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Use of E-books among the Users of the Engineering Colleges of Mumbai

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Abstract :

The usage of e-books in the academic environment is escalating with the technological advancements and changing reading habits of users. This study highlights different motivating features and challenges related to access and usage of e-books by the users of engineering college libraries of Mumbai. The survey was conducted by using a questionnaire as a data collection tool. The objectives of the study were to discover the motivating factors and challenges related to access and usage of e-books and purposes of using e-books. Preparing notes, updating knowledge and writing an article or paper, were a few important purposes behind the usage of e-books, as reported by most of the participants. Findings further revealed that online availability and easy to search features motivates the users most to use e-books. The challenging factors reported by maximum participants of the survey were: preference for printed text for prolonged reading, inconvenience with the screen and DRM technologies. The present study is the part of a major research on the same topic.

Keywords :

Academic libraries, Access, Usage, Print books, Electronic books, Engineering colleges of Mumbai, Undergraduate students.

1. Introduction :

E-books are becoming increasingly popular. There is a strong impact and implication for the academic libraries. At the same time, it poses challenges to



academic libraries in terms of finance, viewpoints, and awareness, because; nowadays the students rely heavily on e-books for their studies. Adoption of e-books supports the learning process. However, the preference of the students is the printed book. The user community is very much aware of the e-book as an information source. Some highlighting features attract the user community towards e-books over the printed books. E-books are known as digital books, electronic books etc. The academic user community uses e-books for making notes, for upgrading knowledge and research purposes.

In this age of Information and Communication Technology (ICT) environment, there has been a great development of E-resources. Electronic book technology has brought about a solid impact on academic libraries. Academicians can publish their study material in the e-books format. Increasing digital collections and growing numbers of users show the success of e-resources.

Jianzhong and Xiaoming (2004) reported that at the beginning of 2003 the e-books service was opened in the Shanghai Library, which offers the online registration to the readers and receive the library's remote electronic book borrowing service. Polding, Baptista Nunes and Kingston (2008) said that the concept of an e-book is a useful and relevant area to study when considering the transition from a paper-based book to an electronic format. Whereas, Jantz (2001) concluded his research by saying "we are very early in the evolutionary life of the e-books and it is difficult at this stage to predict how this new technology will transform library services".

Findings of this study will empower librarians to deal with the situations which are still undefined in the electronic environment. The views of the students and academicians about e-books will help the concerned authorities to bring out the change in the current environment of the electronic era.

The students are very confident about the different ICT devices in the cities, especially with Smartphones. Gradually reading e-books for their study is now becoming a practice.

2. Objectives :

The main two objectives of this study are :



- 1.To explore the purposes of reading e-books by the users of the libraries of Engineering Colleges.
- 2.To discover the motivating factors to use e-books among the users of the libraries of Engineering Colleges.
- 3.To identify the challenges faced by the library users in using the e-books.

3. Literature review :

Electronic books have created the transition from the printed collection to electronic collection. It is a growing industry in academia. E-books have become important for both the publishers and authors. Increasing readership and financial return for their work are the advantages for the authors. E-books are cost-saving, have less storage requirements and easier distribution than the printed one. A literature search was carried out on key terms such as E-books, academic libraries, DRM, licensing and access and usage of e-books.

For the current study, the researcher has taken journal articles from 2011 to 2019 for the literature review.

Price and Havergal (2011) asserted that “E-books can be integrated into college strategies which aim to enhance learning through the full use of technologies such as virtual learning environments”. The dissemination of internet-enabled mobile devices and study and work, improvements in standardization and usability, combined with an easing of DRM restrictions all these are the important factors are necessary for the future of e-books.

Adeyinka et al., (2018) states that "e-book which served as a medium for delivering information content online has become popular and has entered the mainstream consciousness of the general public".

Mizrachi et al.,(2018) highlighted that “the purpose and nature of a reading task, whether academic or otherwise; the length of a reading; characteristics of the environment, such as costs and convenience; and to some extent the characteristics of a reader, such as academic seniority or presence of visual limitations; all interact together to influence a user's preference for reading format”. The academic community especially most of the university students prefer print materials as they believe they can learn better from print text.

Martins et al., (2019) stated “despite the growing use of e-books, a substitution of



book technology by digital book technology is not expected. Rather, the complementary use of both technologies is expected, because access to large digital book databases makes it easier to access specific data and materials, and the user has the option of finding the necessary book in digital format and then deciding whether to purchase the printed version, download it in the digital format, or even read it online”.

Walton (2013) highlighted the six distinct categories of research on e-books in academia, which include the impact of e-books in academic libraries, desired features and/ or technical issues impacting e-books adoption, impact of e-books on students' learning, purpose for which students were using e-books and student preference for printed books v/s e-books. He also highlighted the restrictions of DRM protocol, which are implemented by e-book publishers which include the restrictions on downloading. The students were willing to read e-books when the amount of text to be read was limited. The amount of quality content available and difficulties with licensing and copyright issues hampers the ability to provide access to some e-books. The use of e-books is a form of forced adoption that compels students to use e-books.

Walters (2013) commented that “e-books cannot be considered a success in the academic context until they have been integrated into the system of scholarly communication and information delivery that is until they have been accepted by authors, publishers and librarians”. Many institutional e-books license places major restrictions on the viewing, printing, saving, and copying of files by individual library patrons. The building e-books collection is difficult because academic titles are not available in electronic format. E-book embargoes are barriers to e-books collection development

Vasileiou, Rowley and Hartley (2012) highlighted the position of E-books. E-books have become more popular and their adoption as learning resources can have a major impact on academic libraries. E-books pose an interesting challenge to academic libraries and there are many questions to be answered as to the way to manage the introduction and development of e-books collections and service. The students are now increasingly relying on e-books for many of their educational materials. Bailey, Scott and Best, (2015) concluded “the movement to a predominantly e-only format for information is increasing the pressures upon



academic libraries to be able to provide access to the digital resources, while those resources are in a pricing model reminiscent of the serials pricing models that have bedeviled libraries for decades”.

Some studies show the feelings of reluctance among the students towards the use of e-books. Kahn and Underwood (2013) highlighted the hardware and software compatibility issues. They stated that the relevant hardware and software is required to provide the access to any kind of format of e-books; so that the e-book collection can be utilized. They also highlighted other challenges for e-books usage and access like, the perceptions and attitudes of the librarians and libraries, lack of academic content, different business model, copyright and DRM issues and different formats of e-books.

Aaltonen et al., (2011) pointed out the big issue with the devices was their interoperability with digital rights management (DRM) solutions used by services providers of electronic books. Different services providers use different DRM solutions and currently the e-book readers have problems with most of them. The major technological bottleneck is the lack of network connections. The current situation means that it is very difficult to get any DRM material other than that designed especially for a specific device to work with other devices. As a result, in the majority of the libraries electronic books were not available on the devices.

Iroaganachi and Izuagbe (2018) identified constraints to access the online databases, which are applicable to access the e-books collection. The lack of constant power supply, unavailability of full-text materials and unstable web access; these are the most top rated constraints.

Other studies provide different views about the presence and absence of e-books in academic libraries, and various issues relating to them. However, the Indian studies about the e-books related to academic libraries are less compared to those from other countries.

4. Methodology :

4.1 Research design :

The researcher has taken the users from Mumbai region area to study the Indian scenario. This study is a part of big research. The survey method was used

for the study.

Population of the study :

The populations taken into consideration for the present study were the final year students of the engineering colleges affiliated to University of Mumbai and teaching faculty members with minimum one year of teaching experience.

4.2 Sampling :

The Convenience sampling technique was used. The available library users were taken for sampling purpose.

4.3 Data Collection :

The researcher developed questionnaires which were distributed among the library users by personally as well as through Google form. The period of project work submission was chosen for data collection so that final year students were present in the libraries. Due to this, the 195 completely filled questionnaires were obtained.

5. Validity of the instrument :

Validity of the questionnaire was assessed by taking feedback from three experts from library and information science and the alterations suggested by them were incorporated.

6. Method of data analysis :

The collected data was analyzed using SPSS. The percentage and frequency were drawn to analyze the data.

7. Data analysis and interpretation :

Among the respondents, 81.5% were final year students, 12.8% were assistant professors, 3.6% were associate professors, and professors and research scholars each framed 1% of the sample.



The demographic information showed the different levels of library users. The user group included the students of the final year of Bachelors degree in engineering, assistant professors, associate professors, research scholars and professors. The users from age range 21-30 were 161 (83%), 31-40 were 15 (7.7%), 41-50 were 14 (7.2%) and 51 onwards were 4(2.1%). (See table 1).

Table No. 1: Demographic profile by age

Age Range	Frequency	Percent
21-30 yrs	161	83
31-40 yrs	15	7.7
41-50 yrs	14	7.2
51 yrs onwards	4	2.1
Total	194	100

Of the users population, 48.7% agreed that they are comfortable with different ICT devices. Data on the frequency of reading e-books showed that only 24.7% of the population read e-books regularly, 50.5% read e-books sometimes, 18.6% read e-books at few times and 6.2 never read e-books.

The researcher has found out the purposes of the reading e-books of the user community. As shown in figure 1, the purposes of reading e-books which are highly important to the user community are preparing notes (30%) , to update knowledge (22%), writing an article/paper (15%), for leisure reading (11%), supporting academic research work (11%), preparing lecture (11%).



Figure 1: Purposes to use e-book of academic library users

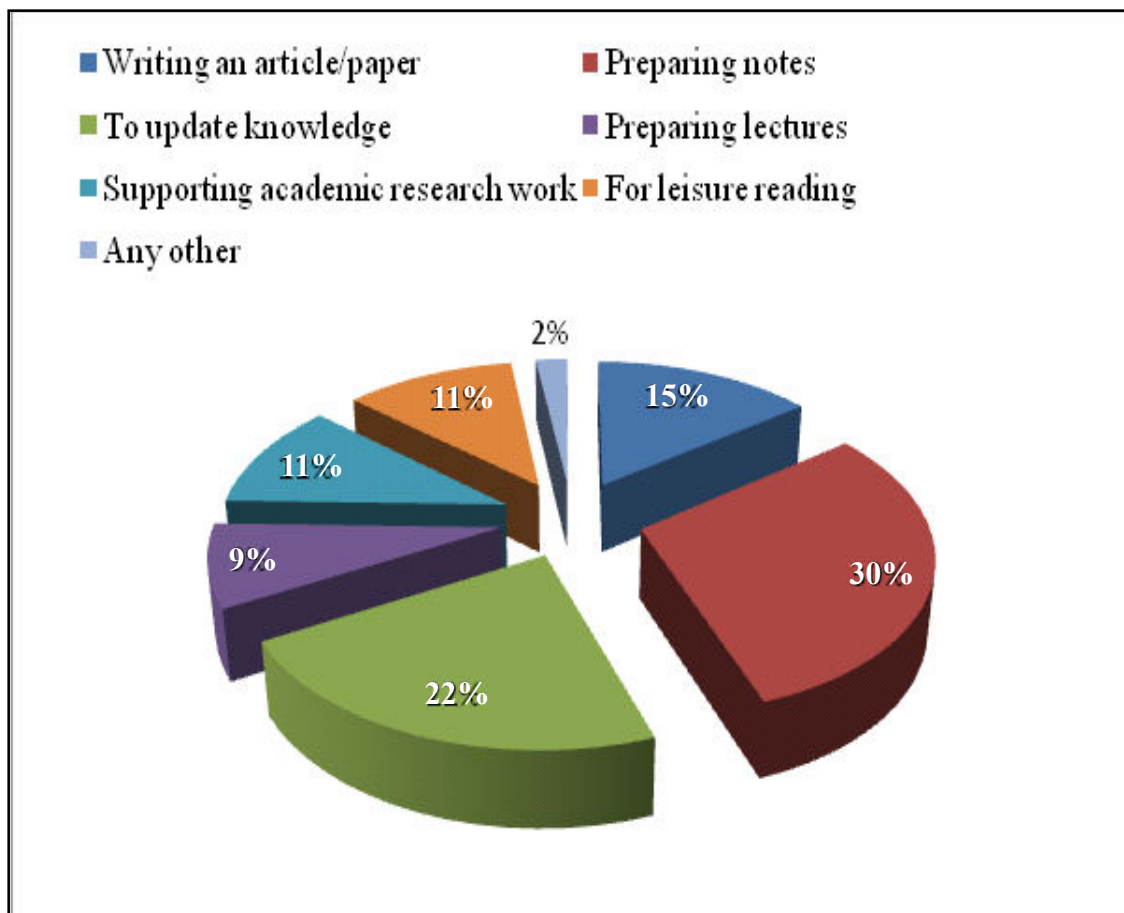


Table 2 reveals that the online availability and ease of searching are the of features of e-books that motivate users most to use them. Moreover, 175 (89.9%) users indicated that faster and easy accesses to new titles are a motivating factor to use e-books. Almost 80% of users agreed that 24x7 accesses to e-books are a real motivator to them to use e-books. Total 166 (85%) users found e-books convenient to use. 121 users said they get motivated to use e-books when they were recommended by their faculty members and 116 users get motivated to use e-books when they were recommended by the librarians. Reading e-books is the trend, so the users are using e-books. But very few of the users agreed to this statement.

**Table No. 2 Motivating factors to use e-books**

MOTIVATING FACTORS	SA (%)		A (%)		NEITHER A OR D (%)		D (%)		SD (%)	
Available online	90	46	94	48.2	6	3.1	2	1	1	0.5
Easy to search	80	41	101	51.4	9	4.6	3	1.5	0	0
Faster and easy access to new titles	76	39	99	50.8	13	6.7	5	2.6	0	0
24X7 access	97	50	72	36.9	18	9.2	4	2.1	1	0.5
Convenient	67	34	99	50.8	19	9.7	6	3.1	2	1
User friendly features	60	31	99	50.8	26	13.3	4	2.1	1	0.5
Recommended by faculty members	37	19	84	4.1	54	27.7	12	6.2	5	2.6
Recommended by librarians	32	16	84	43.1	47	24.1	23	11.8	7	3.6
Reading e-books is the trend	36	19	61	31.3	59	30.3	23	11.8	13	6.7



Table No. 3 reveals the different challenges that were faced by academic users while using and accessing e-books. Like previously published studies, here too the users prefer printed books for their academic activities. Around 116 users prefer printed books. They are comfortable with the printed text, this is the biggest challenge, and 77 users find e-books difficult to read. 94 users are not comfortable with screen and 94 users faced restrictions on copying, pasting and downloading. The users feel that different Digital Rights Management technologies are challenges to access and use the e-books. Furthermore, 89 users agreed that they faced difficulties while using e-books due to the non-availability or low speed of Internet connection. Further limitations create challenges for the users to use e-books, e.g. limitation of access, limitation on the period of access and limitation on access to copies and per person. 65 users faced problems of technical issues while using e-books including software and hardware compatibility issues. Further, 65 users faced difficulties in using e-books as they were unable to locate relevant information. Whereas, 65 users agreed that the lack of standardized access and use policies create challenges to use e-books. Very few users indicated that the lack of knowledge about how to use e-books is also a challenge for them.

