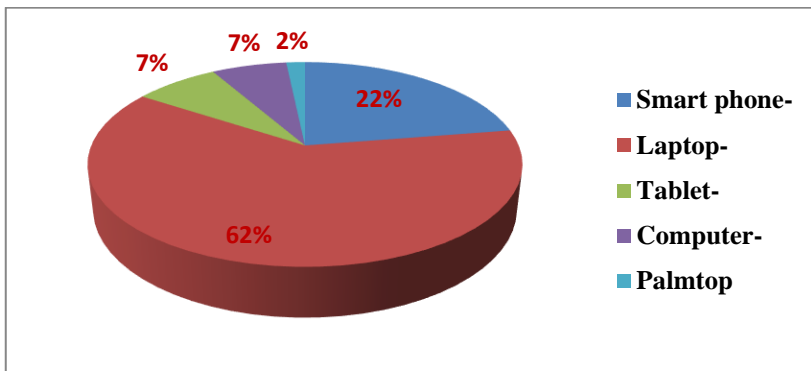


Figure 8: Preference of Interface

4.9 Preference of the Internet Service Provider

Table 9: Preference of Internet Service Provider *(N=120)

Internet service provider	Frequency	Percentage
Airtel	17	14.17%
JIO	56	46.67%
BSNL	18	15%
Vodafone	7	5.83%
Campus Wi-Fi	22	18.33%
Total	120	100%

Table 9 shows that the ‘**Preference of Internet Service Provider**’ by the respondents. The table shows that **17(14.17%)** of the respondents marked ‘**Airtel**’ about the preference of Internet Service Provider. **56(46.67%)** of the respondents marked ‘**JIO**’ as the preference of Internet Service Provider, **18(15%)** of the respondents marked ‘**BSNL**’ as the preference of Internet Service Provider, **7(5.83%)** of

the respondents marked 'Vodafone' and 22(18.33%) of the respondents marked 'Campus Wi-Fi' as the preference of Internet Service Provider.

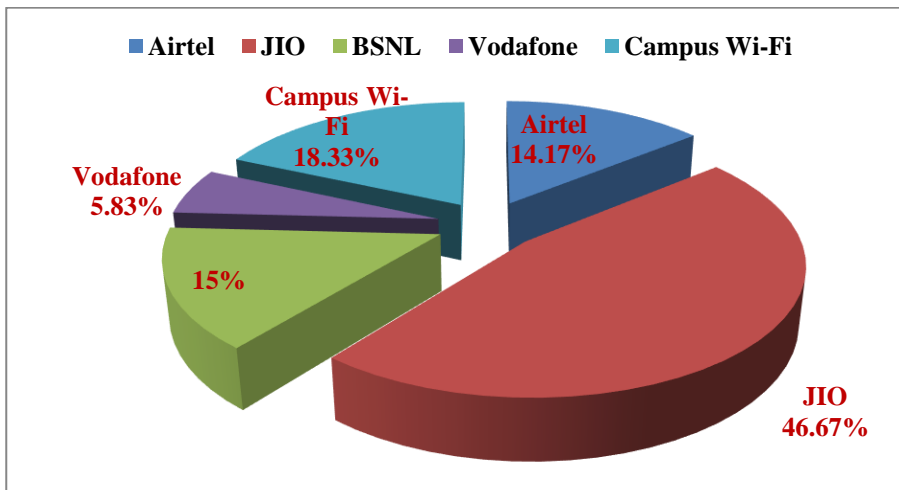


Figure 9: Preference of Internet Service Provider

4.10 Time Spent on Access the Internet

Table 10: Time Spent on Access the Internet *(N=120)

Time spent on accessing the Internet	Frequency	Percentage
1-2 hour	29	24.17%
2-4 hour	36	30%
Always	48	40%
Except for class	7	5.83%
Total	120	100%

Table 10 shows that the 'Time Spent on Access the Internet' by the respondents. The table shows that **29(24.17%)** of the respondents marked '1-2 hour' about the time spent to access the Internet. **36(30%)** of the respondents marked '2-4 hour' as the time spent for

accessing the Internet, **48(40%)** of the respondents marked ‘**Always**’ as the time spent for access the Internet, **7(5.83%)** of the respondents marked ‘**Except class**’ as the time spent for accessing the Internet.

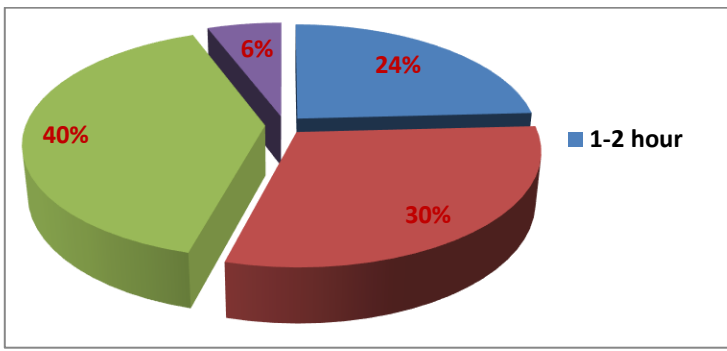


Figure 10: Time Spent on Access the Internet

4.11 Search Engines Use for Information Seeking by the Respondents

Table 10: Search Engines used by the Respondents *(N=120)

Search Engines	Frequency	Percentage
Google	51	42.5%
Yahoo	29	24.17%
Google and Yahoo	40	33.33%
Total	120	100%

Table 11 shows that the ‘**Search Engines use for Information Seeking**’ by the respondents. The table shows that **51(42.5%)** of the respondents marked ‘**Google**’ about the search engines use for information seeking. **29(24.17%)** of the respondents marked ‘**Yahoo**’ as the search engines use for information seeking, and **40(33.33%)** of the respondents marked ‘**Google and Yahoo**’ as the search engines use for information seeking.

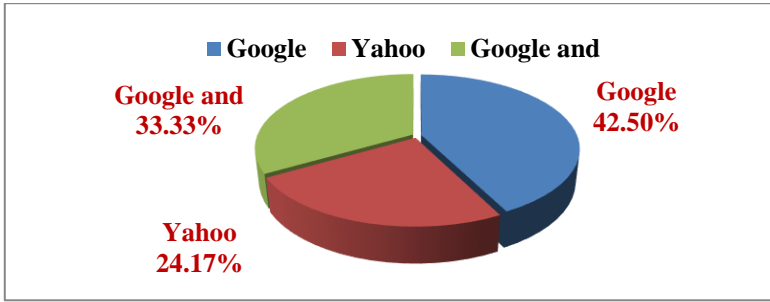


Figure 11: Search Engines used by the Respondents

4.12 Prefer to Use Browsers by the Respondents

Table 12: Prefer to Use Browsers *(N=120)

Search Engines	Frequency	Percentage
Google Chrome	80	66.67%
Mozilla Firefox	40	33.33%
Total	120	100%

Table 12 shows that the ‘**Prefer to use Browsers**’ by the respondents. The table shows that **80(66.67%)** of the respondents marked ‘**Google Chrome**’ about prefer to use browsers by the respondents. **40(33.33%)** of the respondents marked ‘**Mozilla Firefox**’ as they prefer to use browsers by the respondents.

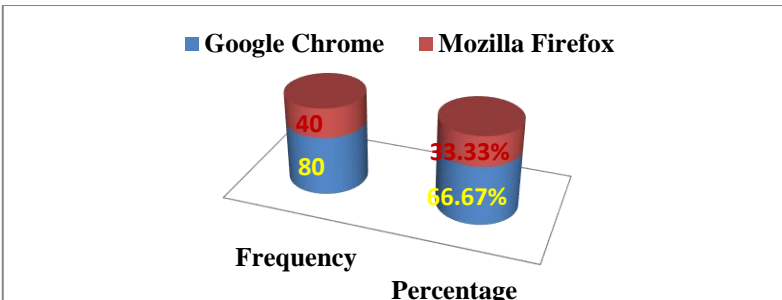


Figure 12: Prefer to Use Browsers

4.13 Problems Faced by the Respondents in Using/Searching Information in Libraries

Table 13: Problems Faced by the Respondents*(N=120)

Statements	Highly Agree		Agree		Neutral		Disagree		Highly Disagree		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Lack of time	55	45.83%	50	41.67%	10	8.33%	5	4.17%	0	0%	120	100%
Lack of access to all the information	26	21.67%	69	57.5%	20	16.67%	5	4.16%	0	0%	120	100%
Lack of reading material	35	29.17%	47	39.7%	33	27.5%	5	4.16%	0	0%	120	100%
Lack of knowledge in use of information Sources	34	28.33%	49	40.83%	25	20.84%	12	10%	0	0%	120	100%
Lack of knowledge use of library services	35	29.17%	58	48.33%	15	12.5%	12	10%	0	0%	120	100%
Less number of Internet access point	26	21.67%	50	41.67%	37	30.83%	5	4.17%	2	1.66%	120	100%
Not able to locate books/Journals/reading materials	39	32.5%	45	37.5%	14	11.67%	20	16.67%	2	1.66%	120	100%
Non-cooperation from the library staff	31	25.83%	47	39.17%	20	16.67%	8	6.67%	14	11.66%	120	100%

Table 13 shows the '**Problems faced by the Students in Using/ Searching Information in Libraries.**' The question was required "What are the difficulties that come across in accessing information?" The statement '**Lack of time**' required **55(45.83%)** says that come across in accessing information '**Highly Agree,** **50(41.67%)** says '**Agree,** **10(8.33%)** says '**Neutral,** **5(4.17%)** says '**Disagree**' and **0(0%)** says '**Highly Disagree**' that faced problems come across in accessing information in Library.

The statement '**Lack of access to all the information**' required **26(21.67%)** says that come across in accessing information '**Highly Agree,** **69(57.5%)** says '**Agree,** **20(16.67%)** says '**Neutral,** **5(4.16%)** says '**Disagree**' and **0(0%)** says '**Highly Disagree**' that faced problems come across in accessing information in Library.

The statement '**Lack of reading material**' required **35(29.17%)** says that come across in accessing information '**Highly Agree,** **47(39.7%)** says '**Agree,** **33(27.5%)** says '**Neutral,** **5(4.16%)** says '**Disagree**' and **0(0%)** says '**Highly Disagree**' that faced problems come across in accessing information in Library.

The statement '**Lack of knowledge in the use of information Sources**' required **34(28.33%)** says that come across in accessing information '**Highly Agree,** **49(40.83%)** says '**Agree,** **25(20.84%)** says '**Neutral,** **12(10%)** says '**Disagree**' and **0(0%)** says '**Highly Disagree**' that faced problems come across in accessing information in Library.

The statement '**Lack of knowledge use of library services**' required **35(29.17%)** says that come across in accessing information '**Highly Agree,** **58(48.33%)** says '**Agree,** **15(12.5%)** says '**Neutral,** **12(10%)** says '**Disagree**' and **0(0%)** says '**Highly Disagree**' that faced problems come across in accessing information in Library.

The statement '**Less number of Internet access point**' required **26(21.67%)** says that come across in accessing information '**Highly**

Agree, 50(41.67%) says **‘Agree**’, 37(30.83%) says **‘Neutral**’, 5(4.17%) says **‘Disagree**’ and 2(1.66%) says **‘Highly Disagree**’ that faced problems come across in accessing information in Library.

The statement **‘Not able to locate books/Journals/reading materials’** required 39(32.5%) says that come across in accessing information **‘Highly Agree**’, 45(37.5%) says **‘Agree**’, 14(11.67%) says **‘Neutral**’, 20(16.67%) says **‘Disagree**’ and 2(1.66%) says **‘Highly Disagree**’ that faced problems come across in accessing information in Library.

The statement **‘Non-cooperation from the library staff’** required 31(25.83%) says that come across in accessing information **‘Highly Agree**’, 47(39.17%) says **‘Agree**’, 20(16.67%) says **‘Neutral**’, 8(6.67%) says **‘Disagree**,’ and 14(11.66%) says **‘Highly Disagree**’ that faced problems come across in accessing information in Library.

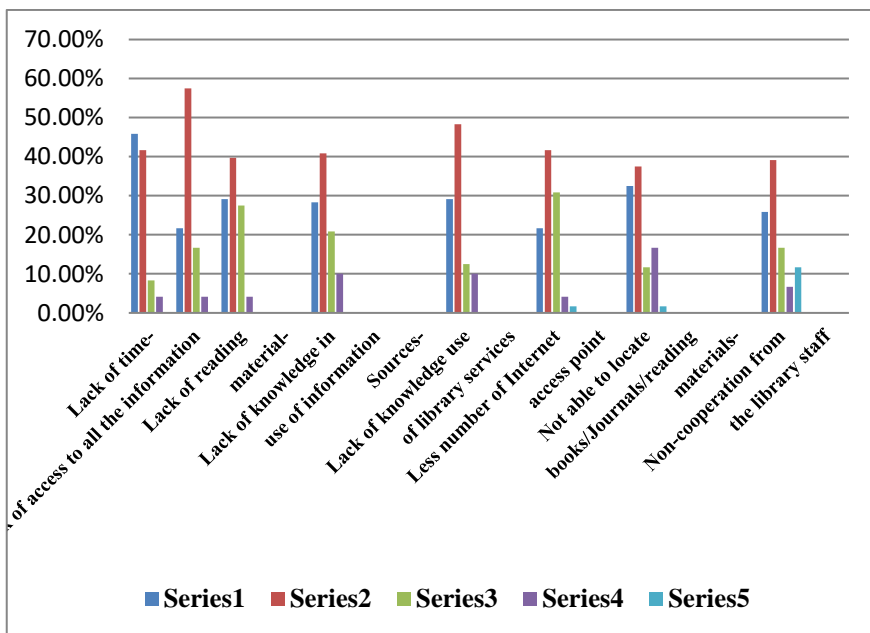


Figure 13: Problems Faced by the Respondents

V. SUGGESTIONS AND RECOMMENDATIONS

- 'More numbers of Internet Access points should be made available' in Library which is known as the respondent's responses;
- To create awareness among the library users regarding the types of Social Media, their importance, and usefulness for getting information.
- To develop adequate library collection, to view the information needs of the library users, primarily undergraduate engineering students.
- 'Library should provide e-books for the U.G. courses of marked for the better and efficient use of the Library;
- There should be complete campus networking with the internet browsing facility in the School of Technology, Assam University, Silchar.
- The 'Library should be available for external hours' of marked for the better and efficient use of the Library; and
- University library should organize User Awareness Programme and Computer/ Internet Awareness Programme for the undergraduate engineering students in particular and other library users in general for optimum utilization of on-line resources.