Table no. 3 Challenges faced while accessing and using e-books

Challenges faced while a using e-books	SA (%)		A (%)		NEITHER A OR D (%)		D (%)		SD (%)	
Preference to printed books	45	23.1	71	36.4	37	19	31	15.9	9	4.6
Not comfortable with screen	39	20	55	28.2	40	20.5	41	21	17	8.7
Restriction on copying, pasting and downloading	25	12.8	69	35.8	44	22.6	43	22.1	12	6.2



Challenges faced while a using e-books	SA (%)		A (%)		NEITHER A OR D (%)		D (%)		SD (%)	
Non- availability or low speed of internet connection	19	9.7	70	35.9	43	22.1	48	24.6	13	6.7
Difficult to read	24	12.3	53	27.2	40	20.5	60	30.8	17	8.7
Limited on period of access	17	8.7	60	30.8	53	27.2	52	26.7	11	5.6
Limited access to copies or per person	14	7.2	61	31.3	54	27.2	45	23.1	18	9.2
Limitation on access	11	5.6	55	28.2	40	20.5	66	33.8	13	6.7
Software and hardware compa- tibility issues	15	7.7	50	25.6	57	29.2	55	28.2	17	8.7
Unable to locate relevant information	15	9.2	50	25.6	46	23.6	61	31.3	18	9.2
Lack of standar- dized access and use policies	12	6.2	53	27.2	69	35.4	50	25.6	8	4.1
Lack of knowledge about how to use	4	2.1	26	13.3	44	22.6	84	43.1	36	18.5



Table 4. Sources of the information about the e-books collection

Sources of the information		No.	Percentage	Percentage of Cases
Through verbal communication by library staff		74	28.60%	38.30%
Through email		116	44.80%	60.10%
Through library website		37	14.30%	19.20%
Through OPAC		7	2.70%	3.60%
Through library orientation programme / information literacy programme		16	6.20%	8.30%
Other factors		9	3.50%	4.70%
	Total	259	100.00%	134.20%

Table 4 reveals the different ways, through which the users got the information about the e-books collection. 60% of the users said that they got the information about the e-books through emails and 38% of the users indicated that they got it through verbal communication by the library staff. The library website also provides the information about the e-books collection of the library, 19.20% of the users agreed. 8.70 % users highlighted that the library orientation programmes and information literacy programmes provide the information about e-books collection of the libraries. Very few users got information about the e-books through OPAC. Some users mentioned the other ways of finding information about e-books, which includes the own research, display in the library and causal surfing.



8. Observational findings :

The users of the Engineering colleges of the Mumbai affiliated to the University of Mumbai use e-books for their academic activities. But still, they have a preference for the printed text. The preparation of notes is their main purpose for using e-books. Maximum users have knowledge about how to use e-books. So the users are very well aware of the e-books and how to use them. The users get motivated to use e-books as e-books are available online, are convenient to use, provide faster and easier access to new titles are easy to search and have user-friendly features. The technologies-related difficulties like, uncomfortable with screen, DRM technologies issues, software and hardware compatibility issues need attention by the e-books publishers and aggregators.

9. Conclusion :

E-books are handy to access. All these features lead to the motivation to access and use e-books. Providing more user education programs can help the users to overcome the difficulties. The faculty members and the librarians can play an important role to motivate the users to use e-books. Smooth access and constant availability of internet will enhance the usage of e-books. The technical issues relating to e-books need to be sorted out by the publishers themselves to overcome the hesitation among the users. E-books help academic communities to upgrade their knowledge faster.

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Information Resources in Rajasthani Arts and Culture and their Digitization in Select Libraries of Jaipur

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Abstract :

The rapid development of digital technology and networking and its utilization by all type of libraries (may be academic, cultural centers, museum, etc.) responsible for the Rajasthani heritage collections, can prove to be useful for paradigm shift in cross domain solutions to providing access to the contents of those repositories.

A survey on the available information resources Rajasthani arts and culture information resources revealed substantial information on collaborative activities among university, institutes and museum of Rajasthan initiated by or involving libraries in Rajasthan particularly. However, try to find out the information resources available in print sources as well as digitized form of heritage collection. The principal reasons responsible for digitization of heritage collection, specific attributes of selected contents, way to manage data elements and information about sharing of digitized works with other organization are the points discussed in the study.

Keyword :

Information Resources, Arts and Culture of Rajasthan, Digitization, Museum, culture libraries, Cultural Institutes of Jaipur.

1. Introduction :

Information technology (IT) has changed the way of create, manage, archive and access the information. Digital information is now an integrated part of our cultural heritage. Academic as well as cultural institutions that may be local, regional, national or international are involved in to the process of digitize the cultural and heritage resources of information to make it durable and being used



for long time. Through digitization libraries produce and publish multimedia documents and can share cultural heritage materials to the world-wide users. Here, the attention is focused on contents of cultural heritage institutions, particularly, museums and cultural institutes' libraries, and the universities offer course to spread knowledge about arts and culture. What affords they are doing to become more easily and speedily accessible to the users.

2. Review of Literature :

Libraries and museums both deal their duties with similar missions. They work with the records which acquire, describe and disseminate the human experiences. The status of museum libraries as well as their influence is especially in research is very important. Museums are considered to be store houses of objects, but they are also powerhouses of information. Orna and Pettitt (1998) Museums need people to collect knowledge from those who have knowledge. Library professionals and documentation officers are involved with this knowledge group for the recording of information produced by others. "Librarians are the ideal people to act as 'analyzing needs and designing a strategy for the integrated management of and access to information" Koot (2001).

Cultural institutions in all countries studied while survey that more or less they all progressively applied ICT in providing services and operations. Most of them have embarked on digitization projects while few of have not started yet as Cambodia, Myanmar and Vietnam. On the other side the East Asian countries on Japan, South Korea and Taiwan are well progressed in ICT applications in their cultural institutions, Baba (2005).

In case of museums the library as an important component of the museum as-information-system may not be readily available to museum visitors, and is often only accessible to specialists. In that case digitization can and should re-integrate the library into the museum in a way that will enhance the informational value of the museum in important way, Navarrete and Owen (2011). although museums also face the challenges of 'being digital', Hamma (2004) to fulfill the demand of the online visitors.

Ross and Terras (2011) analyzed the information seeking behavior of academics utilizing the British museum's digital collection affects academic need and research process. It is found that the users are highly dependent on digital re-



sources and use extensively in research. The main reason behind digitization of library collection is to enhance access as well as improve preservation, Lynch (2010). The photographs are the most popular of cultural heritage material to be digitized by institutions, Manaf (2006). With the help of digitization and collaboration with similar organization the institutes can avoid duplication of efforts, give access to negotiate funding coordination efforts to improve nation's digital cultural heritage information. Besides remove delicacy, the other major benefits are the establishment of National Digital Cultural Heritage Repository with the share of less cost, more access programs, supportive infrastructure and training facility, Allen and Bishoff (2002). digital form gives long term, error-free digital storage of information as well as easy retrieval (UKOLN, 2011).

In UNESCO convention in the year 2005 has released a representative list of 166 items of ICH drawn up by UNIESCO (Ministry of Culture 2011). India has eight items in which "Kalbelia; folk song and dances of Rajasthan is one, Singh (2012). It proves the popularity and amaze of Rajasthani art and culture.

3. Research Methodology :

The present study uses the survey method along with observation to bring out the clarity to the study. In this study the term "information related to Arts and Culture of Rajasthan" is used for the collections which includes books, reference books, tourism related sources, photo books, journals, pamphlets, atlas and maps.

Cultural heritage is a vast domain consisting of museums, achieves, libraries and government/ non-government institutions. Six major institutes and museum libraries of Jaipur are selected for the studies which are as follows:

1. Albert Hall Museum, Jaipur (AHM establish in 1957)
2. Indian Institute of Craft and Design, Jaipur (IICD establish in 1995)
3. Jawahar Kala Kendra, Jaipur (JKK establish in 1993)
4. Maharaja Sawai Mansingh Museum IInd , Jaipur (MSMSM establish in 1952)
5. Rajasthan School of Art, Jaipur (RSA establish in 1957)
6. Rajasthan Sangeet Sansthan, Jaipur (RSS establish in 1850)



4. Objectives of the Study :

- To examine the information resources available in Rajasthani arts and culture;
- To find out the role of museum and culture centre of Jaipur in providing information related to Arts and culture of Rajasthan;
- To know the status of digitization as well as criteria and selection of digitization of information resources in select libraries.

5. Data Analysis

5.1 Availability and Benefits of Information Resources

Table 5.1.1 Type of Information Resources in Library

Sl. No.	Types of information resources	Institution						Total
		AHM	IICD	JKK	MSMSM	RSA	RSS	
1	Atlas	✓	✓	✓	—	—	—	3
2	Audio and Video Discs	✓	✓	✓	—	✓	—	4
3	Books	✓	✓	✓	✓	✓	✓	6
4	Bound and Current Periodicals	✓	✓	✓	—	—	—	3
5	Government Reports	—	✓	✓	—	—	✓	3
6	In House Publications	—	✓	✓	—	—	—	2
7	Inscriptions on Metal / stone	—	✓	—	—	—	—	1
8	Manuscripts	—	✓	—	✓	—	—	2



9	Maps	✓	—	—	✓	—	—	2
10	Microfiche	—	—	—	—	—	✓	1
11	Books	—	—	✓	—	—	✓	2
12	Newspaper Cutting / Clipping	✓	—	✓	✓	—	—	3
13	Paintings	✓	—	✓	✓	—	—	3
14	Plam Leaves	✓	—	—	—	—	✓	2
15	Pamphlets	—	✓	—	—	—	—	1
16	Photo books	✓	—	✓	✓	—	—	3
17	Photographs	✓	—	✓	✓	—	—	3
18	Rare Books	✓	—	✓	✓	—	—	3
19	Reference Books	✓	—	✓	✓	✓	✓	5
20	Theses and Dissertations	—	—	—	—	—	—	0
21	Tourism re- lated sources	✓	—	✓	✓	—	—	3
Total		14 (58.6%)	8 (38.70)	14 (51.61)	10 (35.48%)	3 (9.67%)	6 (25.80%)	N = 55

Note: figures in parentheses show percentage.



The respondents were asked to indicate the type of information resources available on Rajasthani Arts and Culture.

It is shown in table 5.1.1 that book is one of the most preferred information resource available in every library, followed by reference sources, audio and video discs.

To preserve and protect rich musical heritage of Rajasthan is one of the major aims of JKK and to fulfill that aim the institute carries out documentation through audio-visual methods and print also. Different style of dancing and various forms of singing, theatre, both folk and modern and techniques of crafts have been documented and are being done regularly. However RSA is established in 1957 actually works promote Rajasthani Arts and Culture but the library is not as rich as we thought.

Table 5.1.2 Available Reference Sources in Libraries

The university and institute wise data about the list of reference sources on Rajasthani art and culture in different university and institute libraries in Rajasthan is provided in the above table. Here is the list of reference documents available in the select libraries of Rajasthan, which are demanded by the users searching information on Rajasthani art and culture.

Sl. No.	sources	Institution						Total
		AHM	IICD	JKK	MSM SM	RSA	RSS	
1	Bibliography of Modern India Art	–	✓	✓	–	–	–	2 (33.33%)
2	Dhundhani Lok Bhasha Kosh	✓	✓	✓	–	–	–	3 (50%)
3	Dictionary of Indian Art & Artists Including Technical Art Term	✓	✓	✓	✓	–	–	4 (66.66%)
4	Dingal Kosh	–	–	✓	–	–	–	1 (16.66%)
5	Encyclopedia of the Arts	✓	–	✓	–	–	✓	3 (50%)



Sl. No.	sources	Institution						Total
		AHM	IICD	JKK	MSM SM	RSA	RSS	
6	Encyclopedia of India Culture	✓	✓	✓	–	–	–	3 (50%)
7	Gazetteer of India, Indian Union: History and Culture	✓	✓	✓	–	–	–	3 (50%)
8	Kala Kosh	✓	–	✓	–	–	–	2 (33.33%)
9	Maru Sanskriti Kosh	✓	–	✓	–	–	–	2 (33.33%)
10	Rajasthan State Gazetteer :History and Culture	✓	✓	✓	–	–	–	3 (50%)
11	Rajasthan Hindi Shabd Kosh	✓	✓	✓	✓	✓	–	5 (83.33%)
12	Rajasthan Kahawat Kosh	✓	–	✓	✓	–	–	3 (50%)
13	Rajasthan Sabd Kosh	✓	–	✓	✓	✓	–	4 (66.66%)
14	Rajasthan Itihas Sanskriti Encyclopedia	✓	–	✓	–	–	–	2 (33.33%)
15	The Art of India	–	–	–	–	–	–	N = 40

Note: Multiple options can be ticked.

Table 5.1.3 Subscription of Journals and Magazines

The list of leading magazine and journals in the field of arts and culture is presented in the Table 5.1.3 The list is prepared after the survey of different libraries of Rajasthan and on the basis of content and popularity of magazines.



Sl. No.	Magazine	Institution						Total
		AHM	IICD	JKK	MSM SM	RSA	RSS	
1	Aakrit Quarterly	✓	–	✓	–	–	–	2 (33.33%)
2	Ancient India and Indian Architecture A Review	✓	–	–	–	–	–	1 (16.66%)
3	Colloquium	–	✓		–	–	–	1 (16.66%)
4	Maru Sanshriti Kosh	✓	–	–	–	–	–	1 (16.66%)
5	Kala	✓	–	✓	–	–	–	2 (33.33%)
6	Kalavritt	✓	–	–	–	–	–	1 (16.66%)
7	Lalit Kala	✓	–	✓	✓	✓	–	3 (50%)
8	Majjhamika	✓	–	–	–	–	–	1 (16.66%)
9	Marg : Magazine of The Arts	✓	–	✓	–	–	–	2 (33.33%)
10	Maru Bharti	✓	–	–	–	–	–	1 (16.66%)
11	Maru Shree	✓	–	✓	–	–	–	2 (33.33%)
12	Meerayan	✓	–	–	–	–	–	1 (16.66%)
13	Mira : Monthly Journals of Indian Culture	✓	–	–	–	–	–	1 (16.66%)
14	Pura Sampada	✓	–	✓	–	–	–	2 (33.33%)
15	Roopa-Lekha	✓	–	–	–	–	–	1 (16.66%)
16	Traveller in India	✓	–	–	–	–	–	1 (16.66%)

Note: figures in parentheses give percentage.



It is shown in Table that Lalit Kala is the most popular magazine which is published from Lalit Kala Akademi, New Delhi and subscribed by AHM, JKK, MSMSM, and RSA libraries. Marg is a quarterly Indian art magazine and a publisher of books on the arts, based in Mumbai.

On the other hand Aakriti, Kala, Marushri and Pura Sampada are also popular one. As Aakriti is the journal published from Rajasthan Lalit Kala Akademi, Jaipur, Kala is the magazine providing information on Art and Sculpture and is published by Indian art history congress, Guvhati and Marushri is published by Lok Sanskriti Shodh Sansthan, Nagarshri Churu, the journal giving information on Rajasthani literature and Pura Sampada are available in AHM and RSA libraries.