VI. CONCLUSION

After conducting the present study reveals that the improvement of information services in the engineering field is necessary to make the scope of engineering much broader. Nowadays Library is an essential part of the field of study. The Library gives more information and helps in the development of engineering studies.

The Social Media usages refer to the strategies and measures undertaken to locate the distinct knowledge essentials. Libraries must understand information seeking, information needs of users to re-engineer their services, and provide information efficiently.

It reveals that Social Media is a challenging task as most of the Library has limited resources. While analyzing the questionnaires, it is observed that the students faced many problems dealing with the library resources because there is the inadequacy of each type of library material, slow internet speed, Lack of ICT Skills.

Hence, the Library must collect adequate reading materials for the users. The students need current awareness services and selective dissemination of information services for gathering current information to keep up-to-date themselves, and the rapid pace of information explosion of seeking information is changing every second.

Reference

1. Ansari, M. S. (2017). Sources of Information Needs and Weavers: A Case Study in Banaras, India. *IALIC Bulletin*, 62(2), 85-90.
2. Bhattacharjee, Sudip, Bhattacharjee, Sucheta and Sarmah, Mukut, (2011). An Analytical Study on N-LIST users in college libraries of Cachar District, Assam. In: National seminar on applications in Library and information centers: Issues and challenges/ edited by NLICDE-2011 organised jointly by National Library, Kolkata and Central Library, NIT, Silchar, (Eds: Kishor Chandra Satpathy and R. Ramachandran), S. K Jain & Sons Publications, Kolkata, 21-23 March 2011, pp.163.
3. Bhattacharjee, Sudip, Sinha, Manoj Kumar, Bhattacharjee, Sucheta, (2014) Information needs and information-seeking behaviour of college library users of Cachar district, Assam: A case study: *International Journal of Emerging Trends in Library and Information Society*. (ISSN:2320-5040),2(1),11

24.[http://www.researchgate.net/profile/Monoj_Sinha4/publication/n/265784744_Information_Needs_and_Information_Seeking_Behaviour_of_College_Library_Users_of_Cachar_District_Assam_A_Case_Study/links541b07660cf203f155ae7671.pdf]

4. Biradar, B.S., Rajashekhar, G.R, and Kumar, S.(2004). A Study of Internet Usage by Students and faculties in Kuvempu University. *Library Herald*, 44 (4),: 283-294.
5. Callinan, J. E. (2005). Information-seeking behaviour of undergraduate biology students: A comparative analysis of first year and final year students in University College Dublin. *emeraldinsight.com*, 52(2), 86-99.
6. Chiwari, E. R. T., & Dick, A. L. (2008). Information needs and information seeking patterns of small, medium and micro enterprises in Namibia. *Information Development*, 24(1), 24-36.
7. Choudhury, it. (2013). Information Needs and Seeking Behavior of Assam University Library Users. *IOSR Journal of Humanities and Social Science (IOSR-JHSS)*, 11(6), 10-23.
8. Choukhande, V. G. (2008). *Information Needs and Information Seeking Behaviour: Library and Information Science Research*. Shivneri Publisher & Distributors.
9. Das, A. and Basu. D.(2009). Use of Internet by the Students of Bidhan Chandra Krishi Viswavidyalaya (West Bengal): A Survey. In: *Library/ Information Users in Digital Era (Eds: Amitabha Chatterjee et al.,). XXVII All India IASLIC Conference/ 26-29 December, 2009/ KITT Bhubaneswar/ NO.48/ pp39-47.*
10. Devarajan, G. (1989). *User Approach to Information in libraries*. Ess Ess Publications.
11. Dutta, R. (2009). Information needs and Information-Seeking Behavior in developing countries: A review of the research. *The International Information & Library Review*, 41(1), 44-51.

12. Fidzani, B. (1998). Information needs and Information Seeking Behaviour of graduate students at the University of Botswana. *Library Review*, 47(7), 329-340.
13. Foster, A. (2004, November 11). A Nonlinear Model of Information-Seeking Behaviour. *Journal of the American Society for Information Science and Technology*, 55(3), 228-237.
14. Heminger, B. M., Lu, D., Vaughan, K., & Adams, S. J. (2007). Information Seeking Behavior of academic scientists. *Journal of the American Society for information science and technology*, 58(14), 2205-2225.
15. Herman, E. (2001). End-users in academic: meeting the information needs of University researchers in an electronic age: Parts2 Innovative information-accessing opportunities and the researcher: user acceptance of I.T. based information resources in academia. *ASLIB Proceedings*.
16. Information Seeking Behaviour: A conceptual framework. (n.d). Retrieved March 5, 2019, from Researchgate: <https://www.researchgate.net/publication/275332332>.
17. Jamali, H. R., & Nicholas, D. (2008, September). Information-seeking Behavior of physicists and astronomers. In *Aslib Proceedings* (Vol. 60, No. 5, pp. 444-462). Emerald Group Publishing Limited.
18. Kamlavijayan, D. (2001). Internet for Libraries. *Kelpro Bulletin*, 5(1), 45-48.
19. Karunarathne, A. (2008). Information-seeking behaviour of university teachers in Sri Lanka in the field of Management Studies.
20. Kumar, D, and Shukla, S.K. (2009). Use of Internet among the Research Scholars of the Faculty of Science, University of Allahabad: A Case Study. In: *Library/ Information Users in*

Digital Era (Eds: Amitabha Chatterjee et al.), XXVII All India IASLIC Conference/ 26-29 December 2009/ KIT Bhubaneswar NO.48/pp 246-253.

21. Kumari, K. S. (2010). Information Seeking Behavior of users in the autonomous college libraries in Mangalore city. xv, 145p. <http://hdl.handle.net/10603/131941>.
22. Kumbhar, M., & Vasunatha, R. (2007). Use of Internet in Engineering College of the Districts of Karnataka States: A Study. *ILA Bulletin*, 43(1), 13-18.
23. Laloo, B. T. (2002). Information Needs, Information Seeking Behaviour and Users. New Delhi: Ess Ess Publications.
24. Madhusudan, M. (2007). Internet Use by Research Scholars in University of Delhi. *Library Hi-Tech News*, Emerald Group Publishing Limited, 24(8), 6-42.
25. Mahajan, P. (2005). Internet Use by Researcher: A Study of Punjab University, *Chandigarh Library Practice & Philosophy*, 8 (2).
26. Mahajan, P. (2009). Information-seeking Behavior: a study of Panjab University, India. *Library Philosophy and Practice*, 1.
27. Mahalik, R. (1998, December 31). *Information needs and seeking behaviour of working journalists in Orissa, an analytical study*. Orissa: Shodhganga, <http://hdl.handle.net/10603/119063>
28. Mahapatra, R. K., Swain, D. K., & Jena, K. L. (2011). Information Seeking Behavior of teachers of engineering colleges in Capital city of Odisha: A case study. *Pearl-A Journal of Library and Information Science*, 5(3), 26-32.
29. Marchionini, G. (1995). *Information seeking in Electronic Environment*. Cambridge University Press.

30. Njoku's, I. F. (2004). The information needs and information seeking behavior of fishermen in Lagos State, Nigeria. *The International information and library review*, 36(4), 297-307.
31. Patitungkho, K., & Deshpande, N. J. (2005). Information Seeking Behavior of faculty members of Rajabhat University in Bangkok. *Webology*, 2(4), 25-33.
32. Rufaro it. Chiware, E., & Dick, A. L. (2008). The use of ICTs in Namibia's SME sector to access business information services. *The electronic Library*, 26(2), 145-157.
33. Shanmugan, A. (1999). Information seeking Behavior trainee teachers in selected teacher training colleges in Malaysia. *Malaysian Journal of Library and information science*, 4(1), 1-26.
34. Singh, K. P., & Satija, M. P. (2007). Information seeking behaviour of agricultural scientists with particular reference to their information seeking strategies.
35. Sinha, M. K. (2008). Information Communication Technology (ICT) and Internet Awareness amongst the College University Teachers. In: *From Automation to Transformation*. 6th International CALIBER-2008.
36. Sinha, M. K. (2011) Information Communication Technology (ICT) Awareness amongst University and College Teachers of North Eastern Region of India. *Indian Journal of Information Library & Society*, 34-57.
37. Sinha, M.K. (2009). A Study on ICT and Internet Awareness amongst the Research Scholars and University Teachers: A Case Study. *INFOLIB*, 2 (1-4), 2009.
38. Sinha, M.K. (2010). Internet Awareness Eastern and Internet Usage Pattern amongst University and College Teachers of North Eastern Region of India: A Survey. *Library Progress (International)*, **30** (1), 2010, 61-82 (ISSN: **0970-1052**).

39. Sinha, M.K.(2010). A Study on ICT and Internet Awareness amongst the Research Case Study. *RIPPLES*, 4 (2), March, 2010-August 2010, 64-73. **(ISSN 0973-6362)**
40. Sinha, M.K., & Kumar, M. (2012). Internet literacy skills and internet usage patterns to access e-resources by Assam university library users: an evaluative study.
41. Sinha, M.K.and Sarkar, B(2010). Scenario of ICT Awareness and Internet Usage Pattern Amongst Science Faculty Research Scholars and Teachers of Assam University, Silchar: An Empirical Study. *Professional Science and Information Technology*, 1 (1), 2010, October 2010-March- 2011, 61-78 **(ISSN: 0976- 7274).**
42. Sinha, Manoj Kumar (2012). Internet literacy skills and internet usage patterns to access e-resources by Assam university library users: An evaluative study. *International Research Journal of Library, Information and Archival Studies*, 1 (1), pp.010-026.
43. Sinha, Manoj Kumar (2013). ICT and Internet literacy skills for accessing e-resources available under the N-LIST Programme: A case study of college library users of Barak Valley, South Assam.
44. Sridar, M. S. (1995). Understanding the user-why, what, and how. *Library Science*, 32(4), pp. 153-154.
45. Surya, M. Sangeetha, G., & Nambi, M. A. ((NACLIN 2004)).Information Seeking Behavior of faculty members from government Arts College in Cuddalore District. *Library and information networking*, 285-292.
46. *Using Information*. (n.d.) Retrieved March 5, 2019, from http://www.jhigh.co.uk/intermediate2using%Information12_character_of_info.html.

47. Weiler, A. (2004). Information seeking behaviour in generation Y students: Motivation, critical thinking, and learning theory. *Journal of Academic Librarianship*, 31(1), 46-53.
48. *Wikipedia*. (n.d.). Retrieved March 20, 2019, from Wikipedia website: <http://en.m.wikipedia.org>.

Students' Attitude towards Social Networking Sites: A Study of Assam Women's University Jorhat, Assam

*Pranjal Deka**

Abstract:

Social media is an integral part of communication. In today's world, social networking sites become popular as well as widely used among people of all age groups to share interests, information, activities, ideas, thoughts, experiences, or real-life connections. Social media create a platform for scholarly communication across the globe. In the 21st centuries learning environment, social media has a significant role in information dissemination and acquisition. On behalf of the positive use of social networking depend a suitable academic environment in any institution. This study conducted among the students of Assam Women's University (AWU) Jorhat, Assam. Through this study tried to reflect the student's attitudes for Social Networking Sites (SNS) of AWU.

Keywords: SNS, Frequency, Information, Purpose, Satisfaction,

Introduction:

Social Networking Sites (SNS) are integral parts of the 21st-century communication world. Through Social Networking Sites, peoples can share their all day to day's activities. In the academic environment, SNS has a significant role in the dissemination of information among

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the scholarly community across the globe. SNS becomes a platform for recreation as well as scholarly communication. In developing countries, social media play a distinct role in the social, political, marketing, educational, and awareness for different socio-political movement. For preparing a sustainable e-learning environment, it is a crucial point for analyzing the attitudes of the student regarding Social Networking Sites. The SNS has many advantages, in Academic environment, SNS has the following benefits:

Information Dissemination: Information dissemination is a crucial point for equitable development in all communities. Social Networking sites, mainly Academic Social Networking Sites, play a very productive role in the distribution of information across the global scholarly community. Through Academic Social Networking Sites, the academic community can share their research output, discuss with different scholars and prominent personalities of the domain.

Discussion Platform: Social Networking Sites create a platform for discussion for different academic and social issues. Which have a significant role in societal development.

Potential Groups: Social media enhance the potential user groups for scholarly communication and up to date information for the use.

Recreation: SNS provides a recreational platform to enhance the working capability.

Promotion: SNS is the largest platform promotion for any product or service. SNS is the milestone for the promotion of a product in conventional mode. Along with other products, SNS provides a suitable medium for marketing of library and information products and services for global clients.

World Wide Communication: SNS have to cross the barrier of information communication in the world.

Objectives of the Study:

Following are the objectives of the Studies:

- To find out the student's attitude towards SNS in the AWU.
- To analyse the frequency of use of SNS by Student of AWU.
- Find out the time spent and frequency of use of SNS of AWU.
- Find out the purpose of the use of SNS among the students of AWU.
- Find out the Satisfaction, Problems, and impact on using SNS.