Cultural Forum is published by Ministry of Scientific Research and Cultural Affairs, Kalavritt is published from Jaipur (India) in English language only Maru Bharti is journal based on Rajasthani literature and published from Rajasthan Hindi Sahitya Samiti, Pillani. Majjamika is published from Pratap Shodh Sansthan, Jaipur. Roop-Lekha an illustrated quarterly art journal/periodical/English journal published by All India Fine Arts and Craft Society, Delhi. Roop-Lekha was the first journal to be published in northern India entirely devoted to fine arts. These all above mentioned journals and magazines are subscribed by AHM Library only.

As shown in above table out of these 16 listed journals 15 are subscribed by AHM library only, no other library subscribes as much of journals. It also shows that a large amount of the library budget is spent on magazines by AHM.

The librarians were asked to indicate the benefits of information resources on Rajasthani Arts and Culture. The majority of respondents held positive about the benefits of information resources on Rajasthani arts and culture. Like : Helpful to enhance resource discovery of the information, Helpful to find out and highlight the rich preserved cultural heritage, The information resources enshrine the rich social and cultural, Provide information accessibility to do research

The ultimate benefits of information resources on arts and culture is to promote arts and culture of Rajasthan.



5.2. Digitization Activities of the Libraries

In this section the principal reasons for digitization, the selection criteria of heritage collection for digitization, the type of heritage collections which is being digitize, the management of digitized collections etc. among the select libraries of Rajasthan is discussed. AHM, IICD, libraries have replied that they have digitized the library resources where as RSA library have not responded.

Table 5.2.1 Principal Reasons for Digitization of Heritage Collection

Sl. No.	Reasons of digitization	Institution						Total
		AHM	IICD	JKK	MSM SM	RSA	RSS	
1	To facilitate new forms of access and use	–	✓	–	–	–	–	1 (16.66%)
2	To preserve materials and reduce damage to original materials	✓	✓	–	–	–	–	2 (33.33%)
3	To support education and research activities	–	✓	–	–	–	–	1 (16.66%)
4	To share the information through Allowing other institutions to view the material	✓	✓	–	–	–	–	2 (33.33%)
5	To keep pace with technology	–	✓	–	–	–	–	1 (16.66%)
6	To save space and time	✓	✓	–	–	–	–	2 (33.33%)
Total		3 (50%)	6 (100%)	0	0	0	0	N = 9

Note : figures in parentheses show percentage.

To preserve materials and reduce damage to original materials,' to share the information through Allowing other institutions to view the material, 'to save space and time' are the principle reasons.

It is also found that all the libraries are not involved in the process of digitization where as the ultimate aim of digital cultural heritage information is to enhance accessibility and to improve preservation. However, digitizing cultural heritage information is not a simple initiative. It requires a lot of expertise, such as IT (Information Technology), resources description and project management.

Table 5.2.2 Specific Attributes to do Digitization

Sl. No.	Specific Attributes	Institution						Total
		AHM	IICD	JKK	MSM SM	RSA	RSS	
1	Content of cultural and/or historical significance	✓	✓	N.R	N.R	N.R	N.R	2 (33.33%)
2	Content with certain uniqueness and/ or rarity of the material	–	✓	N.R	N.R	N.R	N.R	1 (16.66%)
3	Content in high demand	–	✓	N.R	N.R	N.R	N.R	1 (16.66%)
4	Content at risk because of its physical condition	✓	–	N.R	N.R	N.R	N.R	1 (16.66%)
5	Content at risk because of its impending format obsolescence, such as sound and audiovisual recording	–	–	N.R	N.R	N.R	N.R	0
6	Content that users most often want to consult or view	–	✓	N.R	N.R	N.R	N.R	1 (16.66%)
7	Content that are hidden treasure and could be enormously attractive to users one digitize	–	✓	N.R	N.R	N.R	N.R	1 (16.66%)
Total		2 (28.57%)	5 (71.42%)	N.R	N.R	N.R	N.R	N = 7

* N.R - No Response



Table 5.2.2 provides criteria for selection of heritage collections for digitization. The criteria for selection of heritage collection are considered to be: 'content', 'demand' and 'condition' of heritage collection. Majority of (33.33%) of the respondents confirmed that 'content of cultural and historical significance' is the main attribute to do digitization.

It is seen in the above table that great majority of libraries, (JKK, MSMSM, RSA and RSS) have not responded may be the reason behind it is the libraries don't have digitization in their libraries.

Table 5.2.3 Types of Heritage Collection for Digitization

Sl. No.	Types of heritage collection	Institution						Total
		AHM	IICD	JKK	MSM SM	RSA	RSS	
1	Photograph	–	–	N.R	N.R	N.R	N.R	0
2	Manuscript	✓	✓	N.R	N.R	N.R	N.R	2 (33.33%)
3	Maps	–	–	N.R	N.R	N.R	N.R	0
4	Painting	–	–	N.R	N.R	N.R	N.R	0
5	Rare books	✓	✓	N.R	N.R	N.R	N.R	2 (33.33%)
6	Artifacts	–	–	N.R	N.R	N.R	N.R	0
Total		2 (33.33%)	2 (33.33%)	N.R	N.R	N.R	N.R	N = 4

* N.R - No Response

It is clear from the above table that except manuscript and rare books no other resources have been digitized.

Table 5.2.4 Major Constraints of Digitization/preservation

Sl. No.	Constraints	Institution						Total
		AHM	IICD	JKK	MSM SM	RSA	RSS	
1	High cost of digitization	✓	✓	✓	✓	N.R	N.R	4 (66.66%)
2	Less facilities and inadequate facilities	✓	✓	✓	✓	N.R	N.R	4 (66.66%)
3	Well trained Manpower	✓	✓	✓	✓	N.R	N.R	4 (66.66%)
4	Unavailability of software	✓	—	✓	✓	N.R	N.R	3 (50%)
5	Unfavorable environment condition	—	✓	✓	✓	N.R	N.R	3 (50%)

Note: figures in parentheses show percentage.

It is seen from the table that “High cost of digitization” is the major constraints followed by “Less facilities and inadequate facilities” and “Well trained Manpower”.

It is well known that financial crunch is the big issue while thinking about any new project in the libraries and that is why High cost of digitization is the big problem.

6. Conclusion :

To develop high-quality digital content is necessity to improve and enhance user access to the cultural heritage information resources. This is really helpful for teaching and research. Librarians, archivists, and museum professionals are involved in the activity of creating digital resources to improve access and understanding for the digital information resources.

It is found that most of the libraries of Jaipur have not digitized their heritage collection yet. It is encouraging to note that rare books and manuscripts are the most preferred collection for digitization among the libraries.

It is observed that maximum libraries are very clear about the option for the utilization of information resources but they are not into the position to implement that in their libraries, there may be lots of reasons behind that like: lack of fund, insufficient number of staff, not efficient in information technology etc.

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Measures of Journal Quality and Impact tools, techniques and methods: an overview

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Abstract :

Measuring and evaluating of quality of research journal, article, creator, publisher etc are now very much important in the age of digital era. Traditionally, journals are ranking using various traditional indicators like total citations, average citations and Journal Impact Factor (JIF). Due to advancement of S&T diverse tools, techniques and methods (indicators) like h-index, SJR, CiteScore etc. have been developed. To rank the journals and authors several indicators should be used to justify the quality of research performance. In this paper, discussed on various metrics with their strength, weakness and possibility of access to draw a guideline path for the researcher. Journal may be ranked based on different types of indicators at a time. No indicator is supreme as per study of their weakness, but desirable quality of the researcher, journal and other associated bodies should be measured based on quality of the article not the benefits in terms of money.

Keywords :

Journal indicator, h-index, JIF, CiteScore, SJR, SNIP, Eigenfactor, Journal ranking.

1. Introduction

Invented knowledge has its own platform to explore as nascent knowledge. To publish the research output, the scientific journals has a great role since 1665. To explore new development in research every article goes through as a journal article. So, Journal has a great role in the academic field as a mother of knowledge publication. The quality of a journal depends on articles as content. That means, maximum quality reflected by the quality of the articles published and the quality of creators. Every product quality is measured by the producer as well as society. The 'quality' depends on distinct attributes on it, which compares with others in respect of time and situations. The 'Journal quality' is very much important factor to published

invention carried with very good attributes. Every invention is not good, but every good quality journal carried good articles. Journals have notable importance in the scientific world due to releasing the latest scientific articles on a wide range of specific domains in certain short intervals. Publishing articles in a scientific journal is considered as the quality indicator of the researchers' activities, too (Jamali, Salehi-Marzijarani, & Taghi Ayatollahi, 2014).

2. Objectives :

Research is a self-motivated creative work undertaken by researchers on a systematic basis in order to seek answers to questions that arise in their minds. The results of such studies are published in scholarly journals primarily to share the new findings with a larger peer group and ultimately to increase the stock of knowledge (Seethapathy, Kumar, & Hareesha, 2016). The key objectives of this study are as follows :

- to know brief description of various indicators;
- to know the highways and byways of various methodologies;
- relations of various indicators;
- to explore the path for the researcher to rank the journals;
- to know how to access journal-level metrics; and
- to know the evolution of traditional to digital era indicator, etc.

3. Terminology :

3.1 Quality Journal :

Impact factor, an index based on the frequency with which a journal's articles are cited in scientific publications, is a putative marker of journal quality (Saha, Saint, & Christakis, 2003). The 'quality' means, the standard of something as measured against other things of a similar kind or the degree of excellence of something (Lexico Oxford Dictionary, 2019). The journal quality is the measurement of excellence of articles, reviews, authorship pattern, etc. of a journal based on various tools, techniques, and methods compared with others.



3.2 Impact :

The action of one object coming forcibly into contact with another (Lexico Oxford Dictionary, 2019). Effect directly or indirectly of one thing on another within a certain period. As for example, average articles of a journal has been cited in a particular period.

3.3 Tools :

Tool is device which is used to carryout or perform a particular function, task or objective. As for example Publish or Perish (PoP) is a tool to retrieves academic citations.

3.4 Methods and techniques :

The wiki draw out difference between method and technique as - 'method' is a process by which a task is completed; a way of doing something, while technique is (uncountable) the practical aspects. The research method is concerned with carrying out experiment, test, surveys, interviews, etc. As against this, research methodology is concerned with learning various techniques which can be employed in the performance of experiment, test or survey. Research method covers various investigation techniques (Surbhi, 2018).

4. History of Journal Quality Evaluation :

Quality evaluation of journals in different disciplines can help researchers to decide easier while choosing an appropriate journal for publishing their scientific results (Jamali, Salehi-Marzijarani, & Taghi Ayatollahi, 2014).

Among the journals' quality evaluation indices Impact Factor (IF) much more indicative as the most well-known and commonly used criterion which was first proposed by the Eugene Garfield in 1955 (Garfield, 2006). Although, prior to that, the first analysis of papers citing a journal's publications occurred in 1927 and Shepard's Citations is a legal citing service started in 1873 (Mingers & Yang, 2017)

5. Journal Citation Indicators and Journal-level Metrics :

As per the (Mingers & Yang, 2017) described Basic Journal Citation Indicators as Total Citation, Average Number of Citation per Paper (CPP or IPP) etc. The LaTrobe University Library (Where should I publish-Journal metrics - La Trobe University

Library, 2019) tabulated and analyzed Journal-level metrics based on (Analytics, 207), (Google Scholar), (Jacso, 2010) and (Yu & Yu, 2016) as described below :

5.1. Metric: h-index :

5.1.1. Definition :

The number of articles in a journal [h] that have received at least [h] citations over a citation period.

5.1.2. Data source and citation window : Any data source (incl. WoS, Scopus, Google Scholar) and any citation window.

5.1.3. Strength :

Measures quantity (number of articles) and quality (or impact - understood as no. of citations attributed to the article) of a journal and not skewed by a small number of articles with notably high or low citation numbers.

5.1.4. Weakness :

Editors can manipulate by requiring contributors to add citations from their journals; Does not account for citation patterns in different fields and Increases with age so bias towards researchers with long publication records.

5.1.5. How to access :

In SciMago, search by publication titles; In Scopus access via Journal Metrics and browse via subject are; and in Web of Science search by publication name or ISSN.

5.2. Metric: h5-index :

5.2.1. Definition :

The h-index for articles published in the last five complete calendar years, h is the largest number of articles that have been cited h times.

5.2.2. Data source and citation window :

Google Scholar 5 complete calendar years.



5.2.3. Strength :

Also lists: the h-core (the articles the h-index is based on) ; all citations for each h-core article; the h5-median; a link directly to the h-core article and the ranking of the journal within a subject category.

5.2.4. Weakness :

Can exclude some GS indexed journals; some manually selected resources are treated as journals (i.e. repositories, working papers) and limited search options.

5.2.5. How to access : Access at Google Scholar metrics.

5.3. Metric: h5-median :

5.3. 1. Definition: Median no. of citations for the articles published that make a journal's h5-index.

5.3. 2. Data source and citation window : Google Scholar 5 complete calendar years.

5.3. 3. Strength: Also lists the h-core (the articles the h-index is based on); all citations for the h-core article; a link directly to the h-core article.

5.3. 4. Weakness : It can exclude some GS indexed journals; manually selected resources can be treated as journals (i.e. repositories, working papers) and search options are limited.

5.3. 5. How to access : Access at Google Scholar metrics.

5.4. Metric : JIF

5.4.1. Definition : Citations to a journal in the JCR year to items published in the previous two years, divided by the total number of citable items (articles and reviews) published in the journal in the previous two years.

5.4.2. Data source and citation window : Web of Science 2 years.



5.4.3. Strength : It covers approximately 11,500 scholarly and technical journals and conference proceedings; can exclude self-citations; includes journals in 236 disciplines and also lists: 5 year Impact Factor; Immediacy Index; Average JIF percentile; Eigenfactor Score and the rank of a journal within a Web of Science subject category.

5.4.4. Weakness : Does not necessarily reflect the quality of individual articles; limited to journals within Web of Science and cannot be used to compare journals across different subject categories.

5.4.5. How to access : Access via Journal Citation Reports. Search by publication title.

5.5. Metric : JIF percentile

5.5.1. Definition : Transforms a journal's category rank into a percentile value.

5.5.2. Data source and citation window : Web of Science 2 years.

5.5.3. Strength : Allows for more meaningful comparisons across different subject categories.

5.5.4. Weakness : Does not measure the relative difference of impact between journals.

5.5.5. How to access : Access via Journal Citation Reports. Search by publication title.

5.6. Metric ; CiteScore

5.6.1. Definition : Citations received in a year to documents published in the previous 3 years, divided by the number of documents published in the previous 3 years.



5.6. 2. Data source and citation window : Scopus 3 years.

5.6. 3. Strength : Simple, easy to validate; Communicates magnitude of activity; comprehensive, transparent and current; includes all document types; CiteScore percentile and the rank of a journal within a Scopus subject category.