Methodology:

For the study, randomly 100 nos students selected from Assam Women's University, Jorhat, Assam. The structured questionnaire prepared on Google form and distributed among all 100 students of different departments of AWU, Jorhat via Whatsapp, and email. The collected data analyze accordingly.

Literature Review:

Abbas (2019) conducted a study on the impact of social media on learning behavior for sustainable education: evidence of students from selected universities in Pakistan. This study shows that the Positive and Negative effects of SNS among the students.

Buzov (2014) conducted studies focus on the role of SNS for students' pro-environmental activities. They collected the data from college students from six faculties of under the University of Split. The studies show that students highly use SNS to meet their interests in environmental issues.

Hall, Hanna, and Huey (2013) conducted a study among the use and views and social networking Sites of Pharmacy students in the United Kingdom. These studies found those very positives manners among

the Pharmacy students for the SNS and need some training for the potential use of SNS in professional Life.

Haneefa and Sumitha (2011) conducted a study on the use of SNS by the students of Calicut University. This study shows that maximum students use Facebook, maximum students are interested in using SNS for recreation.

Hussain (2012) conducted a study on social media trends among university students. These studies mainly discuss the reason for the use of social media and what types of problems faced in the use of SNS.

Lau (2016) conducted a study on the Effects of social media usage and social media multitasking on the academic performance of university students. These studies consider the various issues related to academic performance and SNS. Mainly predict the academic and non-academic use of SNS.

Pempek et al. (2009) studied college students' social networking experiences on Facebook. The data collected from ninety-two undergraduate students from a private university. The studies show that they found that many students use Facebook to communicate with friends.

Yin (2016) conducted a study on the adoption of Whatsapp instant messaging among students in the Ipoh Higher Education Institutions. This study shows the different applicability of Whatsapp in the learning environment.

Assam Women's University:

Assam women's University, Jorhat is the first Women's University of Assam. It is a significant institution for promoting Women's education in Assam. The university provides the following program for the enhance the quality of the women – Bachelor's Degree in Physiotherapy and Psychology, Master's program in Library and

Information Science, Assamese, Education, Political Science, English, Cultural Studies, Sociology Mass Communication and Journalism, Business Administration, Economics and Education.

Data Analysis and Interpretation:

Collected data analyze accordingly in the following order

The response of the questionnaire:

In this study, a structured questionnaire distributed among the 100 students of Assam Women’s University. Of the 100 students, 85 students submitted the questionnaire.

Age of the Respondent:

Age is also an essential task for the use of SNS using behavior. The no of different age respondents shown in the following table.

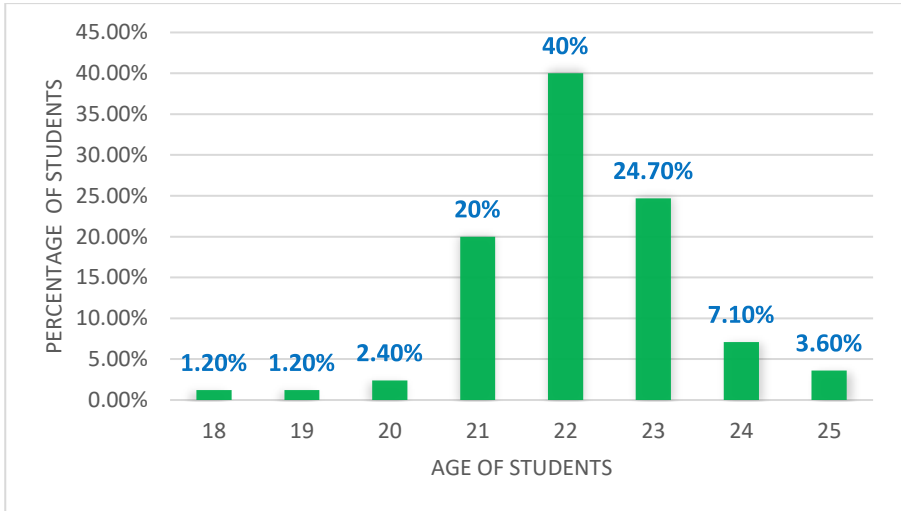
Table -1: Age of the Respondent

Sl No	Age	Total No	Percentage
1	18	1	1.2%
2	19	1	1.2%
3	20	2	2.4%
4	21	17	20%
5	22	34	40%
6	23	21	24.7%
7	24	6	7.1%
8	25	3	3.6%

From the table-1 shows that the different age of the respondent students of AWU. The highest no of respondent students belongs to the 22 years, and a minimum no of students belong 18 and 19 years. Age-wise distribution of respondents- 18 years- 1.2%, 19 years- 1.2%,

20 years- 2.4%, 21 years- 20%, 22 years- 40%, 23 years- 24.7%, 24 years- 7.1%, 25 years- 3.6%. The age of respondents shown in the following figure.

Figure-1: Age of the Respondent



Duration of Use of Social Networking Sites:

Form the study shows that AWU belongs to the different duration for using SNS. The duration of SNS shows in the following table-

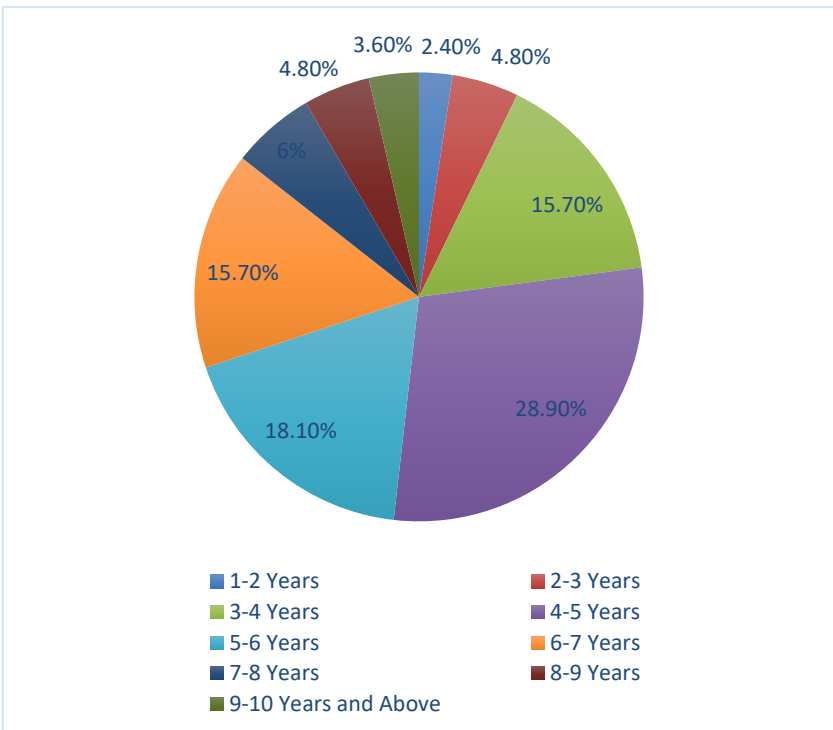
Table-2: Duration of Use of Social Networking Sites

Sl. No	Duration	Total No	Percentage
1	1-2 Years	2	2.4%
2	2-3 Years	4	4.8%
3	3-4 Years	13	15.7%
4	4-5 Years	24	28.9%
5	5-6 Years	15	18.1%
6	6-7 Years	13	15.7%

7	7-8 Years	5	6%
8	8-9 Years	4	4.8%
9	9-10 Years and Above	3	3.6%

From table -2, it is shown that maximum students used SNS form 4-5 years 28.9% and only 2.4% of student use SNS from 1-2 years. The year distribution for use of SNS among the students of AWU are- 1-2 years- 2.4%, 2-3 years- 4.8%, 3-4 years- 15.7%, 4-5 years- 28.9%, 5-6 years- 18.1%, 6-7 years- 15.7%, 7-8 years- 6 %, 8-9 years- 4.8% and 9-10 years and above- 3.6%. the duration of use of SNS shows in the following figure-

Figure: 2- Duration of Use of Social Networking Sites



Different Types of Social Networking Sites Used By the Students:

Students use different SNS for fulfilling their own needs. AWU students use the following SNS-

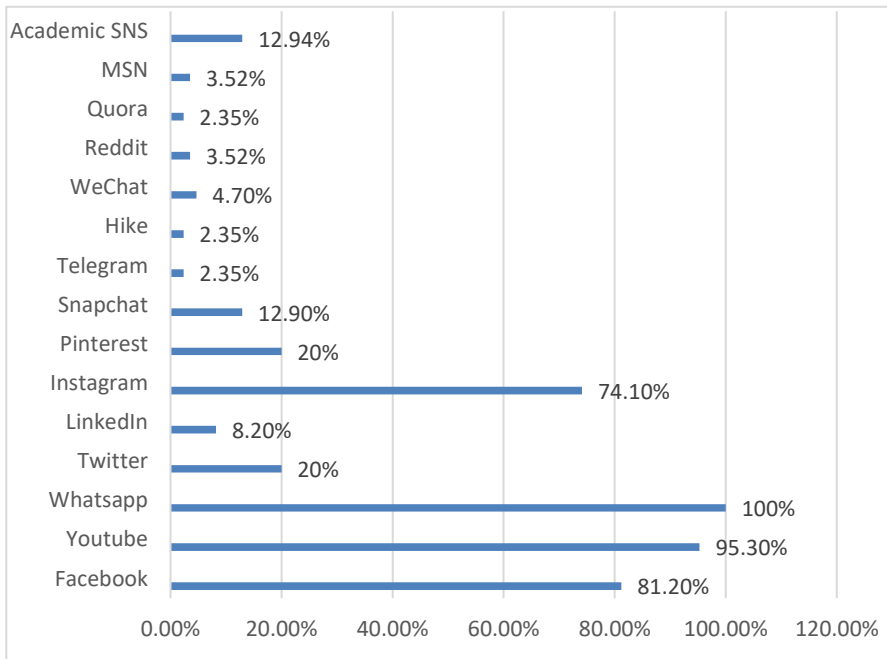
Table-3: Different Types of Social Networking Sites Used By the Students

SI No	Name of SNS	Total No	Percentage
1	Facebook	69	81.2%
2	YouTube	81	95.3%
3	Whatsapp	85	100%
4	Twitter	17	20%
5	LinkedIn	7	8.2%
6	Instagram	63	74.1%
7	Pinterest	17	20%
8	Snapchat	11	12.9%
9	Telegram	2	2.35%
10	Hike	2	2.35%
11	WeChat	4	4.7%
12	Reddit	3	3.52%
13	Quora	2	2.35%
14	MSN	3	3.52%
15	Academic SNS	11	12.94%

From the table-3 shows the maximum no of students use Whatsapp (100%), and a minimum no of students use Telegram, Hike, and Quora. The students of AWU use SNS namely Facebook -81.2%, Youtube- 95.3%, Whatsapp -100%, Twitter- 20%, LinkedIn- 8.2%, Instagram- 74.1%, Printerest- 20%, Snapchat- 12.9%, Telegram –

2.35%, Hike- 2.35%, Wechat- 4.7%, Reddit- 3.52%, Qura- 2.35%, MSN- 3.52%, Academic SNS- 12.94%. The data shows in the following Figure

Figure-3: Different Types of Social Networking Sites Used By the Students



Time Spent on Social Networking Sites:

It is a very crucial issue, in a single day, how much time spent a student on SNS. These studies tried to extract out how much time spent on SNS by the students. The study shows the following result.

Table-4: Time Spent on Social Networking Sites

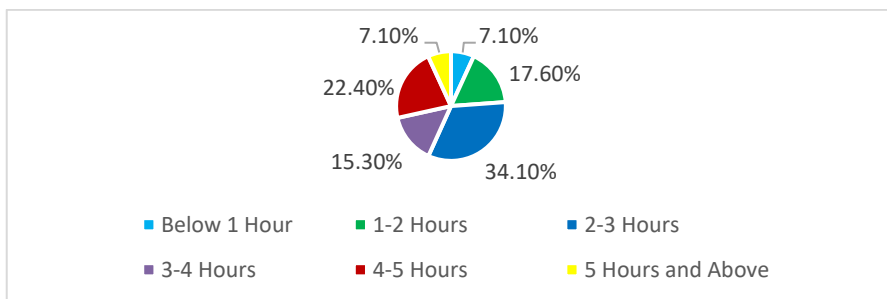
Sl. No	Time Spent	Total No	Percentage
1	Below 1 Hour	6	7.1%
2	1-2 Hours	15	17.6%

3	2-3 Hours	29	34.1%
4	3-4 Hours	13	15.3%
5	4-5 Hours	19	22.4%
6	5 Hours and Above	6	7.1%

This study shows that the maximum student spent 2-3 hours on SNS, and 7.1 % of students spent time below one hour.

The study distinct that the students of AWU spent times on SNS, below 1 hour – 7.1%, 1-2 hours- 17.6%, 2-3 hours- 34.1%, 3-4 hours- 15.3%, 4-5 hours- 22.4%, 5 hours and above -7.1%.