5.6. 4. Weakness : Does not necessarily reflect the quality of individual articles; limited to journals within Scopus; cannot be used to compare journals across different subject areas; counts all publication types as citable including news, editorials & front matter. This may result in lower scores for; journals with more front material.

5.6. 5. How to access : Access via Journal Metrics. Browse via subject area or search by publication title.

5.7. Metric : SCImago Journal Rank (SJR)

5.7. 1. Definition : Average number of weighted citations received in a year, by articles published in a journal in the previous 3 years.

5.7. 2. Data source and citation window: Scopus 3 years.

5.7. 3. Strength : Assigns higher value/weight to citations from more prestigious journals; compensates for differences in field, type and age; meaningful benchmark is built in 1 is average for a subject.

5.7. 4. Weakness : Small numbers can be off-putting to researchers; complicated and difficult to validate; no idea of magnitude: how many citations does it represent?

5.7. 5. How to access : Access via Journal Metrics and search by publication title. Access via SciMago and search by publication title.

5.8. Metric : Source-Normalised Impact per Article (SNIP)

5.8. 1. Definition : Measures contextual citation impact by weighing citations based on total no. of citations in a subject field. If there are fewer total citations in a research



field, then citations are worth more in that field.

5.8. 2. Data source and citation window: Scopus 3 years.

5.8. 3. Strength : Allows for comparison across research areas; compensates for differences in field, type and age and meaningful benchmark is built in 1 is average for a subject.

5.8. 4. Weakness : Editors can manipulate by requiring contributors to add citations from their journals; small numbers can be off-putting to researchers; complicated and difficult to validate and no idea of magnitude: how many citations does it represent?

5.8. 5. How to access : Access via Journal Metrics. Search by publication title.

5.9. Metric: Eigenfactor

5.9. 1. Definition : Citations to articles from the most recent five full years, divided by the total number of articles from the most recent five full years. Citations from highly ranked journals are given more weight than others.

5.9. 2. Data source and citation window : Journal Citation Reports 5 years.

5.9. 3. Strength : Measures a journal's importance to the research community; accounts for the disciplinary relationships between citing and cited journals to evaluate the importance of each journal.

5.9. 4. Weakness : Limited to journals listed in Journal Citation Reports; journals are assigned to a single subject category.

5.9. 5. How to access :

Access via Eigenfactor. Search by publication name and access via Journal Citation Reports. Search by publication title. Besides the above metrics other important metrics are-



- **Expert Survey** : Journal ranking is based on result i.e. score of individual journal of the survey. The key problem is that in their ranking decisions, respondents are strongly influenced by their current research interests (Serenko & Dohan, 2011) .

- **Altmetrics** : Altmetrics is a term to describe web-based metrics for the impact of publications and other scholarly material by using data from social media platforms (e.g. Twitter, Facebook, Google+, blogs, Mendeley, CiteULike, PubPeer, Publons, Reddit, Wikipedia, You'lube, etc.) (Veeranjaneyulu, 2018).

6. Conclusion :

This paper attempts to analyse various types of Journal Citation Indicators and Journal-level Metrics to measure of journal quality. We observed that almost all the metrics have strength and weakness in respect of data collection and analysis. The question is that, which technique is the best for publication? As per the (Where should I publish-Journal metrics - La Trobe University Library, 2019) final decision should be based on aim, scope and audience, quality of the editorial board with publisher, efficiency of peer review, open access option, author fees, licensing, journal metrics and ranking within a field or sub field and journal ranking in citation data base.

As per the (The San Francisco Declaration on Research Assessment (DORA), 2013)“Do not use journal-based metrics, such as Journal Impact Factors, as a surrogate measure of the quality of individual research articles, to assess an individual scientist's contributions, or in hiring, promotion, or funding decisions.” But on the other side “even the academy is being served when faculty members are valued for the quantity and placement of their articles, not for the benefit their research can have for the world” (Glick, Tsui, & Davis, 2018).

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Empowerment of Library and Information Center (LIC)
for Resource Generation in Higher Education
System (HES) in the Light of Information and
Communication Technology (ICT)
: a brief study over Indian scenario

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Abstract :

This paper presents the value of Library and Information Center (LIC) with their services for the enrichment of the Higher Education System (HES) in India over globalization and faster enlargement of Information and Communication Technology (ICT). LIC is a medium for the current exchange of ideas, not just for finished collected wisdom to be set down imperishably for posterity. Academic community particularly in college and university utilizes library services for research and teaching purposes. Therefore, library is rightly regarded as the heart of an academic institution. The role of LIC in building digitally inclusive communities has never been more important than it is today. The prime objectives of the library is pooling information resources and information related infrastructure and sharing them. Library patron and community stakeholders also have raised their expectations about digital engagement and it should expect to use digital platforms to create and collaborate anytime and anyplace with a minimum effort by the hands of the LIC.



Keywords :

Empowerment, Library and Information Center (LIC), Higher Education System (HES), Information Society (IS), Information and Communication Technology (ICT).

1. Introduction :

Libraries, once known primarily as a storehouse for books and periodicals, have changed dramatically since the middle of the 20th century. From their historical beginning as places to keep the records of civilization libraries have emerged as a far reaching body of information resources and services that do not require a building. Rapid developments in computers, telecommunication and other technologies have made it possible to store and retrieve information in many different forms and from any place with a computer and a telephone connection.

Information has become the commodity in today's context of information explosion where we are living in the information society. Information has emerged as the vital and indispensable tool of the 21st century. The academic library environment is in a state of transition in terms of resources and users; many information sources once available only in print are now available in print, CD-ROM, online and other sources; other sources may only be available in electronic form.

The observed transition is apparently necessitated by the emergence of the modern ICT and its unprecedented impacts on the provision of library services. Hence, with ICT, such things as electronic cataloguing, electronic Online Public Access Catalogues (OPACs), electronic acquisition and serials control, electronic circulation functions, electronic distribution of commercial publications, electronic availability of raw data, multimedia information delivery systems, digitized collections and online textbooks are all now practicable with a higher degree of user.

2. Objectives of the Study :

- i). To ascertain the level of computerization / automation of Academic Libraries (ALs) mainly in Higher Education System (HES).
- ii) To determine the usefulness of ICT resources in Higher Education Institution (HEI).

- iii) To determine the efficiency and effectiveness of ICT in University and College Library and Information Center (LIC).
- iv) To know the ICT skills in the use of E-resources by the staff.
- v) To determine the challenges associated with the application of ICT in Library and Information Center (LIC) in Higher Education Organization (HEO).

3. Need For the Study :

Information Technology (IT) has demonstrated its impact on the library resources, systems, services and operations. It is well acknowledged in the library literature that the application of ICTs have provided one of the best innovations in the history of libraries and it is changing the shape of libraries and role of librarians at an unprecedented pace. The user information seeking behavior is also changing at a fast rate. The library catalogue or portal is not the first choice for many of the faculty, students and researchers for information searching. Hence impact of ICT on academic library mainly in Higher Education System (HES) becomes crucial factor for measurement the value of the library system over ICT. On the basis of globalization and cyclopean development of technology accommodation of library system over this environment should be a challenge for equivalent enrichment of higher education system in developing countries like India.

4. Scope and Limitations of the Study :

The study is confined to on the basis of theoretical literature and on different view of basic needs in the Colleges and Universities Library and Information Center (LIC) in general and users of libraries of these academic organizations. The scope of the study is limited to the analysis of different articles published on recent time.

5. Historical Perspective of Higher Education (HE) in India :

Education in India has a long history and continuous tradition. In the past, education was restricted to Brahmins only. The young Brahmins were not only prepared for the education, he was trained for his practical duties in life as a

priest and teacher but also was enabled to achieve self-realization and spiritual emancipation. Education is to guide man from falsehood to truth, from darkness to light and from death to immortality.

Between 1882 and 1902 there was rapid growth in educational efforts. By 1902 there were 145 colleges. In 1937 Mahatma Gandhi proposed a new system of Education in order to create a new social order during the struggle for independence.

After independence the Government of India formed Indian Education Commission (1964-66) under the Chairmanship of Dr. D. S. Kothari, to examine the entire education system in India, in need for national system of education along with its other recommendation.

In 1953 University Grants Commission was set up on the recommendation of this Commission with the expressed objective of determining, coordinating and maintaining the standards of education in colleges and universities and assign grants.

Cultivation of new knowledge, developing the potential in the youth, providing competent men and women who can give leadership in different walks of life, reducing socio-cultural differences, developing the right values and attitudes - all these depend upon the correct use of available knowledge.

Different Commission was setup in different years for development of academic organization and enrichment of higher education system in India. Those are:

- i) University Education Commission (1948-49) was appointed under the chairmanship of Dr. Sarvapali Radhakrishnan.
- ii) Secondary Education Commission (1952-53).
- iii) Indian Education Commission (1964-66) popularly known as Kothari Commission was appointed by the Government of India under the headship of Dr. D. S. Kothari dated July 14, 1964.
- iv) National Policy on Education (1968).
- v) National Commission on Teachers (1985).
- vi) National Policy on Education (1986): "The new policy on education was introduced with the following features:

- Recognition of new technology in education, to the required extent.

- A culturing role of education was emphasized and highlighted through media.
- Policy also asserts the need for examination reforms. This reason alone is sufficient for exploring other areas of education and evaluation.”

vii) Review of NPE (1992).

viii) Ramamurthi Committee (1992).

6. Trends and Developments in Higher Education (HE)

It is acknowledged that universities all over the world face an imperative to adapt and adjust to a whole series of profound changes that fall into six (6) major categories:

- i) The increased demand for HE in a lifelong learning context;
- ii) The internationalization of education and research;
- iii) The need to develop co-operation between universities and industry;
- iv) The proliferation of places where knowledge is produced;
- v) The reorganization of knowledge; and
- vi) The emergence of new expectations.

Changes in HE are so profound that several observers refer to a paradigm shift. Kathy Tiano has characterized the old and new paradigms of Higher Education (HE) as follows:

Figure 1: Paradigms of HE (after Kathy Tiano, cited in Inglis et al., 2002: 22)

Old Paradigm for HE	New Paradigm for HE
Take what you can get	Courses on demand
Academic calendar	Year-round operations
University as a city	University as idea
Terminal degree	Lifelong learning
University as ivory tower	University as partner in society
Student = 18 to 25 - Year - old	Cradle to grave

Books are primary medium	Information on demand
Tenure	Market Value
Single product	Information reuse / info exhaust
Student as a 'pain'	Student as a customer
Delivery in classroom	Delivery anywhere
Multi-cultural	Global
Bricks and mortar	Bits and bytes
Single discipline	Multi-discipline
Institution-centric	Market-centric
Government funded	Market funded
Technology as an expense	Technology as differentiator

- The growing demand for HE institutions to assert themselves - through teaching, learning, and research - as knowledge providers and learning organizations;
- The strong impact of ICT on the organization of studies and curricula and the modes of study programme delivery; the wide diversification of HE providers;
- The emerging markets of HE at national, regional, and global levels;
- The increasing concern with academic quality assurance in HE and the need to establish a new framework for quality assurance, accreditation, and recognition of qualifications;
- The need to develop a qualifications framework focused on common references such as the sequencing of study cycles with specific descriptors of the profiles of degrees, introduction of European Credit Transfer and Accumulation System (ECTS), European Credit System for Vocational Education and Training (ECVET), and Diploma Supplement;
- The need for governments to provide the most appropriate incentives for encouraging HE institutions to be innovative and entrepreneurial in conditions where the public financial support of governments to HE is diminishing;

- The need to reduce the gap between the level of development of HE in the developing countries and those from certain transition countries; and
- The demand for programmes of lifelong learning, etc.

7. Application of Different On-Line Courses over Higher Education System (HES) in India

In recent years, the enrolment in Massive Open Online Course (MOOC) has increased tremendously. India after US is dominating the global growth in enrolments. Seeing the growth of enrolment from the country and satisfy their need of education, India has started various projects for offering MOOC courses. Currently, NPTEL, mookIT, IITBX, and SWAYAM are the platforms used in India for offering courses.

Figure 2: Some Indian MOOC Platforms and Providers

Initiative	Year of Launch	Institution Behind Platform	Website Link
NPTEL	2003	IIT Madras	https://nptel.ac.in/
mookIT	2012	IIT Kanpur	https://www.mookit.co/
IITBX	2014	IIT Bombay	https://iitbombayx.in/
SWAYAM	2016	MHRD and Microsoft	https://swayam.bog.in/

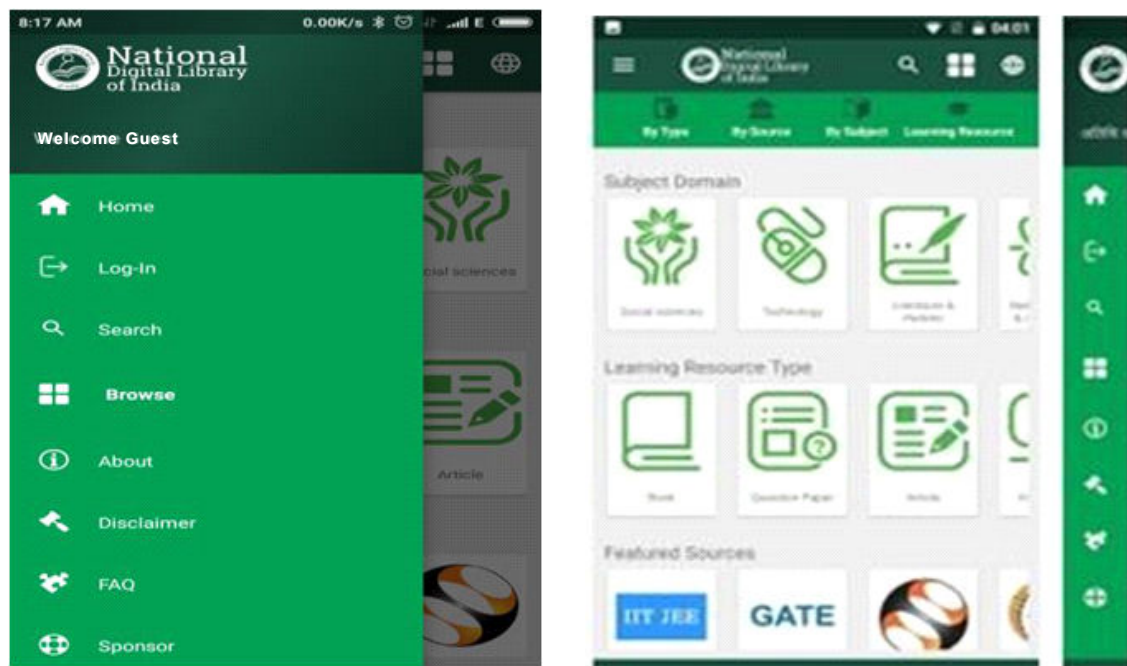
8. Development of Digital Library App (DLA)

To enhance the usage of library collection and services in digital environment, librarians trying to development of digital library app for access to digital library resources on their mobiles and smart phones.