Figure-4: Time Spent on Social Networking Sites



Frequency of Use of Social Networking Sites:

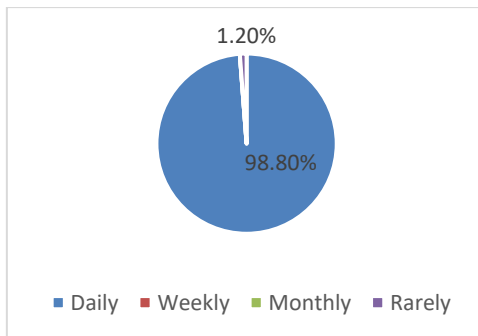
The frequency of use of SNS defines how much impact of SNS among the students. in these studies shows the frequency of use of SNS by the students of AWU as follows-

Table-5: Frequency of Use of Social Networking Sites

Sl. No	Frequency	Total No	Percentage
1	Daily	84	98.8%
2	Weekly	0	0%
3	Monthly	0	0%
4	Rarely	1	1.2%

SNS daily used by 98.8% of students and 1.2% of students rarely used SNS. The uses frequency of SNS by the students in the following figure-

Figure-5: Frequency of Use of Social Networking Sites



Tools use for Social Networking Sites:

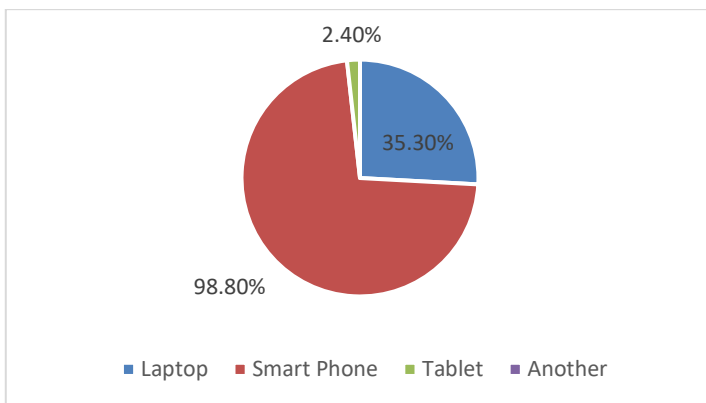
In the changing scenario of the ICT environment different students use different tools for using SNS, In AWU students use the following tools-

Table-6: Tools use for Social Networking Sites

Sl. No	Tools	Total No	Percentage
1	Laptop	30	35.3%
2	Smart Phone	84	98.8%
3	Tablet	2	2.4%
4	Another	0	0%

The laptop used by 35.3% of students, SmartPhone, used by 98.8% of Students and tablets used by only 2.4 % of students.

Figure-6: Tools use for Social Networking Sites



Purpose of Use of Social Networking Sites:

In this information age, SNS used for different purposes, in AWU students use SNS for the following purpose.

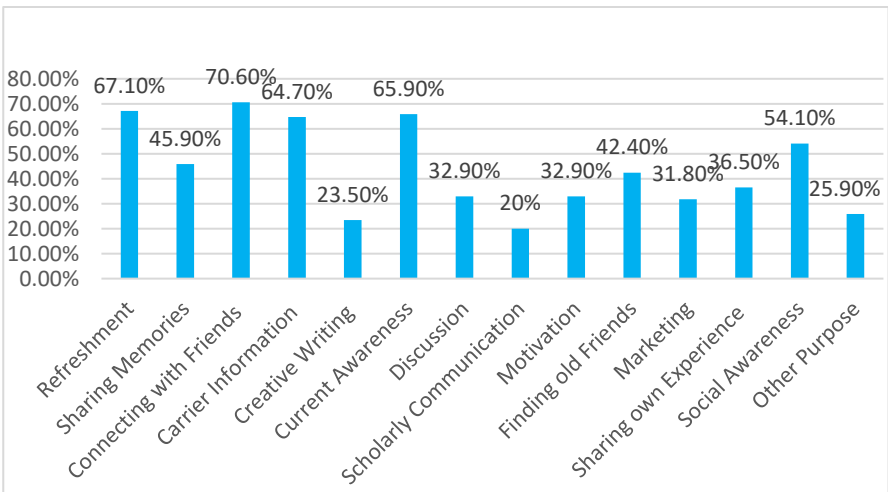
Table-7: Purpose of Use of Social Networking Sites

Sl. No	Purpose	Total No	Percentage
1	Refreshment	57	67.1%
2	Sharing Memories	39	45.9%
3	Connecting with Friends	60	70.6%
4	Carrier Information	55	64.7%
5	Creative Writing	20	23.5%
6	Current Awareness	56	65.9%
7	Discussion	28	32.9%
8	Scholarly Communication	17	20%
9	Motivation	28	32.9%
10	Finding old Friends	36	42.4%

11	Marketing	27	31.8%
12	Sharing own Experience	31	36.5%
13	Social Awareness	46	54.1%
14	Other Purpose	22	25.9%

The studies show that 67.1% of students used SNS for refreshment, 45.9% students use for sharing memories, 70.6% students used for connecting with friends, 64.7% students used for carrier information, 23.5% students used for creative writing, 65.9% students used for current awareness, 32.9% students used for discussion, 20% student used for scholarly communication, 32.9% students used for motivation, 42.4% students used for motivation, 31.8% students used for marketing, 36.5% students used for sharing own experience, 54.1% students used for social awareness, and 25.9% students use SNS for another purpose.

Figure-7: Purpose of Use of Social Networking Sites



Satisfaction Level Using Social Networking Sites:

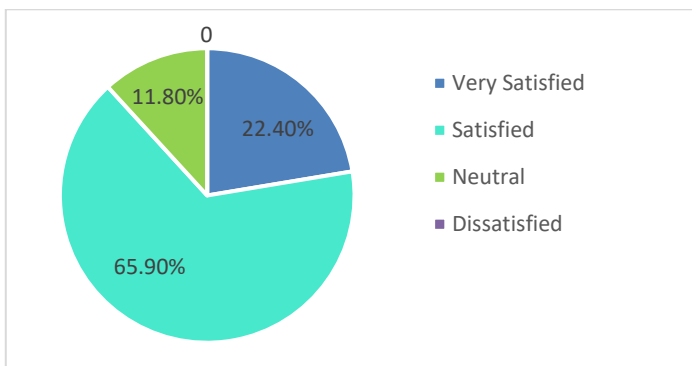
The satisfaction level of students using SNS of Assam Women’s University as follows-

Table-8: Satisfaction Level Using Social Networking Sites

Sl. No	Level	Total No	Percentage
1	Very Satisfied	19	22.4%
2	Satisfied	56	65.9%
3	Neutral	10	11.8%
4	Dissatisfied	0	0%

Table-8 shows that using SNS 22.4% of students very satisfied, 65.9% of students satisfied, 11.8% of students neutral. The satisfaction level of Students using SNS shows in the following figure-

Figure-8: Satisfaction Level Using Social Networking Sites



Problem Faced in Using Social Networking Sites:

There are different problems faced by the student during the use of SNS; the significant problems faced by students show in the following table-

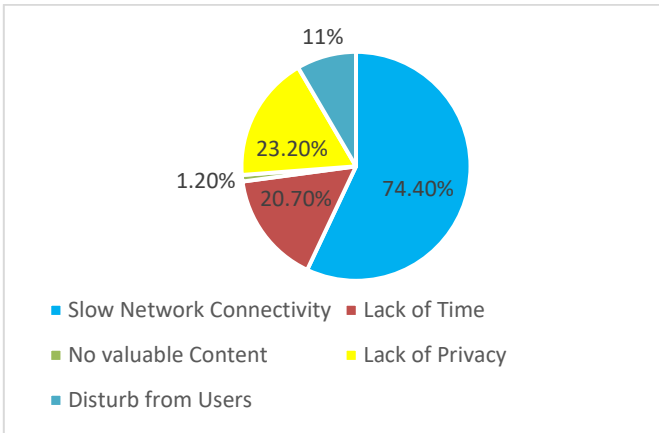
Table-9: Problem Faced in Using Social Networking Sites

Sl. No	Problems	Total No	Percentage
--------	----------	----------	------------

1	Slow Network Connectivity	61	74.4%
2	Lack of Time	17	20.7%
3	No valuable Content	1	1.2%
4	Lack of Privacy	19	23.2%
5	Disturb from Users	9	11%

Table- 9 show that 74.4% of student faces the problem of slow network connectivity. 20.7% of student faces the problem of lack of time, 1.2% of students face the problems of no valuable content, 23% of student faces the problems of lack of privacy and 115 students face the problems of disturb from users. The problems are shown in the following figure-

Figure-9: Problem Faced in Using Social Networking Sites



Impact of Social Networking Sites on Academic Activities:

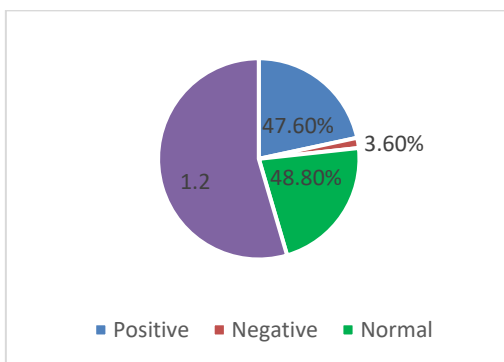
SNS has a positive and negative impact on students' academic activities. AWU students have the following impact.

Table-10: Impact of Social Networking Sites on Academic Activities

Sl. No	Impact	Total No	Percentage
1	Positive	40	47.6%
2	Negative	3	3.6%
3	Normal	41	48.8%

The table-10 shows that 47.6% of students have a positive impact on academic activities, 3.6% of students have a negative impact, and 48.8% of students have an average impact on academic activities. The impact of SNS among the students shows in the following figure-

Figure-10: Impact of Social Networking Sites on Academic Activities



Social Networking Sites as a Source of Information:

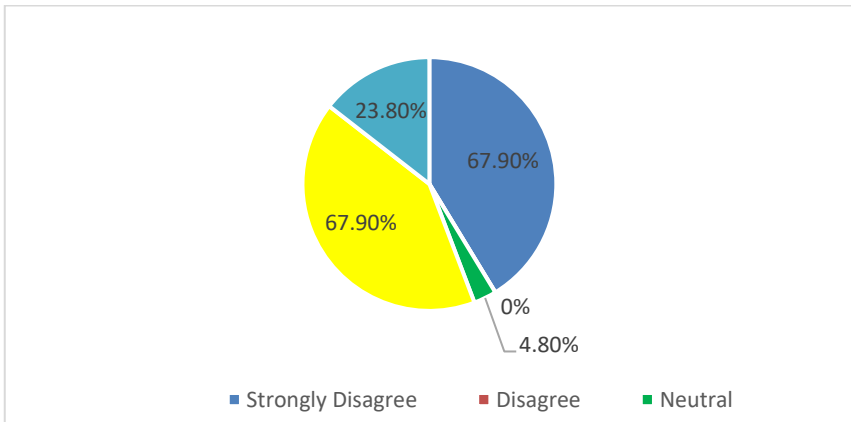
SNS is useful for a source for different information; in AWU, students have the following remarks on SNS as a source of information. The remark shows in the table-11

Table-11: Social Networking Sites as a Source of Information

SI No	View	Total No	Percentage
1	Strongly Disagree	3	3.6%
2	Disagree	0	0%
3	Neutral	4	4.8%
4	Agree	57	67.9%
5	Strongly Agree	20	23.8%

The table-11 shows that 3.6% of students strongly disagree on the statement, Disagree -0%, Neutral -4.8%, Agree- 67.9% and 23.8% strongly agree on the statement.

Figure-11: Social Networking Sites as a Source of Information



Major Findings:

- i. Maximum students of AWU belongs to the age of 22 (44%).
- ii. Maximum students use SNS from 4-5 years (28.9%), and from a deficient number, students use SNS from 1-2 years (2.4%).
- iii. 100% of students of AWU use Whatsapp for communication.
- iv. The maximum students (34.1%) of AWU use SNS for 2-3 Hours in a day, and Daily use SNS by 98.8% of students.

- v. The principal purpose of SNS Refreshment, Sharing Memories Connecting with Friends, Carrier Information, Creative Writing, Current Awareness, Discussion, Scholarly Communication, Motivation, Finding old Friends, Marketing, Sharing own Experience, Social Awareness
- vi. 65.9% of students satisfied using SNS.
- vii. Slow network connectivity is a significant problem for using SNS.
- viii. Maximum students are not aware of academic SNS.

Conclusion:

SNS is a prime factor of communication worlds, among all age people. SNS creates a platform for dissemination of information across the global community. These studies were conducted among the students of Assam Women's University, Jorhat (Assam). The study reflects an image of SNS attitudes among the students of AWU. Daily 98.8% of AWU students use SNS; the primary purpose of all SNS users is recreation. Maximum no of students have not aware of Academic Social Networking Sites. To create a suitable learning environment using SNS, it needs to develop the information literacy skills among the students. SNS is a global platform for the acquisition and dissemination of information. The positive use of SNS creates a suitable platform for scholarly communication, which is become a significant part of the development of a community.

References:

1. Thanuskodi, S. (2020). Usage of Social Networking Sites Among Post Graduate Students. In S. Thanuskodi (Ed.), *Handbook of Research on Digital Content Management and Development in Modern Libraries* (pp. 148-168). Hershey, PA: IGI Global. DOI:10.4018/978-1-7998-2201-1.ch009

2. Hall, M., Hanna, L.-A., & Huey, G. (2013). *Use and Views on Social Networking Sites of Pharmacy Students in the United Kingdom. American Journal of Pharmaceutical Education, 77(1), 9.* DOI:10.5688/ajpe7719
3. Yin, L. C. (2016). Adoption of Whatsapp Instant Messaging Among Students in Ipoh Higher Education Institution. *Wawasan Open University.*
4. Lau, W. W. (2017). Effects of social media usage and social media multitasking on the academic performance of university students. *Computers in human behaviour, 68,* 286-291.
5. Hussain, I. (2012). *A Study to Evaluate the Social Media Trends among University Students. Procedia - Social and Behavioral Sciences, 64,* 639–645. DOI:10.1016/j.sbspro. 2012.11.075
6. Mohamed, H. K., & Sumitha, E. (2011). Perception and Use of Social Networking Sites by the Students of Calicut University. *DESIDOC Journal of Library & Information Technology, 31(4).*

Attitude of Research Scholars towards Social Networking Sites : A Case Study of Bharathiar University, Coimbatore

*Nidhisha. P. K**
*Dr. R Sarangapani***

Abstract

The present paper focuses on the attitude of Research Scholars at Bharathiar University towards different Social Networking Sites. The main objective of the study is to identify the usage and purpose of social networking sites related to research works of the research scholars. The study also point out the problems faced while using social networking sites by the research scholars. Questionnaire method was used to collect data and the collected data were analyzed using MS Excel. The data reflected that the social networking sites have greater impact on the research works as well as on the routine of research scholars. Among the general social networking sites WhatsApps mostly used and in case of academic Social Networking Sites Google scholaris mostly used by the research scholars. Most of the research scholars are using social media for finding current news and for entertainment. Comparatively the research scholars are using social networking sites for social purposes rather than research related works. The research scholars have the potential to use different social networking sites so it will be better if the research scholars are made aware of the different features of social networking

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sites especially about academic social networking sites they can be use it for efficient learning and research purposes.

Keywords: *Social networking sites, Research Scholars, Bharathiar University, Academic.edu, Research Scholar, WhatsApp, Facebook*

Introduction

The growing nature of Information and Communication Technology has raised the importance of Web 2.0 applications such as social media. According to Merriam-Webster dictionary^[5] Social media can be defined as form of electronic communication (such as websites for social networking and micro blogging) through which users create online communities to share information, ideas, personal messages, and other content (such as videos). Social media is a catch-all term for a variety of internet applications that allow users to create content and interact with each other^[6]. Facebook is the largest social networking site and is used by almost one third of world's population.

In education field also social media has gained its space as it becomes an easy way to communicate, share and updating knowledge among researchers and academicians. By using social networking sites like Facebook and LinkedIn the students can follow experts or professionals and obtain information related to their study or research for free. Academic social networking sites like Academia.edu and ResearchGate are also provide social interaction and collaborative learning. To support the community librarian should also acquire knowledge to use new communication technology. The present study focuses on the attitude of Research Scholar community towards Social Networking Sites.

Review of literature

Talaue and others ^[7] concluded in their study that social media has dual impact on college students. The use of social media giving them an opportunity to be social and at the same time it affect their academic

performance negatively. They suggest that the institution must make aware of students of the learning purpose of social media and students themselves have to know all harms related to social media. According to Akakandelwa^[1] students used social media to get social information rather than used for academic purpose. It becomes a part of their life so the only way is to encourage the productive use of social media among students.

The study conducted by Kenchakkanavar and others^[3] revealed that academic social networking sites have made great impact on the research works. The researchers are using academic social networking sites to find conference or seminars and to get relevant information for their research work. The study suggests that the librarian also should give awareness and training programme for the researchers on the usefulness of social media. Hussian and others^[2] conducted a study to understand the use of social networking sites by the postgraduate students. The study found that most of the postgraduate students have been using social networking sites. Facebook, Google+, Youtube and Twitter are the mostly used social networking sites among the respondents. Madhusudan and others^[4] conducted a study to identify the impact of social networking sites related to social interactions, behavior, studies and health of medical college students. Majority of students accessing social networking sites daily and chatting and uploading photos are the common activities in social networking sites. The social life and health of students are also affected by the usage of social networking sites. The study concluded that the disadvantages of social networking sites have negatively affected the present generation.

Objectives of the study

1. To identify the different social networking sites used by the research scholars of Bharathiar University.

2. To identify the frequency of using social networking sites by researchers scholars.
3. To find out the purpose of using social networking sites by research scholars.
4. To identify the problems faced while using social networking sites.

Methodology

The data for the present study were collected from research scholars at Bharathiar University, Coimbatore. Survey method was used to collect data. A questionnaire was designed by the researcher and randomly distributed and collected responses from 94 Research Scholars. The data were analyzed using MS Excel.

Data Analysis & Interpretation

Gender wise distribution of respondents

The gender wise distribution of respondents are shown in Figure 1. In this study total 94 research scholars are covered in which 38 (40.42 per cent) are male respondents and 56 (59.57 per cent) are female respondents. It shows that the number of female respondents is more than the number of male respondents. All of these respondents are using social networking sites every day.

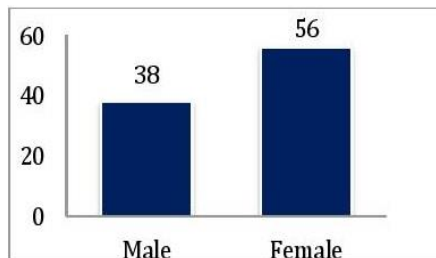


Figure 1: Gender wise distribution of respondents

Use of social networking sites (SNs)

The general social networking sites used by research scholars of Bharathiar University have shown in Table 1 and Figure 2.

Social networking sites	Male	Female	Total
Facebook	22 (57.89%)	38 (67.85%)	60 (63.82%)
Instagram	18 (47.36%)	34 (60.71%)	52 (55.31%)
LinkedIn	18 (47.36%)	20 (35.71%)	38 (40.42%)
WhatsApp	38 (100%)	54 (96.42%)	92 (97.87%)
YouTube	34 (89.47%)	54 (96.42%)	88 (93.61%)

Table 1: Use of social networking sites

Out of total 94 respondents 92 (97.87 per cent) respondents are using WhatsApp, 88 (93.61 per cent) respondents are using YouTube, 60 (63.82 per cent) respondents are using Facebook, 52 (55.31 per cent) respondents are using Instagram and 38 (40.42 per cent) respondents are using LinkedIn. It is observed that majority of the respondents are using WhatsApp and YouTube.

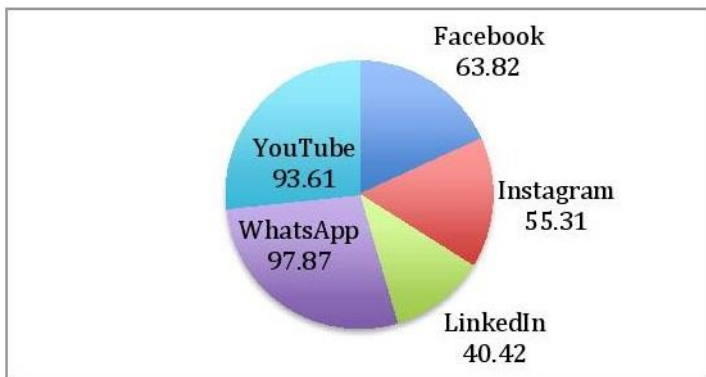


Figure 2: Use of social networking sites

Use of Academic Social networking sites

The Table 2 shows that 32 (84.21 per cent) male respondents and 40 (71.42 per cent) female respondents are using Google Scholar. 24 (63.15 per cent) male respondents and 38 (67.85 per cent) female respondents are using ResearchGate. Out of the total respondents 72 (76.59 per cent) respondents are using Google Scholar, 62 (65.95 per cent) respondents are using ResearchGate, 42 (44.68 per cent) respondents are using SlideShare, 38 (40.42 per cent) respondents are using Academia.edu and 8 (8.510 per cent) respondents are using Researcher ID.

Academic Social networking sites	Male	Female	Total
Academia.edu	10 (26.31%)	28 (50%)	38 (40.42%)
Google Scholar	32 (84.21%)	40 (71.42%)	72 (76.59%)
ResearcherID	2 (5.26%)	6 (10.71%)	8 (8.510%)
ResearchGate	24 (63.15%)	38 (67.85%)	62 (65.95%)
SlideShare	18 (47.36%)	24 (42.85%)	42 (44.68%)

Table 2: Use of ASNs

It is revealed that among the academic social networking sites Google Scholar is mostly used by the research scholars.

Purpose of using social networking sites

The Table 3 shows that 86 (91.48 per cent) respondents are using social networking sites for finding current news, 84 (89.36 per cent) respondents are using for entertainment, 66 (70.21 per cent) respondents are using social networking sites to interact with

friends,64 (68.08%) respondents are using social networking sites to share images/ videos, 58 (61.70 per cent) respondents are using social networking sites for finding conferences/ seminars/workshop related information and to get information related to research work, 54 (57.44 per cent) respondents are using social networking sites for preparation of exams, 42 (44.68 per cent) respondents are using social networking sites for uploading publications, 36 (38.29 per cent) respondents are using social networking sites to interact with subject experts, consultants etc, 34 (36.17 per cent) respondents are using social networking sites to connect with other researchers and 30 (31.91 per cent) respondents are using social networking sites for promoting their own thoughts.

Purpose	Male	Female	Total
For finding conferences /seminars /workshop related information	20 (52.63%)	38 (67.85%)	58 (61.70%)
For finding current news	32 (84.21%)	54 (96.42%)	86 (91.48%)
For interaction with subject experts, consultants etc.	10 (26.31%)	26 (46.42%)	36 (38.29%)
For preparation of exams	14 (36.84%)	40 (71.42%)	54 (57.44%)
Promoting their own thoughts	6 (15.78%)	24 (42.85%)	30 (31.91%)
To connect with other researchers	10 (26.31%)	24 (42.85%)	34 (36.17%)
To get information related to research work	16 (42.10%)	42 (75%)	58 (61.70%)
Uploading publications	10 (26.31%)	32 (57.14%)	42 (44.68%)
To interact with friends	20 (52.63%)	46 (82.14%)	66 (70.21%)
To share images/ videos	26 (68.42%)	38 (67.85%)	64 (68.08%)
Entertainment	34 (89.47%)	50 (89.28%)	84 (89.36%)

Table 3: Purpose of using SNs

It shows that most of the research scholars are using social networking sites for getting current news, entertainment and to interact with friends rather than using it for research related purposes.

Problems faced while using SNs

Table 4 depicts the problems faced by the researcher while using social networking sites. Out of the total respondents 48 (51.06%) opined that privacy is not ensured is the most difficulty while using social networking sites. 32 (34.04%) respondents said that unwanted mail is one of the problems while using social networking sites. 28 (29.78%) respondents said that university has denied access of some social networking sites and 4 (4.25%) of the respondents opined that social networking sites is not user friendly.

	Male	Female	Total
Access denied by university	6 (15.78%)	22 (39.28%)	28 (29.78%)
Not user friendly	4 (10.52%)	0	4 (4.25%)
Unwanted mail	14 (36.84%)	18 (32.14%)	32 (34.04%)
Privacy is not ensured	20 (52.63%)	28 (50%)	48 (51.06%)

Table 4: Problems faced while using SNs

Major Findings

- The number of female respondents 56 (59.57 per cent) is more than number of male respondents 38 (40.42 per cent). All of these respondents are using social networking sites every day.
- Among the general social networking sites WhatsApp (97.87 per cent) is mostly used by the research scholars of Bharathiar University followed by YouTube (93.61 per cent).Google

scholar (76.59 per cent) is the most used academic social networking site followed by ResearchGate (65.95 per cent).

- Most of the research scholars are using social media for finding current news (91.48 per cent) and for entertainment (89.36 per cent).
- Privacy is not ensured is the most problem faced by research scholars while using social networking sites.

Conclusion

The present study attempted to find out the usage of social networking sites by the research scholars at Bharathiar University. It is observed that the use of social networking sites have greater role in research works as well as in routine of research scholars. Comparatively the research scholars are using social networking sites for social purposes rather than research related purposes. Privacy issues, unwanted mail, access denied are some problems faced by researchers while using social networking sites. Hence the authorities should allow access to these sites because social networking sites have number of advantages on research works. It can be concluded that the research scholars have the potential to use different social networking sites so it will be better if the research scholars are made aware of the different features of social networking sites especially about academic social networking sites they can be use it for efficient learning and research purposes.

References

1. Akakandelwa, A.& Walubita, Gabriel. (2018). Students' Social Media Use and its Perceived Impact on their Social Life: A Case Study of the University of Zambia. *The International Journal of Multi-Disciplinary Research*, 1-14. Retrieved from <https://www.researchgate.net/publication/328389136>
2. Hussain, Manzoor, Loan, Fayaz Ahmad & Yaseen, Gousia. (2017). The Use of Social Networking Sites (SNS) by the Post-graduate

- Students. *International Journal of Digital Library Services*, 7 (1), 72-84. Retrieved from <http://www.ijodls.in/uploads/3/6/0/3/3603729/7ijodls7117.pdf>.
3. Kenchakkanavar, Anand Y., Hadagali, Gururaj S. & Shobha Ranadev. (2017). Use of Academic Social Networking Sites by the Research Scholars in the Universities of Dharwad City: A study. *Journal of Advances in Library and Information Science*, 6 (3), 274-278. Retrieved from <http://jalis.in/pdf/6-3/Anand.pdf>
 4. Madaiah, M, Seshaiyengar, Chalubaraj Talkad, Preethi Suresh, Munipapanna, Santhosh & Sonnappa, Suresha Doddasabbenahalli. (2016). Study to Assess the Effects of Social Networking Sites on Medical College Students. *International Journal of Community Medicine and Public Health*, 3 (5), 1204-1208. Retrieved from <https://mail.ijcmph.com/index.php/ijcmph/article/viewFile/881/759>
 5. Social Networking Sites. Retrieved from <https://dictionary.cambridge.org/dictionary/english/social-networking-site>
 6. Social Networking Sites. Retrieved from <https://www.techopedia.com/definition/4956/social-networking-site-sns>
 7. Talaue, Gilbert M., AlSaad, Ali, AlRushaidan, Naif, AlHugail, Alwaleed & AlFahhad, Saad. (2018). The Impact of Social Media on Academic Performance of Selected College Students. *International Journal of Advanced Information Technology (IJAIT)*, 8(4-5), 27-35. Retrieved from <http://airconline.com/ijait/V8N5/8518ijait03.pdf>

Copyright and Creative Commons Licenses

*Yogita Talwar**

Abstract:

Creative Commons licenses are an effective solution for digital rights protection. Some of the problems caused by copyright infringement can be reduced by CC. CC licenses do not replace copyright but are derived from them. The current education system has been enriched by various OERs with major advances in ICT. The optimal use of opportunities provided by technological advances poses a significant challenge to education systems and has a negative impact on costs, access, equity, quality and quality arts. Creative Commons offers free and user friendly copyright licenses that give the public the right to share, use, and create creative works of the author. The non-profit organization CC also protects people who use the author's work, so they do not have to worry about copyright infringement as long as they abide by the rules. Creative Commons licenses require licenses to obtain permission to carry out any activity for a statutory purpose other than a license and the license does not explicitly permit it.