Recently, National Digital Library (NDL) of India designed and developed a mobile app to provide the accessibility of India's largest library repository at the fingertip. NDL App is freely available on Google Play Store to its downloading. Through this app users can be accessed from anywhere, anytime on the mobile devices. The

NDL app has advanced features to search, browse, filter, tag, comment and metadata view.

Figure 3 : Mobile App Screenshots



(Source: <https://ndl.iitkgp.ac.in>)

9. Role of Library and Information Center (LIC) in Higher Education System (HES)

The 21st century belongs to the knowledge age, where acquisition, possession and application of knowledge are the most important resources to India, knowledge is not new. Ancient India was an advanced knowledge society with a continual process of intellectual renaissance through inspiring contributions by saints of many faiths, philosophers, poets, scientists, astronomers and mathematicians. There existed great universities like: Takshashila and Nalanda where students not only from India but also from far-off countries came to study diverse subjects. Many scholars have said that “India culturally conquered and dominated China for 20th centuries without sending a single soldier across the border”.

Knowledge, which is acquired through education, information, intelligence and ex-



perience, has always been the prime mover of prosperity and power. The acquisition of knowledge has therefore been the thrust area throughout the world. It is available in academic institutions, libraries, research papers, seminar proceedings, etc. But to acquire this, to become a knowledge super power, India first needs to transform itself into a knowledge society. This can be done only by understanding the dynamics of knowledge and then transforming it into wealth in the following manner:

- Using knowledge through all its constituents and thus empowering and enriching the people;
- Using knowledge as a powerful tool to drive social transformation;
- Being a learning society committed to innovation; and
- Having the capacity to generate, absorb, disseminate and protect knowledge and using it to create economic wealth and social good for all its constituents.

That is why quest for excellence is the call of the society and all individuals have to Endeavour to achieve their ends through self-development. Self-development is a continuous process and colleges and universities provide all kinds of facilities for human resource development. They are centers of excellence and students and teachers get an opportunity to utilize these resources to the optimum and accomplishment is the keyword. Every individual has to aspire for excellence and seek to achieve the optimum of his ability. Thus human resource development to the maximum is the main objective of higher education and university is regarded as the symbol of citadel of higher education.

The role of the LIC can be defined within the framework of the colleges and universities mission and a LIC development programme can be undertaken accordingly. In the words of Dr. S. R. Ranganathan, "Libraries are not more store houses, they are rich springs from which knowledge flows out to irrigate field of education and culture."

The fundamental role of the university LIC is educational. It should not be operated as a mere storehouse of books attached to a reading room, but as a dynamic instrument of education. It is emphasized in different reports brought out by various library and educational commissions in India and abroad. A university

LIC is established with the intention of aiding in successful accomplishment of the objectives such as teaching, research, publication programmes, etc. In modern education system, the university library has important responsibilities.

The report by University Grant Committee (United Kingdom) in 1921 is stressed on the role of a library in university system. Thus, the character and efficiency of a university may be extended by its treatment of its central organ library. We regard the fullest provision for library maintenance as the primary need in the equipment of a university.

Dr. S. R. Ranganathan headed the report of the Library Committee of University Grants Commission in 1957 that dealt with in detail the role of the university library in academic development especially in the field of higher education. The above observations can be summarizing in the words as:

- The library is the heart of education;
- Methods and fashion in education change from generation to generation,
- But each generation uses the library as a means of realizing its items;
- Hence the library remains the great conservator of learning;
- A quality education is impossible without a quality LIC;
- A LIC is vital organ for proper exploitation of our intellectual resources;
and
- A LIC is essential for maintenance of free access to ideas, and to the
functioning of the untrammelled mind.

At the start of the 21st century, academic LICs explore service developments to support a series of new scenarios (Brophy, 2001: 25):

- New publication and scholarly communication scenarios;
- More intensive use and delivering of digital resources;
- Serving increasingly heterogeneous student population;
- Continuing high demand from students for traditional resources;
- New modes of study, including ICT-based and distance learning, with which libraries have had little involvement in the past; and

- Ever-reducing levels of resources, particularly in staffing, leading to enormous pressures on individual staff and a severe challenge to management.

User education has grown visibly during recent years and information literacy has become an issue in many academic libraries. Different approaches have been used to develop information literacy among students. For example:

- Developing a guide for students to use or for resource evaluation;
- Presenting class sessions;
- Developing stand-alone courses;
- Creating a course Web site giving students a guided tour for searching the Web;
- Developing an assignment where students work on a search strategy appropriate to a problem statement;
- Assisting students in preparation of their literature reviews; and
- Developing online tutorials or integrating information literacy into curricula.

In ICT context, the University Librarian (UL) will have to rethink and reassess information strategy, offering alternative modes of delivery. Many academic libraries are experimenting with online information literacy tutorials, courses and instruction. New roles for Librarians in the learning and teaching context are discussed by many authors, including:

- Partnering with discipline faculty and other specialists for delivery of information and instruction;
- Designing instructional programs for information access;
- Teaching students and faculty how to access information, whatever its format or location, and how to evaluate what they find;
- Serving as consultants on information resources, issues, and problems;
- Developing and implementing information policy;
- Creating information access tools;
- Selecting, organizing, and preserving information in all formats; and
- Serving as leaders and facilitators in introducing information technologies



and ensuring their effective use.

It is believed that the library staff's changing role will benefit students, faculty, university administrators and librarians. Students will acquire better information skills, stronger critical thinking skills, greater confidence, and the ability to transfer what they have learned to their post-graduate lives. Faculty will get opportunities to learn new information access, management, and evaluation skills which support better their research and teaching. Administrators will begin to view the benefit of new collaboration initiatives and new organizational relationships. Librarians will be called upon to think differently about their assignments in both the library and the broader academic community, they will develop closer relationships with discipline faculty and with technical staff assigned to other campus units, familiarizing themselves with each group's goals, culture, and curriculum.

10. Impact of Digital Information Materials (DIM) on Library and Information Centers (LICs)

The shift from print to digital information has a high impact on LICs and other institutions directly involved in processing information. This shift is generally attributed to the merging of computing, telecommunications technologies and other industries. Computers have permeated society because of their ability to perform high volume, error-free repetitive tasks at speeds much faster than human beings, while recent and emerging developments in the area of computing, telecommunications, networking and resource sharing made access to information anytime, anywhere possible.

Digital information made access fast and efficient. It led to the development of e-resources in libraries. It challenged librarians to become IT-literate and it challenged librarians to reassess their roles and the services they provide to users. Digital information has challenged the way libraries are managed. It led to the creation of new library policies and procedures and organizational structures.

11. Role of Library and Information Centers (LICs) in an Information Society (IS)

Rudenstine (1996) observed that "the Library and Information Center (LIC) and the Internet are being viewed as a versatile unified system, providing an enormous variety of materials, in different formats so that data, texts, images, and other forms of information can be readily accessed by students and faculty alike."

In an information-based society application of ICTs in libraries and the development of new services using recent and emerging technologies. The LIC plays a dynamic role in the provision of service to the user community. In a digital library environment library can performed as:

- The partnering with discipline-based faculty and other specialists for delivery of information and instruction. They can design instructional programs for information access.
- Teaching students and faculty how to access information, whatever its format or location, and how to evaluate what they find.
- Serving as consultants on information resources, issues and problems.
- Developing and implementing information policy.
- Creating information access tools.
- Selecting, organizing, and preserving information in all formats.
- Serving as leaders and facilitators in introducing information technologies and ensuring their effective use.

The LIC can meet the educational, cultural, leisure and general information needs of the present and future society. They are one of the most heavily used institutions in managing and preserving knowledge. The electronic age is changing the information-seeking patterns of society, but libraries will continue to be an essential tool for accessing information.

- The need for LIC stems from their two primary roles:
 - To provide equal access to information; and
 - To provide instruction and assistance in locating information for specific needs.
- In the digital age, for example, some people cannot afford the hardware, software and telecommunications equipment necessary to access information available only electronically. In the same manner, they also cannot afford the equipment to store large amounts of information indefinitely. Libraries will have to fill the need to train users in the use of information technologies.
- The need to adapt to the new environment where library resources are

digital and directly accessed by users and therefore not controlled by the librarian.

■ The need to connect with the wider information environment like: library associations, computer associations, etc. these needs.

■ In cases where people can afford the technology, they will still have need for librarians who are skilled in accessing the right information in the shortest possible time at a required platform.

These clients will request librarians to send the information directly to their desktops. The convergence of information and telecommunications technologies makes the communication of information through a global network possible. Today there are millions of computers throughout the world attached to this communications network. According to continuing developments in ICTs and publications in electronic media several scenarios will be for LICs in future.

The introduction of multimedia information resources and networked information systems are affecting the basic role of the LIC to acquire, store, provide access and disseminate information. The publication medium of any item greatly influences the manner, in which it is stored, managed, retrieved, and disseminated. According to Barker (1997), there are four possible types of library system they are, "*poly-media libraries*," "*electronic libraries*," "*digital libraries*" and "*virtual libraries*."

The evolution of libraries will be dependent on developments in publication media and in technology. Libraries will have to evolve from their paper-based collection in order to accommodate multimedia publications. User demand will require computer-based systems to manage the library and move towards a digital library.

Types of E-resources:

- E-Books
- E-Journals
- E-Zine
- E-Thesis and Dissertation (ETD)
- E-News Papers
- E-Reference Books

- CD-ROMs
- Databases

12. Some issues that must consider to established the Library and Information System (LIS) as a spine for Higher Education System (HES)

- The need to make decisions about a future library system.
- The need to define new roles for librarians.
- The need to acquire new knowledge about the changing information environment.
- The need to acquire new skills to cope with the growing technological environment.
- The need to use new tools to access and retrieve information.
- The need for more dynamic staff interaction.
- The need to match technologies with users.

13. Conclusion

This study has sincerely attempted to evaluate the empowerment of LIC over ICT improvement in Higher Education System (HES). The Higher Education Systems (HESs) of the 21st century are challenged to be digitized through the application of ICT facilities in their Academic Libraries (ALs). This is aimed at ensuring quick and easy access of the large numbers of library users to provide relevant accurate and current information from both remote and immediate databases to facilitate learning and teaching in the higher education centers. The availability and use of IT infrastructure in College and University Library and Information Centers (LICs) have become a necessary in meeting their day to day requirements of their users. Most of these libraries have developed minimum IT infrastructure over a period of time. But still many libraries do not have even desktop in their libraries; however, the IT applications could not be expanded beyond local networking within the library or the campus.

This study reveals that still most of the higher academic organizations are far behind in application of ICT in their libraries. Most of the LIC in Higher Education Institution pointed out that the shortage of staff and lack of trained staff hindered the expansion of IT applications and to keep pace with the



current developments in IT to move with the times. Include policies that facilitate and guide, sustained funding, appropriate equipment, networking of libraries under Higher Education Institutions, improved expertise and management to deliver adequate ICT accessibility for academic purposes.

In order to reach out ICT applications, Degree college libraries affiliated to different Universities over our country should strive hard for getting ICT infrastructure, making use of the existing ICT infrastructure and update with newer technologies to provide value added information services to their clientele. The survival of libraries in the age of Google and other information provider giants is possible with the multi-dimensional roles being played by the librarian.

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Awareness and Use of Academic Social Networking sites among Research Scholars of ISEC Library : a case study

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Abstracts :

The present study investigated the awareness and use of academic social networking sites among research scholars. Survey method were conducted through questionnaire tool used to collect the data from research scholars of ISEC Library and analysed using different parameter. The studies found that majority of the students were aware of ASNS and use this site for academic purpose. Further it also discussed device used and impact of ASNS.

Keywords :

Academic Social Networking sites, ISEC Library, Research Scholar, Social Network, web based service.

1. Introduction :

Academic social networking sites (ASNSs) have become part of daily life for many people all over the world. Social networking is everywhere today and is being used by research scholars of all ages and for the widest variety of purposes. ASNSs had become the most heavily used websites, and they were ranked as one of the top sites visited globally. These sites have become an integral part of the daily personal, social and business lives of many people. The primary purpose of these

sites is to connect people based on common language or shared racial, sexual, religious or nationality-based identities, shared interests, political views and activities.

Academic Social networking sites have become increasingly important in the scholarly community. Many researchers have built personal profiles that allow them to interact with colleagues and share interests, questions papers. These public profiles also provide the opportunity to achievements and compete with other researchers for social recognition and future research rewards. This transparent attitude also favours the possibility of auditing the research performance of these researchers and making comparisons across disciplines, institutions and countries. to measure and evaluate the online activity of these users in the context of research evaluation Moreover, it is necessary to study the characteristics of the users of these platforms and how their functionalities are used to understand the nature and origin of these alternative indicators.

These tools need to be analysed in order to validate whether they are representative of the entire scholarly community or if only specific types of disciplines are using them. "This study aims to detect Use and awareness of Academic social networking sites among research scholars of ISEC library"

2. Definitions :

Boyd and Ellison (2007) define social networking sites as web-based services that allow individuals to construct a public or semi-public profile within a bounded system, articulate a list of other users with whom they share a connection, to view and navigate their list of connections and those made by others within the system. Social networking as a community in which individuals are somehow connected through friendship, values, working relationships, idea and so on.

3. MAJOR CATEGORIES OF SOCIAL NETWORKING SITES

- Social Connections
- Multimedia Sharing
- Professional: Professional social networks
- Informational: Informational communities

- Educational : Educational networks
- Hobbies

4. OBJECTIVES OF STUDY

The main objectives of the study are as follows:

- i) To explore the use of academic social networking sites among the research scholars of ISEC.
- ii) To know the frequency of use ASNSs by research scholars of the ISEC library.
- iii) To examine purpose of using Academic social networking sites by research scholars of the ISEC library.
- iv) To explore the impact of academic social networking sites on their research work.
- v) To identify the barriers in using ASNS by research scholars of the ISEC library.

5. SCOPE AND LIMITATIONS OF STUDY :

The study mainly distributed of questionnaire for the user's research scholars of ISEC library, it is limited to only for ISEC library research scholars.

6. STATEMENT OF THE PROBLEM :

The problem for the present study is entitled "Awareness and Use of Academic Social Networking Sites among Research Scholars of ISEC Library : a Case Study."

7. NEED FOR THE STUDY :

While many Studies have been done on the ISEC Library In view of the gap that exists in the literature on this subject, the present study proposes to focus its thrust mainly on "awareness and use of academic social networking sites among research scholars of ISEC library: a case study." These library provide important services to the researchers only, therefore this work has been selected to study the



academic social networking sites among research scholars of ISEC library . Their awareness, and use of the researchers

8. METHODOLOGY :

For the present study survey method has been used to know the Awareness & use of ASNS among Research Scholars through a well-structured questionnaire tool. A total of 120 Questionnaire were distributed among the respondents & received back 95 filled in questionnaires. The questionnaires were analysed manually & tabulated in a systematic manner.

9. REVIEW OF LITERATURE :

Asmi & Margam, (2018) This paper aims to explore the usage of academic social networking sites (ASNSs) among the research scholars in Central Universities of Delhi, India. this paper is to study is to find the challenges and future directions of ranking of academic objects, especially authors, for future researchers.