Keywords:

Creative Commons licenses, Open Education Resources (OER), Copyright License, Legal Jurisdiction, Open Source Software, GNU General Public License, Public Domain, License Terminology.

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Introduction:

Creative Commons is actually a work license protected under copyright. It is different from copyright but it is a way to easily share copyrighted work. One of the most popular licenses was created by Creative Commons, a non-profit organization that focuses on making creative activities available for discovery and reuse. CC was first developed by Harvard Law professor Lawrence Lessig. They offer an alternative to standard copyright, which allows authors to specify ways in which their works can be used without the consent of each application. The most common license for less restricted access publishers is CC-BY. Creative Commons provides an important framework for resources that you can use and share for purposes and under any circumstances.

Open Education Resources (OER)

Updated definition of OER according to “Hewlett Foundation”:

"Open Educational Resources are teaching, learning and research materials in any medium – digital or otherwise – that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions" According to this new definition clearly states that both digital and non-digital services are included in OER. A few OER-approved uses, inspired by OER 5R activities are listed in it.

5R jobs / permits by David Wiley include:

- **Retain** – “the right to create, manage, and control copies of content” (e.g., download, copy, store, and manage)
- **Reuse** – “the right to use the content in a variety ways” (e.g., in the classroom, in a study group, on a website, in a video)
- **Revise** – “the right to sync, edit, modify, or modify the content itself”(e.g., translation of content)

- **Remix** – “the right to combine original or revised content with something that creates something new” (e.g., incorporating content into a mashup)
- **Redistribute** – “the right to share copies of original content, reviews, or decisions with others” (e.g. give a copy of the content to a friend)

Open Educational Resources (OER) teaches, learns or makes learning materials in public places or licensed commercial products that make free use, adapt and distribute resources.

Issues related to intellectual property rights are often involved in open teaching resources. OER is part of 'Open Solutions', alongside free software with Open Source (FOSS), Open Access (OA), Open Data (OD) and integration platforms.

Copyright

“Copyright is a legal term that gives creators of intellectual property (IP) the right to claim ownership over the things they create and get a refund for their use.”

“Copyright is a legal term used to describe the rights of leaders in addition to their literary and artistic works.”

According to WIPO “The works covered include anything from books, music, paintings, sculpture and films, to computer programs, databases, advertisements, maps and technical drawings.”

Copyright is basically applied to any "creative" activity and prevents other people from taking individual IPs and using them without their consent (whether the purpose is for monetary benefit or not).

According to WIPO, "free use" or “fair use” allows the use of services without the authorization of the rights holder, taking into account such factors as the nature and purpose of the use." Normally, it requires the copyright owner to be shown and the user to make a profit from the

use. Only extensive use requires permission, e.g. in full films, wide scenes and full text, however, the right use does not work.

The following examples can be included in proper use:

- Educational objectives, i.e., teaching and student research;
- Conducting commentary and criticism as part of a news report or published article.

Public Domain

“Public Domain” work is basically copyrighted. This material can be used, modified and redistributed according to user satisfaction. The author may forfeit his or her copyright and, as such, place their work in a public domain. After the death of author (usually 50 to 70 years after death in most countries), copyright ownership expires.

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Each country has its own definition of copyright law, but nations have many treaties between them. Licenses are legally imposed under copyright law, which is different from contract law. The Berne Convention was established in 1886 and was a national copyright agreement. It gives that each member state must recognize the copyright for foreign labor, and must grant the same rights to the foreign service that it provides to its citizens. To date, 164 countries have signed the treaty.

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Before we can use any license, we must know the terms used for the general license:

- “**C**opy is an duplication of the author’s original work.”
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- “**Derivative work** is the effect of changing a copyrighted work to produce a new creation.”
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- “**Redistribute** is the act of submitting a work and license after obtaining it under license from the original copyright owner.”
- “**Share alike** is the permission to distribute work removed under the same or similar license.”
- “**Credit** or **attribution** is the act of identifying the original copyright owner.”
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- “**All rights reserved** is a general copyright notice announcing that no copyright is available (and, are not required).”
- “**Warranty** is a written confirmation with the license (or, more commonly, not).”

Copyright license in digital environment

The digital environment facilitates copyright licensing in a variety of ways, including helping to identify and identify licensees and licensors, providing virtual exchange platforms and making automated contracts, payments, and delivery of goods and services.

While licenses are well-organized in the analog world, the digital environment has changed the way copyright is sold, distributed, exported and consumed, and this has had a significant impact on the ups and downs.

Examples of newly developed patent licensing methods include the Creative Commons (CC) and Open Source Software (OSS) system, which instead of representing the rejection or abandonment of a

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	Attribution + Noncommercial + NoDerivatives	Yes	No	No	No	No
	Attribution + Noncommercial + ShareAlike	Yes	Yes	No	No	No
	Attribution + NoDerivatives	Yes	No	Yes	No	No
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(<https://www.wipo.int/copyright/en/>)

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<https://www.smashingmagazine.com/2011/06/understanding-copyright-and-licenses/>)

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"What are Creative Commons licenses?". *Wageningen University & Research*. June 16, 2015. Archived from the original on March 15, 2018. Retrieved March 15, 2018

(*"The Creative Commons licenses". UNESCO. Archived from the original on March 15, 2018. Retrieved March 15, 2018.*)

Authors: TJ Bliss, it. Jared Robinson, John Hilton, David A. Wiley

Journal of Interactive Media in Education, 2013(1), p.Art. 4.
DOI: <http://doi.org/10.5334/2013-04>

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"OER Defined," Open Educational Resources, William and Flora Hewlett Foundation website

<http://www.irrodl.org/index.php/irrodl/article/view/3601>

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<https://www.smashingmagazine.com/2011/06/understanding-copyright-and-licenses/>

Creative Commons Licenses: An Introduction for Researchers | AJE

<https://www.aje.com/arc/creative-commons-intro>

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Aspect of Library Automation & Digital Archives

*Dr. Sanjay Mohan Jha**

Abstract

Automation is the technology to perform with minimal human assistance. it has various control systems for operating equipment's as machineries and electronics. application covers and control complexity of multi-variable high-level algorithms in the digitalization of books & manuscripts in the library and its multifarious functions to save the time of readers, personnel's and sicker. Automation & Digital Archives are playing very important role in the current situation of informational atmospheres. Library professionals do have to think seriousness about the advantages of open source software, its applications in automation and hence they are reluctant to use it. They do not have the experiences to support it. However, the professionals are utilizing automation system as well as integrated library system to sharing views, ideas and similar database to perform all the basic function in a library.

Keywords: Automation, authority, catalogue, resources, instantaneous.

Introduction

The word Automation has been derived from a Greek word "AUTOMOSE" which means the power of spontaneous motion or self-movement. D.S. Harder was the first man who introduced the

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word, automation first time in the year 1936 but the term Library Automation has been used in literature since last five decades.

Automation refers the process of mechanization of library activities and services such as acquisition, serials control, circulation, cataloguing, information services and its related activities. it may sometimes include as other informational activities as well as financial management and management information services.

Whereas the Digital Archives are the storage of the information's which disseminates information's to needy readers, information suckers. Here millions of texts, audios, videos, books, movies, software's, music's, websites and more information's are available in digitize form. its objects may consist of digitized content like print, photographs as well as originally produced digital content. e, word processor files and social media posts. in addition to storing content, digital archives provide means for organizing, searching and retrieving the content contained in the collection.

Digital Archives are based on and associated with open source software where, the users have the ability to run, copy, distribute, change, share, study, and improve for any purpose. Open source library software's does not need the initial cost of commercial software and enables libraries to have greater control over their working environment. Library professionals might be aware of the advantages of open source software and should involve in their development. They should have to acquire the basic knowledge about the selection, installation and maintenance of this software's.



Stages of Library Automation

There are four stages of Library Automation which are 4 as:

- **FIRST STAGE** : Study of internal operations. Sharing and internal workflows of cataloguing data.
- **SECOND STAGE** : Access to local resources, like OPACs retrospective conversion of library holding records.
- **THIRD STAGE** : Access of external resources document delivery services online data exchange, integrated online resources and web resources.
- **FOURTH STAGE** : interoperability of system services thinking globally and developing digital library.

Parameters and Basic Steps of Library Automation

The basic approach to be followed is to analyse the actual requirements of the library. Each library differs from the others in terms of size of collection, number of users, level and interest of users, actual number of transactions and range and variety of services, their quality and complexity. The library has to decide on the type of setting the library needs on the basis of the size of the collection and the number of users. The technology strategic planning for library automation typically involves the librarians governing board, library management and interested community members.

There are three basic steps in planning of library automation's., also known as feasibility study. The purpose of this study is to stage, analyze, and document the data needed to make an informed and intelligent decision regarding the feasibility. The feasible steps are as under:

1. **Technical Feasibility**
2. **Operational Feasibility**
3. **Economic Feasibility**

1. **Technical Feasibility:** it deals with the proposed aspect, which is technically feasible. The necessary technology exists to do the work. The technology implies both hardware and software. There is the availability of technical guarantees of accuracy, reliability, security, etc. in the present new technology.
2. **Operational Feasibility:** The Study of operational feasibility is to examine whether the proposed project will work when it is developed and installed or whether there is any barrier to implementation.
3. **Economical Feasibility:** The purpose of the study is to determine whether the proposed project is economically viable or not. Unlike in other business we cannot measure the benefits of library services in monetary units or them. If this study indicates that proposed project is feasible then activities in designing state may be initiated.

Purpose of Library Automation

The enhancements of multifold information usage and output have posed a problem for librarians and the information scientists to handle the information in an effective manner. This is because of advances in technology, lowering of cost, changes in users' expectations and changes in attitudes among librarians to manage information efficiently.

The computer and networks are used to identify, process and retrieve information specially, accurately than by manual efforts, The library and information professionals must use the information technology to reduce their time in routine jobs of filing, storing, typing and repetitive works and concentrate more on the services, Thus switch over helps these professionals to serve the users better, faster and at a cheaper cost. To provide right information to the right users in the right time they must automate their libraries with the help of ever-growing technologies. While justifying the need for library

automation more than cost effectiveness the benefits derived by the library users become the major consideration. Since library does not happen to be an economic entity, such benefits need to be looked at in a different perspective.

Need for Library Automation

Ever increasing number of documents in various physical forms, book and non-book, printed and non-printed, published and non-published, graphic and audio visual, magnetic tape and other forms have been making the library situation be wildering. The nature of users' needs and requirements has also been changing. in a library situation, all these pose problems in selection, acquisition and organization of documents in various physical forms, in addition to this, libraries are generally becoming information ventures particularly in fast developing subject areas where generation, retrieval and dissemination of information through the creation of data bases and systematic information services are felt to be an essential. The need for automation in libraries is being felt because of workload in all spheres of library activities. it is an essential to hear the day to day work updated and to clear the arrear work and backlog.

Areas Of Library Automation

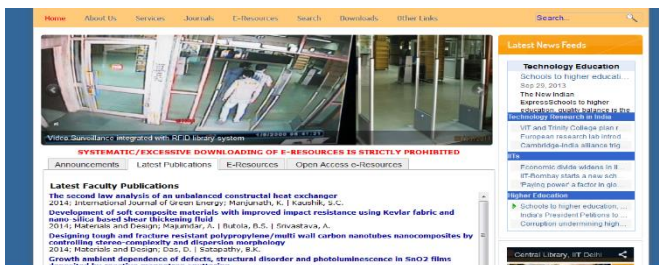


- 1. Opac**
- 2. Cataloguing**
- 3. Circulation**

4. **Reports**
5. **Inventory**
6. **Authority Control**
7. **Union Catalogue**
8. **Electronic Resources**

1. **OPAC**: The Online Public Access Catalogue is a text-based card catalogue that patrons can use to search for resources up to 20 fields such as title, author and subject. Boolean operators and truncation can also be used.
2. **Cataloguing**: MARC (Machine Readable Cataloguing) records should be allowed to be copied from different sites.
3. **Circulation**: Librarian /Library staff can maintain accurate records on circulating materials. Materials are checked in and out placed on hold, overdue times, generated and accounting records maintained.
4. **Reports**: Module to generate reports that are helpful in maintaining the library such as overdue holdings, fines, circulation statistics and lost items.
5. **Inventory**: it is used for verifying the collections contents at regular intervals helping to keep the database accurate inventory is more flexible and can be done at any time during the year.
6. **Authority Control**: it is used to maintain consistent standards for effective searching at the local level and also at the union catalogue.
7. **Union Catalogue**: Union Catalogue is used to copy bibliographic records for local materials saving time and money. it is also used to assist in local collection development.
8. **Electronic Resources**: Access to electronic resources available under different networks.

Advantages Of The Library Automation



- Providing access to local library resources.
- Providing access to resources outside the library.
- Improving internal workflows and sharing cataloguing data.
- Interoperability of information System. i.e., efforts towards real-time interaction between the data of computers.
- To cope with increasing demands for services in terms of frequency and speed.
- To improve the efficiency of the clerical and Para-professional staff.
- To provide new forms of old services.
- To improve access to existing services.
- To provide accurate services.
- To control the rapid growth of information.
- To provide faster document delivery.
- To save the cost of stationeries.
- To speed up the processing the Jobs.
- To reduces the repetitive clerical works.
- To permit improved Budget Control.
- To improve quality services.
- To increase the productivity.
- To expands the rage and raise the quality of existing products.
- To multiple the outputs.
- To reduce routine and repetitive Jobs.