Williams & Woodacre, (2016) The purpose of this paper is twofold: the first aim is theoretical to review extant literature on academic social networks, while considering current limitations and potential avenues for future research; the second objective is practical to introduce an illustrative comparison guide that researchers can use to identify and distinguish between the functionalities of popular academic social networking sites (ASNSs), including Academia.edu, Mendeley.com, ResearchGate.net, Zotero.org, and Google Scholar.

Ortega, (2017) purpose of this paper is to analyse the distribution of profiles from academic social networking sites according disciplines, academic statuses and gender, and detect possible biases with regard to the real staff distribution. In this way, it intends to know whether these academic places tend to become specialized sites or, on the contrary, there is a homogenization process.

Samir, (2013) the purpose of this paper is to assess the perception and use of social networking sites among university students in the state of Kuwait and study their positive and negative impacts.

Dickson & Holley, (2010) The goal of this paper is to examine the use of the major social networking tools in academic libraries in the USA. As college students are

heavy users of social networking, such efforts provide academic libraries with out-reach possibilities to students who do not use the physical library. The paper also seeks to examine the concerns about their use both from students and within the academic library.

Park, (2010) the purpose of this paper is social networking sites (SNSs) are gaining popularity in various areas. Library and Information services also are attempting to utilize them for increasing the library user traffic. Considering the lack of SNS studies in academic library services and various SNS usage patterns according to user type, it is necessary to compare the usage patterns across different user groups. This paper thus aims to explore the usages of a SNS by different university users.

10. ANALYSIS AND INTERPRETATION OF DATA

DISTRIBUTION OF QUESTIONNAIRE & RATE OF RESPONSE

The present study made use of survey method using Questionnaire. The data has been collected from the Research Scholars of ISEC library. The respondents extended their cooperation in the data collection. Initially 120 Questionnaire were distributed among the Users. The study received back 95 Rate of response is 79.16%

Table 1 : Rate of response of Distributed Questionnaires

Distributed Questionnaires	Received back Questionnaires	Rate of Response
120	95	79.16%

Table 1 shows that Rate of response of Distributed questionnaires. The total number distributed 120 in that received back questionnaire 95 (79.16%).

Table 2 : Respondents by Gender

Gender	Respondent	Percentage
Male	53	55.78%
Female	42	44.22%
Total	95	100%



In the above Table 2 represents that Respondents by gender, it is observed that Most of the respondents are Male 53(53.78%). Whereas least 42(44.44%) respondents are Female.

Table 3: Rate of internet skills

Rate of Internet Skills	Respondent	Percentage
Very Good	40	47.36%
Good	49	51.57%
Uncertain	1	1.05%
Poor	4	4.21%
Very Poor	1	1.05%
Total	95	100%

Table 3 shows that Rate of using internet skills by the respondents, The most of the respondents are good in internet skills 49(51.57%). Whereas is very good 40(47.36%), uncertain 1 (1.05%), poor 4 (4.21%) and least 1(1.05%) respondents are very poor in internet skills.

Table 4: Use of Internet Browsers

Internet browser used regularly	Response	Percentage
Mozifla Firefox	30	31.57%
Internet explorer	28	29.47%
Safari	2	2.10%
Google chrome	34	35.78%
Opera	1	1.05%
Total	95	100%

In the Table 4 analysed that use of internet browser by respondents, The majority of respondents are using Google Chrome browser 34(35.78%). Whereas Mozilla



Firefox 30(31.57%), internet explorer 28(29.47%), safari 2 (2.10%), Google chrome 34(35.78%) and least 1 (1.05%) respondents are using Opera.

Table 5: Awareness about ASNS

Awareness about ASNS	Response	Percentage
Very Good	32	33.68%
Good	38	40%
Uncertain	10	10.52%
Poor	13	4.21%
Very Poor	2	2.10%
Total	95	100%

Table 5 explained that Awareness about Academic social networking sites by respondents, The majority of the respondents are have good awareness about ASNS 38 (40%). very good 32 (33.68%), uncertain 10 (10.52%), poor 13(13.68%) and least 2 (2.10%). respondents are very poor in using ASNS.

Table 6: Frequency of visit to ASNS

ASNS	Most Frequently	Frequently	Uncertain	Less Frequently	Do not Use
Google Scholar	43 (45.26%)	33 (34.73%)	7 (7.36%)	10(10.52%)	2(2.10%)
Academia Edu	33(34.73%)	40(42.10%)	11(11.57%)	7 (7.36%)	4(4.21%)
Research Gate	30(31.57%)	30(31.57%)	5(5.26%)	22(23.15%)	8(8.42%)
Google +	25(26.31%)	28(29.47%)	11(11.57%)	24(25.26%)	7(7.36%)
Mendeley	34(35.78%)	39(41.05%)	6(6.31%)	13(13.68%)	3(3.15%)
Research ID	28(29.47%)	15(15.78%)	20(21.05%)	22(23.15%)	10(10.52%)
FigShare	20(21.05%)	25(26.31%)	22(23.15%)	10(10.52%)	18(18.94%)



Zetere	22(23.15%)	28(29.47%)	25(26.31%)	16(16.84%)	4(4.21%)
Linked in	33(34.47%)	30(31.57%)	17(17.89%)	5(5.26%)	10(10.52%)
Side Share	2(21.05%)	25(26.31%)	22(23.15%)	18(19.94%)	10(10.52%)

Table 6 Shows that frequency of visit to ASNS by Respondents. It is observed that Majority of the respondents 43 (45.26%) visit Google Scholar most frequently, followed by 40 (42.10%) of the respondents visit Academia.Edu frequently, 25 (26.31%) of the respondents are Uncertain about the visit to Zotero, 24 (25.26%) of the respondents visit Google+ less frequently & 18 (18.94%) of the respondents do not visit FigShare Academic social networking site.

Table - 7 : Purpose of using ASNS

Purpose of using ASNS	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
For curiosity	17(17.89%)	23(24.21%)	33(34.73%)	17(17.89%)	5(5.26%)
Check new updates	20(21.05%)	40(42.10%)	28(29.47%)	3(3.15%)	4(4.21%)
Contact peers	33(34.73%)	27(28.42%)	22(23.15%)	12(12.63%)	1(1.05%)
Discover Recommended paper/articles	45(47.36%)	40(42.10%)	7(7.36%)	2(2.10%)	1(1.05%)
Share your views/ opinions	28(26.31%)	29(30.52%)	30(31.57%)	8(8.42%)	3(3.15%)
Gain professional visibility	29(30.52%)	34(35.78%)	28(29.47%)	3(3.15%)	1(1.05%)
To know Present / current discussions	30(31.57%)	48(50.52%)	12(12.63%)	4(4.21%)	1(1.05%)
Publish your own articles	22(23.15%)	30(31.57%)	28(29.47%)	9(9.47%)	6(6.31%)
To touch with people one already knows	20(21.05%)	25(26.31%)	23(24.21%)	20(21.05%)	7(7.36%)

Table 7 Shows that Purpose of using ASNS by Respondents. It is observed that Majority of the respondents 45 (47.36%) using for the purpose of discover recommended paper/articles Strongly agree, followed by 48 (50.52%) of the respondents are agree for purpose of to know present/current discussions, 33 (34.73%) of the respondents are Uncertain about the for curiosity purpose, 20(21.05%) of the respondents are disagree for purpose of to get in touch with people one already knows & 7 (7.36%) of the respondents are strongly disagree for purpose of to get in touch with people one already knows.

Table 8: Device used to access the ASNS

Device used to access ASNS	Response	Percentage
Desktop Computer	17	17.89%
Laptop	58	61.05%
Mobile	18	18.94%
Tab	2	4.21%
Total	95	100%

Table 8 shows that Device used to access ASNS by respondents, The majority of the respondents are using Laptop 58 (61.05%). Whereas least 2(2.10%) respondents are using Tab. 17 (17.89%) respondents are using Desktop Computer & 18 (18.94%) respondents are using Mobile.

**Table 9: Impact of ASNS**

Impact of ASNS	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Keep touch with users research domain	18 (18.94%)	28 (29.47%)	39 (41.05%)	7 (7.36%)	3 (3.15%)
To solve research related problems	35 (36.84%)	36 (37.89%)	18 (18.94%)	3 (3.15%)	3 (3.15%)
To know similar research interests	38 (40%)	35 (36.84%)	16 (16.84%)	4 (4.21%)	2 (2.10%)
Meet academic People & professionals	33 (34.73%)	27 (28.42%)	22 (23.15%)	12 (12.63%)	1 (1.05%)
Contribute to research work paper	25 (26.31%)	29 (30.52%)	30 (31.57%)	8 (8.42%)	3 (3.15%)
Gain professional visibility	29 (30.52%)	34 (35.78%)	28 (29.47%)	3 (3.15%)	1 (1.05%)
To know Present / current discussions	30 (31.57%)	48 (50.52%)	12 (12.63%)	4 (4.21%)	1 (1.05%)
Publish your own articles	22 (23.15%)	30 (31.57%)	28 (29.47%)	9 (9.47%)	6 (6.31%)

In Table 9 Impact of ASNS to the Respondents. It is observed from the table that Majority of the respondents 38(40%) are Strongly agree to know similar research interests., followed by 48 (50.52%) of the respondents are agree for to know present/current discussions, 39 (41.05%)of the respondents are uncertain about Keep touch with users research domain, 12(12.63%) of the respondents are disagree for the impact of Meet academic people & professionals & 6(6.31%)



of the respondents are strongly disagree to publish your own articles.

11. MAJOR FINDINGS :

- a) 120 questionnaires were distributed and after continues follow up, 95 were received back and the rate of response is 79.16%.
- b) 53 (53.78%) Respondents are Male and 42 (44.44%) Respondents are female.
- c) The most of the respondents are good in internet skills 49 (51.57%).
- d) The majority of respondents are using Google Chrome browser 34(35.78%).
- e) The majority of the respondents are have good awareness about ASNS 38 (40%). And least 2 (2.10%). Respondents are very poor in using ASNS.
- f) It is observed that in the table 6 Majority of the respondents 43 (45.26%) visit Google Scholar most frequently, followed by 40 (42.10%) of the respondents visit Academia.Edu frequently, 25 (26.31%) of the respondents are Uncertain about the visit to Zotero and respectively
- g) It is observed that Majority of the respondents 45 (47.36%) using for the purpose of discover articles Strongly agree, followed by 48 (50.52%) of the respondents are agree for purpose of to know current discussions etc.
- h. It is observed in the table 8 The majority of the respondents are using Laptop 58 (61.05%). Whereas least 2(2.10%) respondents are using Tab. 17 (17.89%) respondents are using Desktop Computer & 18 (18.94%) respondents are using Mobile.
- i) It is observed from the table 9 that Majority of the respondents are Strongly agree to know similar research interests with 38(40%), followed by 48 (50.52%) for to know current discussions, 39 (41.05%) are uncertain about Keep touch with users research domain, 12(12.63%) disagree for the impact to meet academic people & professionals & 6(6.31%) of the respondents are strongly disagree to publish their own articles.

12. SUGGESTIONS :

This study was suggested that the levels of awareness on Academic Social

Networking Sites (ASNS) are to be promoted among the Research scholars in ISEC Library :

- i) The Research Scholars should be encouraged to use ASNS to share their research activities among fellow researchers by using ASNS.
- ii) It is suggested that Training/orientation program is essential for Awareness of Academic Social Networking Sites among research scholars of ISEC Library.
- iii) The research scholars should be more collaborative with other researchers to do their research and other academic activities
- iv) It is suggested that to conduct seminars and Workshop programs to make aware of ASNS by research scholars.

13. CONCLUSION :

A social network sites are online networking system that provides the users to construct their social networks which connects people worldwide. Using social network the users can share their profile, interest, activities, photos and other background information. Social network services are web based and users can be able to interact with their friends through internet by instant messages, e-mails, online communication, video, voice chat and file sharing, etc. ASNS is used for improve Research scholars academic performance by collaborative learning among Research scholars. they are as follows with interactivity with peers, it may be concluded that ASNS facilitates the academic experience with the majority of the participants.

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Collaboration of Public and Academic Libraries in Indian Perspectives : process, systems and services.

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Abstract :

In the 21st century, each and every sector faced many challenges from globalization and information explosion, so the library has faced the same. A one-stop solution is a demand for this generation and it is information & communication technology, which hijacking the traditional educational formation. Generally, we speak the two types of libraries and they have two different identities, characteristics, and nature by their own, and they have attempted in different ways to services to their readers/users. Students and general users are now-a-days using one tip information solution on their hands through mobile phones and the Internet communication system. In this platform, they investing minimum time and get maximum output in the form of search results. In this parameter, the library could not fit itself at all. So now-a-days students of academic libraries and users of public libraries are avoiding libraries. There are so many frequent reasons working behind this. We have to take this issue seriously and need some definite solution for it. So, the idea was to preserve and assemble the academic library and public library as two cultures on the same platform. However, over the past few years, things have changed somewhat as new examples of “combi libraries” have emerged, where staff and materials to a greater extent have been integrated with new perceptions of 'local library system' in rural as well as urban areas.

Keywords :

Academic Libraries, Public Libraries, Combi libraries, Information and communication technology, Knowledge resources, Education system.



1. Introduction :

The library is an inseparable part of human civilization. Public library called peoples' University, because of its systems, services all reaching out to the society. The academic library supports the academic curriculum for the students and academicians but on the other hand, the public Library supports the lifelong learning system. Now-a-days academic as well as public libraries are facing much more challenges for survival from Information & communication technology and many more reasons. For almost 30 years Dennis library association and its other library associations and many other people in Denmark have talked about and gained some experiences with the phenomenon common/joint libraries and along the way they have adjusted the designationslightly to indicate that the public and the school library may have more in common than just shared premises. Since the 1990s the word most often used has been 'combi library'. In the librarian's perception of the combi library "two different institutional cultures have moved in together in the academic and public library with the professional view has to a certain extent been that these cultures are the requirement of compatible and that it, therefore, would be preferable for them to live and develop in a single way". In India we see that lots of public libraries are suffering from various issues, this was happening due to political, financial and managerial deficiency. On the same route of academic library system also facing problems due to unavailability of current resources, under qualified human resources, and so many other reasons. The amalgamation of two types of libraries is too problematic but this is a process of low cost effective purposeful solution in this present situation.

2. International overview :

Over the past few years four library associations in Demark (Union of Danish Librarians, Danish Library Association, Danish School Librarians Association and the Municipal School Library Association) collaborated on shaping a common and new perspective for the cooperation between public and school libraries in view of present societal tendencies and taking into account the experiences gained in the youngest combi libraries in Denmark(Buchhave,2006).

In the USA urban academic library of the 21st century for the complete information support of all the university's academic programs so that all students become critical and effective information users of the Public Library (The Ivy Group,



2011). According to the American Association of Community Colleges (AACC), a common objective of any Community College is to provide a place for lifelong learning, to make higher education more accessible, and to offer a “comprehensive educational program.” Community Colleges, along with their libraries behave, like traditional academic institutions. Students are encouraged to enroll, to state a major course of study, and then finally to persevere toward graduation. Community college library concept develops from the combination of dual characteristics of libraries for students and public, who offer a broad path of life long learning process in the USA.