- To give the instantaneous answers to multiple queries on time or at a time.
- Implementation and Utilizing google analytics
- To provides mobile support.

Automated Libraries and Digital Archives

“An Automated Library and Digital Archives is thought in cold storage”, Lord Samuel once said, and for a student preparing for competitive examination, an online library is a treasured and valuable resource. The technology used to create digital and even more revolutionary for archives since it breaks down the second and third of these general rules. in other words, “Digital Archives as well as Online Archives” will still generally contain primary sources, but they are likely to be described individually rather than collections. Further, because they are digital, their contents are easily reproducible and may indeed have been reproduced from elsewhere. it is having unique contents. Here is some websites which will be able to your quest for knowledge a little easier.

1. <http://www.lii.org/>
2. <http://www.awesomelibrary.org/>
3. <http://www.cricinfo.com>
4. <http://www.digital-librarian.com/>
5. <http://www.itcompany.com/inforetriever/>
6. <http://www.vlib.org/>
7. <http://www.ipl.org/>

1. **<http://www.lii.org/>** : Librarians internet index is a reputed website for librarians. it is favorite haunt of research aficionados. With a searchable and browsable collection of over “tens of thousands” of quality websites, this website is organized into 14 main topics and nearly 300 related topics. it also has an excellent weekly newsletter “which features dozens of high-quality websites,

carefully selected, described, and organized by a team of librarians.

2. **<http://www.awesomelibrary.org/>** : At Awesome Library, one finds 28000 carefully chosen web sources organized under a wide range of subject areas, from arts to technology. The websites offer descriptions of recommended sites, and lists sites it considers part of the top 5% in education. The website allows you to search as a college student, child, parent or teacher. A hot topic section, which focuses on current issues like terrorism, is especially useful.
3. **<http://www.cricinfo.com>** : Cric info offers users the most comprehensive live coverage of international and domestic cricket tournaments. it is also a storehouse of information on cricket and people and place connected with the game.
4. **<http://www.digital-librarian.com/>** : This website aptly called “a librarian’s choice of the best of the web: the front page of this website consists of over ninety subjects to choose from. However, you need to browse the links, as there is no search function, except for a box which links directly to Amazon.com and generates revenue to support the costs of running the site.
5. **<http://www.itcompany.com/inforetriever/>** : Although this is a portal designed to help librarians locate internet resources related to their profession, it includes plenty of offerings for anyone interested in web-based research. in the Ready Reference section, students will find language and subject dictionaries, maps, writing guides, almanacs, fact books, links to news and weather, and biographies.
6. **<http://www.vlib.org/>** : The www Virtual Library (VL) is the oldest catalogue of the Web, started Tim Berners-Lee, the creator of HTML and of the web itself, in 1991, at CERN in Geneva. Unlike commercial catalogue, it is run by a loose confederation of

volunteers, who compile pages of key links for particular areas in which they are expert. Even though it is not the biggest index of the Web, the VL pages are widely recognized as being amongst the highest-quality guides.

7. <http://www.ipl.org/> : The internet Public Library maintains a collection of web sites by adapting traditional library techniques for selection, evaluation and organization. it also offers services like an e-mail reference desk and a reading room.

Open Source Software Which Associated with Digital Archives



Digital Archives can vary immensely in size and scope, and can be maintained by individuals as well as organizations. The digital content may be stored locally and accessed remotely via computer networks. These information retrieval systems are able to exchange information with each other through interoperability and sustainability. Some best examples of Open Source Software associated with Digital archives atmospheres.

- **KOHA**
- **NEWGENLIB**
- **EVERGREEN**
- **OJS**
- **FOSS**
- **DSPACE**
- **EPRINTS**
- **FEDORA**

➤ **WORDPRESS**

➤ **DRUPAL**

- ▶ **KOHA:** Koha is a promising full featured open source LS (integrated library system) currently being used by libraries all over the world. Koha is built using library LS standards and uses the OPAC (open public access catalog) nterface.



- ▶ **NEWGENLIB:** NewGenLib (New Generation Library) is an integrated Library Automation and Networking Solution Developed by Verus Solutions Pvt Ltd and The Kesavan institute of information and Knowledge Management, India. in March 2005, NewGenLib version 1.0 was released and versions 2.0 and 2.1 have come up later. On 9th January 2008, NewGenLib has been declared Open Source Software under GNU GPL License by the Verus Solutions Pvt Ltd, Hyderabad, India.



- ▶ **EVERGREEN:** Evergreen LS is another option when researching open source LS options. Developed by Equinox Software, Evergreen is a robust, enterprise level LS solution developed to be capable of supporting the workload of large libraries in a fault-tolerant system. it too is standards compliant and uses the OPAC interface, and offers many features including flexible administration, work-flow customization, adaptable programming

interfaces, and because its open source, cannot be locked away and can benefit from any community contributions.



- ▶ **OJS:** “The Open Journal System (OJS) is open source software for the management of peer-reviewed academic journals and is created by the Public Knowledge Project, released under the GNU General Public License.” By using it, the culture of creating and sharing academic knowledge can really be given a boost. It is a very important route for creating and sharing high-quality scholarly knowledge in any field. OJS allows you to start an academic journal, have it peer-reviewed, present the articles once produced, and also manage the entire editorial workflow (including article submission).



- ▶ **FOSS:** The Greenstone digital library software is an open-source system for the construction and presentation of information collections. It builds collections with effective full-text searching and metadata-based browsing facilities that are attractive and easy to use. The system is extensible: software “plugins” accommodate different document and metadata types.



greenstone digital library software

- ▶ **DSPACE:** it is a institutional repository captures, stores, indexes, preserves, and redistributes the intellectual output of a institution's research faculty in digital formats. it manages and distributes digital items, made up of digital files and allows for the creation, indexing, and searching of associated metadata to locate and retrieve the items. DSpace design and developed by Massachusetts institute of Technology (MIT) Libraries and Hewlett-Packard (HP). DSpace was designed in open source application that institutions and organizations could run with relatively few resources.



- ▶ **EPRINTS:** E-prints is an open source software package for building open access repositories that are compliant with the Open Archives initiative Protocol for Metadata Harvesting. it shares many of the features commonly seen in Document Management systems, but is primarily used for institutional repositories and scientific journals.



- ▶ **FEDORA:** Fedora open source software gives organizations a flexible service-oriented architecture for managing and delivering their digital content. At its core is a powerful digital object model that supports multiple views of each digital object.



- ▶ **WORDPRESS:** Wordpress started out as a quick, free, open-source solution blogging solution just a few years ago; today it is a perfect alternative to building a web site from scratch. in addition to being free to use (and easy to install), the WordPress community has exploded, with thousands of users and programmers creating custom themes and plug-ins to completely change the way the software looks and operates. The most important aspect of the software is its easy-to use interface and content management system.



- ▶ **DRUPAL:** Drupal is another open source web publishing option that allows an individual or a community of users to easily publish, manage and organize a wide variety of content on a website. Tens of thousands of people and organizations have used Drupal to power scores of different web sites, including Community web portals, Discussion sites, Corporate web sites, intranet applications, Personal web sites or blogs, E-commerce applications, Resource directories, Social Networking sites.



Conclusion

The libraries are rapidly evolving into something that looks quite different than it did just a few decades ago. It is critical that the librarian not only become aware of this evolution but that they actively intervene to help reshape the institution in ways that are consistent with the core mission of libraries. OPACs have also fulfilled a good deal of their potential. Today's software has traveled through the technological revolution from DOS, UNIX, LINUX, and WINDOWS Operating System and now on to the WEB, providing application for every environment. Library Automation, which started in the 1970s in a few special libraries, has now reached in most of the school libraries, public libraries, special libraries, and university libraries.

On the contrary, Archival descriptions from digital archives are the fundamental means to describe, understand, retrieve and access archival materials. At the digital level, archival descriptions are usually encoded by means of the Encoded Archival Description in XML format. The EAD is standardized electronic representation of archival description which makes it possible to provide union access to detailed archival descriptions and resources in repositories distributed throughout the world.

Automation & Digital Archives are playing a vital role in the current situation of informational atmospheres. Library professionals do not think seriously about the advantages of open source software, Applications for automation and hence are reluctant to use it. They do not have the expertise to support it. However, the professionals are utilizing automation system as well as integrated library system to sharing views, ideas and similar database to perform all the basic function of a library.

References

1. Ltaper, Thomas H. "Where Next? Long-Term Considerations for Digital initiatives". *Kentucky Libraries* 65(2) (2001): 12 – 18.

2. Breeding Marshall. "Preserving Digital information". *information Today* 19:5 (2002)
3. Cain, Mark. "Managing Technology: Being a Library of Record in a Digital Age", *Journal of Academic Librarianship* 29:6 (2003)
4. Rose Seamus (2006), "Approaching Digital Preservation Holistically", in Moss, Michael; Currall, James (eds.), *information Management and Preservation*, Oxford: Chandos Press, pp. 115 – 153.
5. Koehler, Army E.C. (2013). "Some Thoughts on the Meaning of Open Access for University Library Technical Services". *Serials Review*. **32** (1): 17 – 21.
6. Jagdish Arora and Vaishali Shah, "Library Automation: Library Automation: Definition, Need, and Advantages". (2020).
7. Carande, Robert. Westport, Conn: Greenwood Press. (1992). Xvi, pp.135-191.
8. Jesse Shera. "Automation and the Reference Librarian". Vol.3, No.6 (July, 1964), pp.3-7.

Information Needs of Female Floriculturists of Kalimpong District

*Rekh Mani Sharma**
*Dr. Sukumar Mandal***

Abstract:

The current study is a part of ongoing research in the topic 'Information Needs and Information Seeking Behavior of Floriculturists of Kalimpong and Darjeeling Districts: A Study' from the University of Burdwan. The paper highlights the information about the number of female floriculturists involved in floriculture activity in Kalimpong district with their educational level. The information is an important aspect of life and how many female floriculturists are in need of information is the main thrust of this paper. It studies about the various information needs fields with the urgency level of information and preferable mode of information for female floriculturists. It also highlights the involvement of female floriculturists in online marketing and marketing information needs.

Keywords:

Information Needs, Information Needs of Floriculturists, Floriculture, Women in Floriculture.

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1. Introduction

Floriculture is the segment of horticulture. Floriculture is concerned with commercial production, marketing and sale of plants and flowers consisting cut, foliage, potted, and bulbs and corms and also noncommercial home gardening. The scope of floriculture is worldwide. The wholesale market, retail market and the home gardening made this sector demandable. The construction of green houses, soilless cultivation, landscaping, gardening, field production and floral decoration are other associative and sub terms of floriculture (McGraw Hill 1982).

Floriculture or flower farming in Kalimpong is done in both rural and urban areas. The person associated with the floriculture is called floriculturists. Floriculturists' community information need study is conducted for the first time in this region on the basis of which the researcher thought to present paper in larger audience. The total floriculturists in Kalimpong district in the research study are found 336 in total in which female population are 152 and male are 184.

Community information needs and status of women are the targeted area in this study. The information needs study on women of Kalimpong would bring the new avenues to others researchers too for further consideration towards the status of women in different sectors. Secondly the information is the major role player in bringing up the economy as well as the status of any citizens. The pivotal of role of information in the field of floriculture is the essence of study here to take the topic 'Information need of floriculturists of Kalimpong district' by the researcher.

1.1 Geography: Kalimpong district is one of the micro regions of the Eastern Himalayas excluding plain region of Siliguri Sub-division. Kalimpong comes under Darjeeling hill region. Geographically Darjeeling (27.0360° N, and 88.2627° E) and Kalimpong Districts (27° 4' 0.0048" in and 88° 28' 0.0012" E.)

falls in the northern part of West Bengal, India. The Kalimpong district is recognized as the natural green house region.

- 1.2 History:** The floriculture in the hill region of West Bengal is flourishing since the age of British as they build many rest house, company's administrative departments etc. Most of lands of Kalimpong are still under the garden lease. The nurseries of Kalimpong were among the first in India to export floricultural products to the UK, USA, Japan, Holland and other European countries. Kalimpong comes in top ten in cut flower production centre in India (Sharma and Mandal 2017).
- 1.3 Economy:** The floriculture industry analyzed as one of the growing economy in the world and in India. The tourism industry is very much dependent upon the flower industry. Floriculture in the hills is one of the important sectors that provide employment opportunities. The business of flowers is one of the respected businesses all over the world. Entrepreneurship in the field of floriculture can be seen in Kalimpong district.
- 1.4 Polity:** The hill areas of two districts presently fall under the Gorkhaland Territorial Administration (GTA) region since 2011. Kalimpong become new district in the year 2017 after separation from Darjeeling district.
- 1.5 Society:** The hill region of West Bengal is habited by the Gorkha Community. The native speaks 'Nepali/Gorkha' language in majority. The floriculture business previously dominated by the 'Pradhans' caste group of Gorkha community but at present almost all the caste groups are involve in floriculture activity of Gorkha community. The social values, culture and the status of women is comparatively better in the hill region of West Bengal than in other societies (Sharma 2018).

2. Review of Literature

The information needs has been expressed during the users behaviour and information seeking study. Wilson (1981) suggested that information seeking behaviour arises as a consequence of a need perceived by a user.

Basak and Chatterjee (2004) revealed that the economic conditions of the farmers matters a lot in adopting the scientific and modern technology. The study highlights the poor socio-economic condition of farmers and suggests that they should be provided free information whenever in need to their field of activities.

Sinha (2008), in his paper entitled 'Information needs and information seeking behavior in the new paradigm' highlights that the information need of every individual varies to other and library must understand the need of the users. The paper also highlights the three types of user's information need, a) need for new information, b) need to elucidate the information he

ld; and c) need to confirm information need.