3. Reasons of the study :

1. Noticing major downfall in numbers of users in public and academic libraries.
2. Why is government not showing interest?
3. Why old public libraries are closing day by day?
4. Why readers of academic libraries are not using libraries regularly?
5. Why libraries are not evolving with new attracting facilities?

4. Objectives of the study :

1. Searching a solution for dying public libraries.
2. Planning for the public and academic libraries and its resources.
3. Prepare a “combi library” platform for users/readers.
4. Prepare a plan for increasing the users of both libraries.
5. Searching the cause of this fall out.
6. Blueprint for the public, students and scholars to use both resources simultaneously.
7. Plan for a single place of Knowledge house with dual modes of services.



5. Design of the study :

The research study collected previously published information pertaining to Academic Library and Public Library collaborations in western countries is the primary resource of this article. No original research was conducted as a part of this study in India so far. It is a descriptive, fact- finding and overall time demanding study. Observation, practical experiences, Discussion of various forums is the secondary resources of this research design. Visiting many public and academic libraries of West Bengal, Jharkhand, and Bihar for preparing this document. The discussion made on various stakeholders and their roles in public and academic libraries. The Study is committed towards academic Library means school, college, university libraries, and Public Libraries means rural, town, and metropolitan libraries.

6. Literature Review :

1. Daniel Overfield and Coleen Roy in their article “Academic and Public Library Collaboration: Increasing Value by Sharing Space, Collections, and Services” explain how the user community benefited from using the single library in the multipurpose way or how an academic library open their doors for public usage(Overfield & Roy,2013).
2. John R. Lawton and Heather Block Lawton in a case study discuss how both types of institutions can combine their strengths to provide focused research instruction more effectively than each can accomplish alone. This article also evaluates how this type of collaboration compares to earlier cross-library partnerships(John R. Lawton,2009).
3. Theresa Horn on January 9, 2016, written in his document about the collaboration of Public and University Library. In This article, he describes that when a user of the public library could not found his/her desirable document in the library then the Librarian of a particular library asking the nearest University librarian to provide as an interlibrary loan. So in this away collaboration may possible(Theresa Horn,2016).
4. Article by Stephanie Allen describes the Hive an outcome of a collaboration between the University of Worcester and Worcestershire County Council which has resulted in the sharing of collections, resources, knowledge, and space for



the benefit of both university members and the wider community, with a particular emphasis on support for business(Stephanie Allen,n.d.).

5. Steve Rose, Head, Editorial Team SCONUL Focus Journal Describe in his editorial that how various universities and other academic libraries have been developing collaborative services for many years for their users, and have an remarkable track record of delivering efficient and cost- effective services via this route services(Rose,2018).

7. Designing & planning for collaboration :

1. Signing an MOU between both stakeholders with all details.
2. Establish a strong purpose and a strict time line for merging.
3. Acknowledge this collaboration as an important and necessary learning opportunity.
4. Utilize distributed leadership as work and responsibility.
5. Team leadership to utilize manpower experience, and ability.
6. Arrange face to face interaction and meetings of staff earlier in establishing a meaningful and successful collaboration.
7. Involve both stakeholders in this project strongly.
8. Use a variety of documentation to arrange and adopt all participants recognizing different learning and working styles text, diagrams, video and other resources.
9. Identified strategic and operational services and maintain rules for not conflict with each other.
10. Recognize complexity in the services.
11. Avoid - Waiting to see complete clarity before acting.
12. Avoid - Seeking complete resolution and certainty.
13. Avoid - Facing misunderstanding and misattribution.



9. Operational Collaboration in Indian scenario :

1. Regular fully inclusive meetings scheduled and communicated milestones.
2. Accept team working without discrimination.
3. Use rich virtual meeting environments to enhance engagement for proper work.
4. Establish a shared, secure and accessible online environment for file exchange and record- keeping, archiving of rare documents.
5. Ensure representation for every participant (maybe one person representing more than one institution)
6. Sustain trust and faith and integrity.
7. Ensure the social gains; enjoy the job if possible, and genuine satisfaction throughout the process.

10. Sustainability of collaboration of Libraries in India :

1. Measurement and publicize the benefits of the collaboration.
2. Tolerance from all users and staff.
3. Accept any kind of gains and losses without thinking about the second option.
4. Implement (not argue) changes in compliance and governance for engagement of works.
5. Do not allow the collaboration to get major changes.
6. Manage and supervise the nuts and bolts H&S, portfolio, security, risk, ownership.
7. Include meaningful review at regular intervals by the authority.
8. Celebrate success and the learning opportunity with the users.

11. National Knowledge Commission Report :

As far as knowledge commission report public libraries are pools of knowledge. They play an important role in knowledge dissemination. It is also said in



the report that facilitates the coordinated development of the libraries across the different sectors and to provide the legislative framework and required legal support and also financial backing to the library sector, the government could in course of time, Consider including libraries in the concurrent list of the constitution of India (Pitroda, 2006). This should be done without any way abrogating the existing responsibilities of the states towards libraries, So knowledge commission also suggest government for continuous support to the public libraries because it helps to prepare a civic society and civic society slowly transformed into a knowledge society and it is a good element for economic development for a country

12. Role of Raja Ram Mohun Roy Library Foundation for standing public libraries :

It is a central govt. the autonomous agency, providing a fund from various matching and non- matching accounts to the public libraries. The main purpose of RRRLF to give better support to public libraries for prepare a knowledge base platform for users and as well as RRRLF mainly functions as a promotional agency, an advisory, and consultancy organization, a funding body for public library development in India (RRRLF, 2018). Some important objectives of this agency are :

1. To promote library movement in the country.
2. To enunciate a national library policy and to help build up a national library system.
3. To provide financial and technical assistance to libraries.
4. To provide financial assistance to organizations, regional or national engaged in the promotion of library development.
5. To publish appropriate literature and to act as a clearing house of ideas and information on library development in India and abroad.
6. To promote research in problems of library development.
7. To advise the government on all matters pertaining to the library development in the country.



13. Role of Librarian for this collaboration :

The librarian of adopting the library is the key human resource person of this kind of merging. Policy making, resource sharing, committee formation, financial issues are the main problems in this job. So, prepare a project report and submission to the parental body for further confirmation. After collaboration / merging works is tougher than it looks, handling present operation without any service trouble to the users and also merging work simultaneously. Work distribution, service profile rectification, newly added user orientation mainly lie on the librarian. He is the main steering in this work. The success of this collaboration depends on planning and operational implementation. The high powered professional committee should be created for this purpose. The librarian should be making an authority file for further development. In this issue, autonomy should be given to the librarian so that He /She can do her job feel free. After successful collaboration managing total quality in Indian perspectives is very much important.

14. Current position :

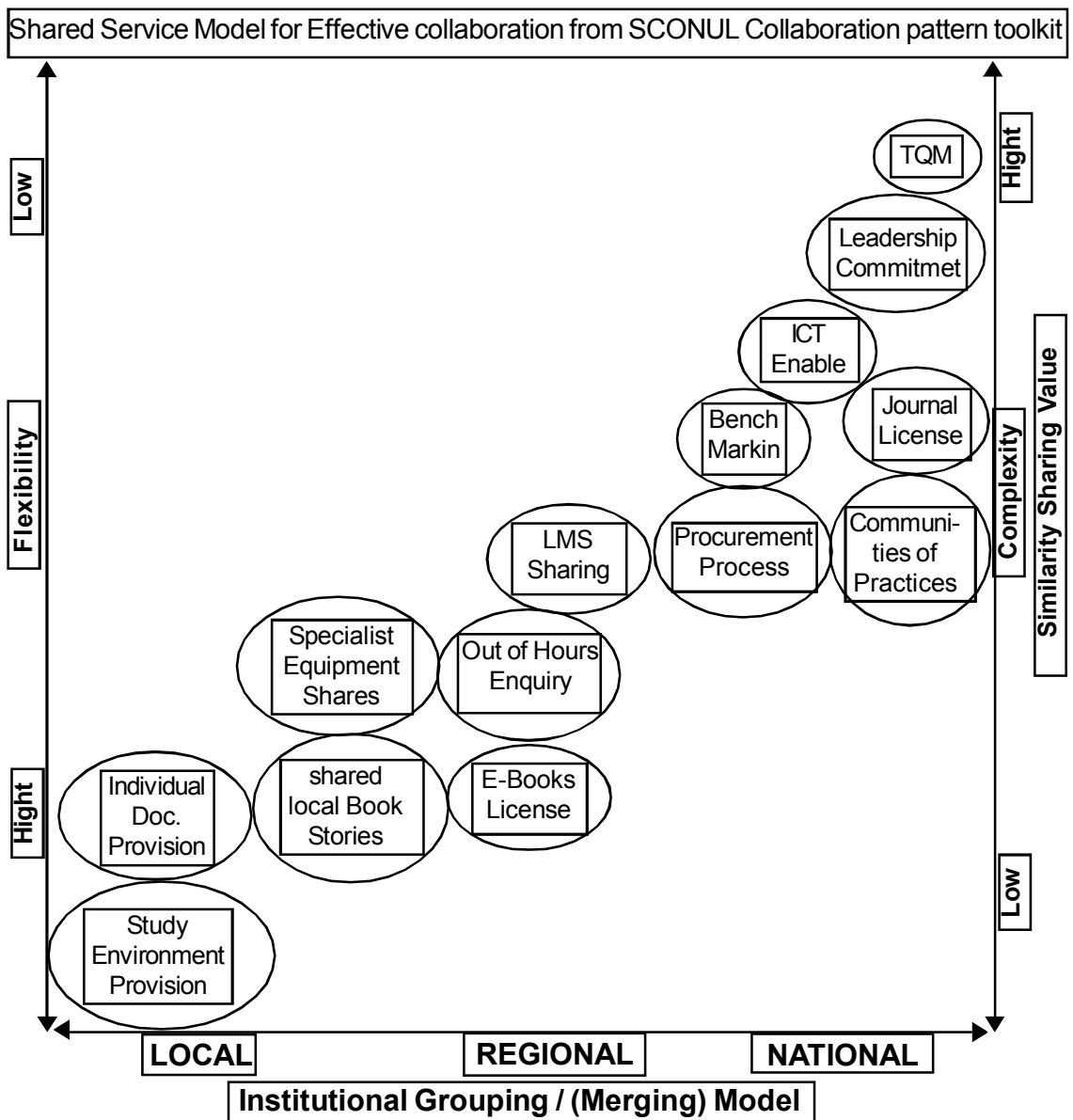
The Academic Library community has a range of successful shared services for its users, varying in scale from Regional to National and International status. These services are sustained over many years, depending on their purpose and necessity. But on the other side the public library does not have a cooperative understanding with other public libraries so they have less chance to uplift in this scenario. With guidance from across so many countries, and particularly stemming from a collaboration of two different featuring services of development meeting facilitated by the SCONUL Model, a pattern in the collaboration activity is recognizable and accepted the whole world. This understanding has been combined with an analysis of the fundamental issues and opportunities, to permit the development of outline guidance, as a toolkit, to assist in the creation of additional shared services.

Firstly, the toolkit may be used for an initial check that the potential collaboration is likely to be appropriate. At an early stage in collaboration it may be expected that clear aims and likely outcomes can be effective and some consideration is given to leadership, participants, communication and the development of trust and belief.

Secondly, the toolkit may be utilized to provide a complete appraisal and opportunity for development and enhancement for an established collaboration. In this mode, more complete discussion and consideration of each point may be documented and shared with the collaborators for backup and common understanding of purpose, style, development, and sustain ability. The overall aim is to

enhance the success of the service and the satisfaction of the members of the collaboration (Parsons, 2016). New areas for potential collaboration in the future may be found within the existing new and rapidly developing areas such as the transition of the mobile environment, commissioning of open educational resources and shared professional development in specialist fields. The pattern of existing collaborations in presented in the model diagram below.

link: [https://www.sconul.ac.uk/sites/default/files/documents/1611%20Toolkit for Library Collaboration.pdf](https://www.sconul.ac.uk/sites/default/files/documents/1611%20Toolkit%20for%20Library%20Collaboration.pdf).





The collaboration of libraries has some definite parameters to merging their resources, suggested model of SCONUL Collaboration toolkit. Collaboration brings immediate efficiencies to new dimensions of services such as research data management or open access publishing etc. In recent years, with efficient communication and technical connectivity, it is the norm for the initial development to be enhanced by collaboration (Parsons, 2016). Pilot services are designed and shared with the community and may underpin the development of new collaborative approaches such as discipline data repositories or OA publication. Digitization services and challenges are other current areas for further joint initiatives. Collaborative working also plays a major role in the very specialist and sometimes also diminishing areas of service. Merging tools for archive access, binderies, and other collection or discipline specialties can be effectively managed as a shared service where a single institution could not afford the maintenance costs.

15. Benefits of this Collaboration :

The overall idea comes from western countries because they got a remarkable result after running this model as an experiment. The downfall issues are resolved and other matters are shorting out quickly. So we can also introduce this method in India. There are two-way benefits of students, teachers, scholars, and the general public, they both can use each other documents without any extra cost. So these things are encouraging research and development issues because if they got all expected materials under one roof then easily they can update as well as upgrade their knowledge and truly this collaboration of libraries is known as a knowledge hub for progress.

1. Services are stretched maximized for the benefits of both types of users.
2. The volume of the library increased so users can get more opportunities to use more and more documents.
3. Possibility of society and other disciplined oriented research may be increased due to the availability of academic documents in the public domain.
4. Both kinds of libraries are getting financial support from parental organizations.
5. Users can get maximum resources under one roof.

6. Timing is increasing so users can use the library more.
7. The diversity of services helps every user.
8. The academic library converts truly a knowledge hub.

16. Problems of this Collaboration :

This job is very problematic in Indian perspectives because, in India, there is no fixed rules/policy for this kind of collaboration. Major problems are happened in resource collaboration and place occupancy. Below we are discussing a few:

1. After merging both kinds of libraries one of the libraries may suffer an identity crisis.
2. After merging library operation policy may be not flexible for users.
3. The majority and decisions may decide the future of these collaborations.
4. Public library users count as a secondary user in these cases.
5. After merging library services and systems changes its characteristics.
6. Huge pressure lies in human resources and the primary library.
7. May be a change to deprive of primary users.
8. A huge time taken job needs to be done after merging.
9. Financial problems come after merging.
10. Administrative and managerial problems creating huge problems.

In this discussion, we found that main problems arise for academic libraries because they have a strong background. So, they should take responsibility for the weaker section. There are so many other problems that are also happening after collaboration/merging.

17. Conclusion :

After the study, we come into a fearful conclusion that public libraries going to ventilation day by day and we discussed a moral, financial, managerial, professional, service-oriented support by nearby academic libraries, so a public library at least survives with an identity. The condition of academic libraries is not so bad as the other one. The academic library at least has a vision



and they regularly cope up with newly invented facilities and services. But public libraries do not update and upgrade by the time. My primary Moto is to make people understand that traditional sources of information are reliable and for that, we need to go Library not only that, for developing a knowledge society which is learning-centric and libraries are learner-centric. It is not possible for a library to provide all necessary information to the users. So the concept of collaboration is helpful for providing necessary information to the user under a single roof. We need a single policy to act as common radar for development and provide some outlines for the integrated library system that assembles with the idea of a joint library being something reserved for small, humble places in the middle of nowhere. Academic library and public library development demands broad political awareness, strategic communication, alliances and optimal conditions for the models to be valid, meaningful for the citizens and inspire others (Brown, 2015). It is also something that demands commitment at several levels nationally and locally and requires attention to legislation, economic agreements between government and civic bodies, funding for development, consultancy and advice in government agencies and in associations. Planning for policy making for the Indian scenario is the main target for this study after consulting so many related literatures and in this process, we get some success and definite guide from various international bodies, hope in future we are going forward some more steps for collaboration policy-making issue in Indian perspectives.

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Mapping of iConference Proceeding 2016 of iSchool : a bibliometric study

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Abstract :

iConference proceeding 2016 has been published as Illinois Digital Environment for Access to Learning and Scholarship (IDEALS) 2016 by iSchool organisation which is the consortium of more than 60 iSchools around the globe. The main focus of ischool stresses on the innovative ideas related to various facets of information science and from 2005 onwards it organizes iConference each and every year all around the globe with new innovative theme. In this respect the paper tries to analyze bibliometrically iConference Proceeding, 2016 which has been published by iSchool organization. The paper examines the authorship pattern of the contribution of the conference proceeding and discusses the page wise distribution of contribution per papers and also presents author's productivity count of the contribution on the basis of international level and also observed the degree of collaboration. At the time of data mining of the aforesaid iConference Proceeding 2016, 161 papers were studied from it. On the basis of these 161 papers, it is found that 95 posters are one of the major contributions of the iConference Proceeding but researchers from the different countries around the world have contributed their articles to this iconference Proceeding in 2016.

Keywords :

iSchool, iConference, Bibliometrics, IDEALS, Conference Proceeding.

1. Introduction :

iSchool is a consortium of more than sixty iSchools all around the world (Chakrabarti & Mandal, 2017) and it is a professional organisation which

popularizes the field of Information Science all over the world. As an iSchool, we are part of an international consortium of information schools dedicated to advancing the information field. While there iSchool at Illinois has specific strengths and specializations, all iSchools share a fundamental interest in the relationships between people, information, and technology.. As a result of which library professional must be acquainted with it. The present study tries to measure the publication traits of iConference Proceeding 2016.

2. Objectives of the study :

The essential objective of the study of iConference Proceeding 2016 are elucidated as follows :

- (i) To examine the authorship pattan obtained from IDEALS - iConference Proceeding;
- (ii) To study the contributors of iConference Proceeding in different countries around the globe.
- (iii) To prepare tomorrow's information experts to lead organizations of all sizes across a wide spectrum of fields.

3. Related Works :

Roy in 1983 defined the term bibliometrics as *“a study of the process of information use by analyzing the characteristics of documents and their distribution by statistical methods”*. In 1996 Mete and Deshmukh stated an analysis on 202 articles of ALIS. The aforementioned research paper explored that research journals are popularly cited channel of information communication among the library professionals. Tiew, et. al. in 2002 studied on Malaysian Journal of Library and Information Science covering different periods of time. Shokeen and Kaushik in 2004 worked on Indian Journal of Plant Physiology. They found that journal articles are mainly with 81% of total citations. On the other hand 358 citations are below 20 years but more than 10 years old. Kumar and Kumar in 2005 studied on 8093 citations of Journal of Oil Seed and Research published during 1993-2004 and showed that more or less 70% of citations were given under main articles and rest of them are under short communications and other write-ups. Jena(2007) in his study on Indian Journal of Fibre and Textile Research from 1996 to 2004 recorded the trend of publications of



this journal in detail. New Delhi is the topmost list from the national level contributors. The study was covered on 131 research articles published in ALIS during 1999-2005. In 2007 Biswas, Roy and Sen conducted a bibliometric study on Economic Botany starting from 1994 to 2003 and revealed that 59% citations are taken from books and 41% citations are taken from journals. They showed that the highest numbers of contributions were hailed from the universities. Turkin 2008 opined about methodology of citation counts to LIS articles. In 2008, Willet found that many of the most cited papers in the Journal of Chemical Information and Modeling described software packages which play a key role in this arena of research. Zainab, Ani and Anur (2009) conducted their bibliometric study on Malaysian Journal of Computer Science. They evaluated the productivity of article of the journal from 1985 to 2007 using Lotka's Law. The study further revealed authorship, co-authorship pattern by degree of authors' collaboration that ranged from 0.25 to 0.95.

Asha and Anil (2010) did a bibliometric study of 4798 citations from five volumes of the Indian Journal of Pure and Applied Mathematics and showed that the almost all the cited documents are the articles from research journals and the Indian authors have contributed less in respect to foreign author. Deshmukh (2011) made a citation analysis of articles published from 1997 to 2010 in ALIS. Chakrabarti and Pramanik (2014) in his scientometric analysis of ALIS from 2009 to 2016 found that the highest numbers of contributors hailed from India. Swain and Panda (2012) conducted a bibliometric study on Journal of Intellectual Property Rights and they stated that 33% and above of the total publications received citations whereas more than half of the cited articles may have just one citation.

They analyzed 53 papers published in National Conference Proceedings according to topic, category, author, institution related papers. Doraswami and Janakirmaiah studied bibliometrically NACLIN conference and stressed on the information use pattern of Library and Information Science professionals. Cash Philip and others worked on a bibliometric analysis of the Design 2012 conference. They identified more than 2700 citations in order to describe the trend of citation. Lovkumar and others tried to analyze the Asia Pacific Software Engineering Conference from various perspectives like conference organizer, sponsor, topic, etc. Chapman and others studied National conference Proceedings organized by Kuvempu University College Librarians' As-



sociation, Shivamogge and they studied the contributions of 76 papers on the basis of topic, category, author, and institution.

4. iConference under study

iConference proceeding 2016 has been selected as the source conference for the present study. It is one of the leading conferences in Information Science. It is a conference proceeding published by iSchool organisation. The conference held from 20th of March to 23rd of March, 2016, hosted by College of Computing & Informatics, Drexel University at Loews Philadelphia Hotel, Philadelphia, USA. The theme of the conference is partnership with society. The name of the official proceedings is IDEALS. Total 467 participants were present in the iConference around the globe. In the proceeding different types of paper has been published. It publishes completed 42 research papers, 18 preliminary results research papers, 95 posters, and 6 workshop papers, 16 sessions for interaction and engagement, 21 doctoral colloquium participants in various facets of Information Science. The scope of the study is to analyze the 161 contributions in iConference 2016.

5. Methodology :

The data pertaining to each of the 161 contributions in conference proceedings in terms of authorship, number of pages in each paper are noted. All the data are side by side extracted, observed, analyzed, and then made tabulation for making minute observations. Before the analysis, the data was standardized to avoid misinterpretation of facts. Articles published in iConference proceeding 2016 were studied and the relevant information, as per the objectives of the study was taken for minute analysis.

6. Data analysis :

On the basis of above mentioned objectives the following tables have been designed for better interpretation and understanding of IDEALS-iConference Proceeding 2016. The relevant data regarding the aforementioned conference were taken from the website of iConference concerned and the data has been analyzed keeping in the mind of aforementioned objectives. The tables are given below:

**Table 01: Contributions by Type of Papers**

Type of Papers	Number of Paper
Completed Research Papers	42
Preliminary Results Research Papers	18
Posters	95
Workshops	06
Total	161

The above table-01 presents the contributions of authors according to the type of paper. It is found from the above that out of 161 papers, 42 contributions are completed research papers, 95 contributions are posters, 18 contributions are preliminary results research papers and 8 contributions are only workshops. It is inferred from the above table that poster type of papers are the highest in number followed by completed research papers.

Table- 02 : Growth in Number of Authors :

Type of Papers	Number of Authors according to types of paper	Total Number of Authors
Completed Research Papers	42	107
Preliminary Results Research Papers	18	43
Posters	95	248
Workshops	06	26
Total	161	424



The above table-02 presents the growth in number of authors according to the type of paper. It is found from the above that number of authors depends on the number of contributions. When the number of papers increases, number of authors increases side by side. A notable attribute of the study is that posters show the maximum number of contributions. On the other hand in the conference proceedings it is observed that workshop has the very minimum number of contributions.

Table-03 : Author's Productivity

Type of Papers	Number of paper	Total Number of Authors	AAPP	Productivity Per Author
Completed research papers	42	107	2.54762	0.39252
Preliminary results research Papers	18	43	2.38889	0.4186
Posters	95	248	2.61053	0.38306
Workshops	06	26	4.33333	0.23077

Average authors per paper == Number of Authors/ Number of papers

Productivity per Author == Number of papers/ number of Authors

The above table that out of 161 contributions, 19.21 per cent of them are contributed in iConference proceedings out of 467 papers. It is noted that the level of percentage of distribution has increased for posters. But in the workshop papers it has been decreased. It is found from the above table and figure that AAPP is the highest for workshop papers followed by posters and the lowest AAPP is found for Preliminary Result Research Papers. On the other hand the productivity per author is the highest for preliminary result research papers, but the lowest productivity per author is found for workshop papers.

**Table - 04 : Authorship pattern of contributions and Degree of Collaboration**

Types of Paper	Single author	%	Double author	%	Triple Author	%	More than three	%	Total
Completed Research Papers	09	21.43	13	30.95	11	26.19	09	21.43	42
Preliminary Result Research Papers	04	22.22	07	38.89	04	22.22	03	16.67	18
Posters	34	35.79	35	36.84	18	18.95	08	08.42	95
Workshops	00	00	01	16.67	02	33.33	03	50.00	06
Total	47	****	56	****	35	****	23	****	161

The above table -04 explicates the authorship pattern of contributions according to types of paper. The table 04 shows all types of papers record the highest percentage regarding contributions by double authors followed by contributions by single author and again followed by triple author. Regarding contributions by more than three authors, all type of papers shows the minimum percentage. Anyhow it may be concluded that the double author contributions show the maximum percentage. It is clear from the above analysis that the percentage of multi-authored papers is more than that of single authored papers. To determine the extent of collaboration in quantitative terms, the formula given by K. Subramanyam is used.

The formula is as follows-

$$C = Nm/Nm+Ns \text{ (i.e. } 114/47 \text{)}$$

Where C = Degree of Collaboration

Nm = Number of Multi Authored Contributions

Ns = Number of Single Authored Contributions

Thus the degree of collaboration in the conference proceeding is 2.42.

However the value got after calculation for the degree of collaboration in this study indicates that the conference proceeding has accommodated more numbers of multi authored contributions than single one. In this respect Swain (2011) in his scientrometric analysis of Library Philosophy and Practice from 2004 to 2009 found that the degree of collaboration in LPP ranged from 0.222 to 0.52.

**Table-05 : Contributors (Institution wise)**

Type of Papers	University	%	Colleges	%	Others	%	Total No.of Authors
Completed Research Papers	98	91.59	02	01.87	07	06.54	107
Preliminary results research Papers	41	95.34	01	02.32	01	02.32	43
Posters	228	91.93	06	2.42	14	05.64	248
Workshops	26	100.00	00	00.00	00	00.00	26

Table 05 depicts the contributors' institution wise distribution at the international level. It is inferred from the above table that the contributors from the university level are the maximum followed by colleges and others. It is surprising to note that the University level contributors showed their interest much in iConference than other colleges or institute as many universities are the members of iSchool organization. The point to be remembered is that iConference is open to all, not restricted to iSchool members.

Table - 06 : Average Pages per Volume and per Contributions

Type of Papers	Number of Papers	Total Number of Papers	Average pages Per Paper
Completed Research Papers	42	427	10.17
Preliminary results research Papers	18	109	06.05
Posters	95	561	05.90
Workshops Papers	08	15	01.87

The above Table-06 shows that 42 completed research papers are covered within 427 pages. 18 preliminary result research papers are covered within 109 pages.



It is also noted that 95 posters are covered within 561 pages whereas 08 workshop papers are covered only within 15 pages. The notable attribute of the study is that the Completed Research papers have the highest number of pages and the posters have taken the lowest number of pages.

Table - 07 : Contributions (Country wise)

Name of the Country	Completed Research Papers	Preliminary Results Research Papers	Posters	Workshops	Total
Australia	00	00	00	01	01
Canada	03	00	02	04	09
China	06	06	09	00	21
Denmark	00	00	01	00	01
Finland	03	00	00	00	03
Germany	01	00	01	01	03
Israel	00	00	02	00	02
Japan	05	00	02	00	07
Norway	00	00	02	00	02
Poland	01	00	00	00	01
South Korea	04	05	00	00	09
Sweden	05	00	00	03	08
UAE	00	00	01	00	01
UK	02	04	13	07	26
USA	77	28	215	10	330
Total	107	43	248	26	424

The above Table-07 shows that maximum number of contributions is coming from USA. followed by UK and China. The contributions of states like South Korea, Sweden, Japan and Canada are noteworthy. Moreover it is inferred that out of the 15 countries USA is the highest contributors in all types of papers.



7. Major Findings

(i)	Majority of the contributions in the conference proceedings are made by double author.
(ii)	Regarding the single author contributions the maximum contributions are made by university teachers, research scholars and the members of the staff of the institution or organization concerned.
(iii)	Among the contributions the maximum number of contributors is from the various universities at international level especially from the USA.
(iv)	Most of the contributions in this conference proceeding are hailed from Pennsylvania State university, Syracuse University, Pittsburg University and Drexel University.
(v)	This study shows the growth in contributions is the highest for posters and the highest average number of pages per paper is 10.17 for Completed Research Papers.
(vi)	Most of the contributions hailed from the United States.

8. Limitations :

The above study is based on the data collected from iconference proceedings 2016. The results may vary sometimes and show some fluctuations in individual studies of its different aspects of LIS and its concept like bibliometrics. Sometimes author's affiliations of institutions changes which may show slight variation from actual results. The validity of the result depends upon the sample as it is based on iConference proceedings. It gives a trend about what is happening in the publication arena of information science.

9. Conclusion :

In a nutshell it is said that several bibliometric studies have been undertaken by various researchers in and around the globe to comprehend the trend of publication and pattern of authorship of a particular conference proceeding. Most of



these studies are undertaken for popular conference proceedings in a particular discipline in and around the world. The publishing trend totally depends on the author's productivity and the quality of information they provide. It provides a great opportunity to the researchers to publish their articles with new strategies, innovations, new methods, and new ideas. A notable attribute of this study is that this conference proceeding really is an example of fruitful research for the researcher. Today it is observed that the research is done in almost all the branches of knowledge of Information Science. The present study also increases quality of research articles in information science discipline.

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