Govindasamy, and Hsu (2012), in the case study entitled 'Impact of floriculture development enhances livelihood of India's rural women' investigated the impact of floriculture on the lives of rural women in Dahod District, Gujrat. In a study they found that after floriculture development, women started to participate in local politics as elected members of village councils (Panchayati Raj). The cottage- style flower industry has apparently transformed rural women to mobilize as a group to take various activities such as dairy cooperatives, savings and credits, floriculture groups and horticulture groups. In those villages, woman became more vocal in community development processes.

Venkateswaran (2014), in his doctoral thesis on 'The impact of Indian

trade reforms on Indian floriculture industry' found that the impact of trade reforms in Indian floriculture export in reform period is significant. The Indian trade reforms have helped to increase the export of floriculture products in terms of value but not in terms of quantity. The increase in value of exports is attributed to the increase in the prices of floriculture products of India in the international market.

3. Research questions

Do the female floriculturists of Kalimpong and Darjeeling district needs information for floriculture activity?

In what field the female floriculturists require information?

What is the urgency of information need?

Which mode of information do the female floriculturists of Kalimpong prefer to get information?

4. Objectives

To find out the information needs of female floriculturists of Kalimpong district;

To know the interested field of information, need with the level of urgency;

To know the best mode of information preferred by the female floriculturists of Kalimpong district;

5. Material and Method

According to the nature and objective of the study a survey method applicable to social sciences has been adopted to conduct the study. The Research Design is descriptive, based on semi-structured interview schedule and observation supplemented with statistical representation and analysis.

6. Data Analysis and Findings

Data analysis and findings has been expressed using charts, tables and numerals below to find out the real picture about the study.

6.1 Educational qualification of female floriculturists

Qualification	Number Female floriculturists	Percentage
Masters	02	1.3%
Bachelor	20	13.2%
Class XII	71	46.7%
Class X	31	20.4%
Below Class X	28	18.4%
Total	152	100%

Table 1: Educational qualification of female floriculturists
Source: Field study

The educational qualifications of female floriculturists of Kalimpong district are ranging from secondary level to Post graduate level. The highest number of female floriculturists 71 (46.7%) are Class XII passed and 31 (20.4%) are Class X passed. Graduate female floriculturists are 20 (13.2%) and Master degree is 2 (1.3%) persons. The 28 (18.4%) female floriculturists are below class X passed according to the field survey conducted in the year 2019 (Table 1).

6.2 Information need felt by female floriculturists to carry out the nursery works

Sl.	Information need (to carry out the nursery)	Reply by female floriculturists	
1.	No	00	0%
2.	Hesitation/Implicit	21	13.8%
3	Yes Explicit	131	86.2%
Total		152	100%

Table 2: Response on information need
Source: Field study

The 131 (86.2%) out of 152 female floriculturists of Kalimpong district explicitly expressed (Table 2) that they need information to carry out the floriculture activity. The 21 number (13.8%) of female floriculturists could not express explicitly that they need information but while proceeding with motivation, examples and observation researcher found that they require information to carry out the floriculture activity. The respondent in this case was in implicit information need expressed with hesitation.

6.3 Information needs fields of female floriculturists of Kalimpong

Sl	Information need field of floriculturists	Female	Percentage
a.	Raw Materials	46	30.3%
b.	Training	48	31.6%
c.	Cultivation pattern	48	31.6%
d.	Use and handling of Insecticides	42	27.6%
e.	Weather and climate	36	23.7%
f.	Marketing	50	32.9%
g.	Pest Control	30	19.7%
h.	Credits and cooperatives	38	25%
i.	Organizing floriculture Organization	22	14.5%
j.	Information gathering	50	32.9%
k.	Others (Water, Information on new variety, Foreign export .etc.)	08	5.3%

Table 3: Response on the Information needs of female floriculturists on the related field
Source: Field study

While analyzing the information need field of female floriculturists of Kalimpong district researcher found that the top most priority is

related to information about marketing and information gathering consisting 50 (32.9%) of respondents (Table 3). The second most priority information need field is in relation to cultivation pattern and training with 48 (31.6%) of female respondents. Information need on raw material is the third most priority field consisting 46 (30.3%) female respondents. Information need on use and handling of insecticides is in fourth place consisting 42 (27.6%) of floriculturists and credit and cooperatives related information is needed by 38 (25%) female floriculturists. The 8 (5.3%) number of female floriculturists express their wants in the relation to water, information on new variety of flowers, foreign export etc.

6.4 Information needs purpose

Sl.	Information need expressed to fulfil the purpose	Female Respondents	Percentage
a.	To keep abreast with development	108	71%
b.	To gain knowledge about nursery	74	48.7%
c.	Verification on certain matters	38	25%
d.	Others (Nursery improvement with new method, Online Marketing, New varieties)	10	6.6%

Table 4: Reply on the Purpose of Information

Source: Field study

In table 4 the majority number of female floriculturists (108 i.e. 71%) need information to keep themselves abreast with development in the field of floriculture. Secondly, the 74 (48.7%) number of female floriculturists need information to gain knowledge about nursery and 38 (25%) of them need information for the verification on certain matters. Regarding the nursery improvements with new method, online marketing and new variety of information needs are expressed by 10 (6.6%) of female floriculturists.

6.5 Urgency of the need of information

Sl.	Level of Urgency of Information need	Female Respondents	Percentage
a.	One day	4	2.6%
b.	In a week	8	5.3
c.	In 15 days	42	27.6%
d.	In a month	78	51.3%
e.	Within 6 months	20	13.2
f.	More than six months	00	00
Total		152	100%

Table 8: Level of Urgency on Information need felt by the Floriculturists

Source: Field study

In reply to the urgency of information need the majority 78 (51.3%) female floriculturists needs information on monthly basis and second to this 42 (27.6%) of female floriculturists needs information on 15 days. The third level of urgency shown by 20 (13.2%) floriculturists for biannual information and 8 (5.3%) female floriculturists needs weekly information. Only 4 (2.6%) female floriculturists replied that they need information on daily basis. (Table 8).

6.6 Mode of information preferred by floriculturists

Sl.	Mode of information	Female Respondents	Percentage
1	News paper	4	2.6%
2	Journals and Magazines	80	52.6%
3	Books (Dictionary, Encyclopedia etc)	45	29.6%
4	Television	36	23.7%

5	Phone/mobile applications	40	26.3%
6	Research Report	10	6.6%
7	Leaflet/ Pamphlet	3	2%
8	Technical Bulletin	15	9.9%
9	Interactive CD	3	2%
10	Websites and Internet	92	60.5%
11	Person visit	66	43.4%
12	Television	36	23.7%
13	Phone/mobile applications	40	26.3%

Table 9: Mode of Information preferred by the Floriculturists
Source: Field study

Mode of information preferred by female floriculturists to satisfy the information need are web and internet 92 (60.5%), Journals and magazines 80 (52.6%), Books 45 (29.6%) and Mobile phone application 40 (286.3%), Television 36 (23.7%), human assistance with direct person visit 66 (43.4%), Newspaper 4 (2.6%), technical bulletin 15 (9.9), Research report 10 (6.6%) and Leaflet and interactive CD 3 (2%). Impact of Information Communication and Technology is found in the study as majority of the female floriculturists. Floriculturists expressed the need of information in more than one media to satisfy the information need (Table 9).

6.7 Training attended by the female floriculturists to satisfy the information need

Sl.	Training attended	Response		organization name
a.	Government	00	00	-
b.	Non-Government	5	3.3%	Kalimpong Horticultural Society,
c.	Any other			-
Total				-

Table 10: Analysis of the training attended by the Floriculturists
Source: Field study

Analyzing the information need (Table 10) in view of training attended and requirement it is found that only 5 (3.3%) number of female floriculturists have attended the training on floriculture. The training was organized by non-government organization. The training organized by Kalimpong Horticulture Society non-government forum organized training attended 5 (3.3%) female floriculturists of Kalimpong district.

6.8 New/Additional training need of female floriculturists of Kalimpong district

Sl.	New/Additional Training Need areas	Female Response	Percentage
a.	Information gathering on floriculture	50	32.9%
b.	Grafting	20	13.2%
c.	Tissue culture	30	19.7%
d.	Construction of Poly houses	12	7.9%
e.	Use of pesticides	38	25%
f.	other (Water Technology, Hydroponics)	2	1.3%
Total		152	100%

Table 11: Additional Training Information and Practice needed by the Floriculturists
Source: Field study

The total 50 (32.9%) female floriculturists opined that they need new and additional program on information gathering in the field of floriculture. The second practical priority of training for female floriculturists of Kalimpong district is on use of pesticides having interested 38 (25%) number of floriculturists. Tissue Culture is another important aspect that 30 (19.7%) female floriculturists have expressed. Many new areas like hydroponics and water technology are

on the priority list of training that is needed by 2 (1.3%) floriculturists. The 20 (13.2%) female floriculturists are interested in training on grafting. The female floriculturists are somehow aware with the future need of floriculture and demand of the present time. Floriculture Seminar and workshops are the essential need of the floriculturists of Kalimpong district (Table 11).

6.9 Online flower selling by female floriculturists of Kalimpong district

Sl	Online Selling of Flowers and Plants through various media	Female	Percentage
a.	Own Web Portal	00	00
b.	Government Sites	00	00
c.	Social Media (WhatsApp, Facebook, Instagram, YouTube, .etc.	03	2%

Table 12: Online Flowers Selling analysis
Source: Field study

The female floriculturists are also doing online floriculture business (Table 12). The new trends of marketing in form of online marketing have been followed by 03 (2%) by using social media. Though still 149 (98%) of female floriculturists are unknown about the online marketing.

7. Findings

- Educational level varies from below class X passed to Masters degree but the class XII passed are more in numbers. Majority of female floriculturists are Class X and XII passed.
- It is observed that it is due to their educational qualification as most of the respondents are below class X passed and unable to express freely. Expression of information need has been seen among the majority of female floriculturists of

Kalimpong district. Both implicit and explicit needs exist among the female floriculturists of Kalimpong district.

- The important information need field in floriculture expressed by female floriculturists are in relation to raw material, training, cultivation pattern, use and handling of insecticides, weather and climate, marketing, pest control, and regarding organizing the floriculture organization.
- The female floriculturists of Kalimpong district need information to keep abreast with development, to gain knowledge about nursery, and for the verification on certain matters in floriculture. Apart from that they need information on new methods available in nursery improvement, about online marketing and new varieties of flowers.
- Information supply on monthly basis would be most suitable to the female floriculturists to satisfy their information need.
- The female floriculturists trust both print and non-print sources and want information in both mode. They rely on human information sources in form of discussion and assistance. Use of modern information technology is seen in good number.
- Very less number of female floriculturists have attended the programme and expressed that they need training in near future in relation to information gathering, grafting, tissue culture, and use of pesticides. The Kalimpong horticulture Society is only stakeholder found in providing training to female floriculturists of Kalimpong district.
- The new trends of marketing is seen in form of online marketing among the female floriculturists of Kalimpong. The online marketing is done by using social media like WhatsApp, Facebook, Instagram and Youtube etc. as per their reply during the field visit and interview. But still majority of floriculturists need information about the online marketing

8. Conclusion:

From the above analysis and findings, we can conclude that the role of Information is vital in every society and community. The female members of the society are engage in floriculture activity with several information needs and those needs are very much dependent upon the merit level of individual. The important information need field in floriculture expressed by female floriculturists are in relation to raw material, training, cultivation pattern, use and handling of insecticides, weather and climate, marketing, pest control, and regarding organizing the floriculture organization. The monthly information supply would be the valuable for the female floriculturists of Kalimpong district. There is an information needs in both electronic and print mode and interestingly the internet and website are also the important mode the female floriculturists of Kalimpong need. Kalimpong Horticulture Society a non-government organization is organizing the training for both theoretical and practical information need but the participation of female floriculturists is very low. The online marketing is known to female floriculturists still the majority needs the new form of marketing information for both information and economic needs.

9. References

1. Basak, Naiya, & Chatterjee, Amitabha (2004). Information needs and information seeking behavior of fish farmer of West Bengal: a case study. *Proceedings from IASLIC National seminar 21(04)-Rural information support, Jadavpur, 31st December, 2004- 3rd January 2005, 247-254.*
2. Govindasamy Agoramoorthy, Minna J. Hsu (2012). Impact of floriculture development enhances livelihood of India's rural women. *Journal of Agriculture and Rural Development in the Tropics and Subtropics, 113(1).* Retrieved from <http://nbn-resolving.de/urn:nbn: de:hebis:34-2012082241658> (Accessed on January 23 2017)

3. McGraw- Hill Encyclopedia of Science and Technology (1982). Floriculture. New York. Pp 460.
4. Sharma, Rekh Mani and Mandal, Sukumar (2017). Information needs of floriculturists in Kalimpong district. *Himalayan Research Journal* vol. 2(3). Pp 35
5. Sharma, Rekh Mani (2018). Darjeeling Diaspora: Socio-Political analysis in Globalism. *In International Conference on Environmentalism, Globalism, and Morality*. Alipurduwar College, January 10-12, 2018
6. Sinha, Atanu Kumar (2008). Information needs and information seeking behavior in the new paradigm. *23rd IASLIC National Seminar' 08*, Bose Institute Kolkata, 421-427.
7. Venkateswaran, K (2014). The impact of Indian trade reforms on Indian floriculture industry. (Unpublished Doctoral dissertation). INFLIBNET Shodhganga a reservoir of Indian theses. Retrieved from <http://hdl.handle.net/10603/23923>. (Accessed on June 4 2017)
8. Wilson , it. D. (1981). On user studies and information needs. *Journal of Documentation*. 37 (1) p. 3-15.



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