

USER AWARENESS OF ICT ENABLED INFORMATION SERVICES: A COMPARATIVE STUDY

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The authors conducted the user awareness study of Information and Communication Technology (ICT) enabled information services facilitated by the university libraries. It was a comparative study of deemed university libraries of Delhi; NCR (National Capital Region). NIRF 2017 of MHRD was used to select the deemed universities for the study. The primary data were collected through the content analysis of the websites and the survey of the libraries using a structured questionnaire. The Five ICT enabled information services were selected taking into consideration the point of view of the users towards the services. Through a well-structured questionnaire data were collected in three categories: 'Aware and useful', 'Aware but not useful' and 'Not aware'. The collected data were analysed through the simple percentage calculation method. The study revealed that overall 84.4% of users were 'aware' of the ICT enabled information services selected for the study. The study also provided a brief overview of the patron's perception of the usefulness of the studied services. 61.3% of the users found these services useful to them in accessing the university library resources.

Keywords: Deemed universities, Information services, Online databases, Interlibrary Loan, OPAC, Current awareness service, User orientation and education, User awareness.

INTRODUCTION

The main objective of the academic libraries is to disseminate information and facilitate access to various information resources to their academic community. Traditionally, the storehouse of the books has transformed into Library and Information Centres (LICs) by implementing ICT. Use of worldwide web 2.0 has transformed the library into Library 2.0. The use of WWW has transformed traditional information services into ICT enabled information services and are being made available to the users 24 x 7 x 365 (Jindal & Khan, 2018). The application of these ICTs forced libraries to bring new services along with the modification of the existing services and products. Now all over the world, libraries are using the new technologies and offering services like Web Online Public Access Catalogue (Web OPAC), Web forms,

Virtual Reference service, Access to e-resources and online databases etc. The application of ICTs and the services being provided by LICs have brought the information to the desktop, laptop, or cell phone of the user (Madhusudhan & Nagabhushanam, 2012). University libraries being academic libraries are also transforming. ICT has changed the ways academic activities, extension activities and research work are carried out in the universities. It has provided opportunities for various innovative value-added services. The university libraries also need to find out user awareness of these services and the usefulness of these services to the users. Based on their feedback university libraries need to modify, improve and innovate information services. The present study is conducted to assess the awareness of the users of ICT enabled services as well as the usefulness of the services considering users point of view.

REVIEW OF LITERATURE

Some of the earlier studies conducted on ICT infrastructure, information studies, their uses and user awareness etc. have been discussed in this section. Seena and Sudhier (2014) expressed that the ICT tools and services such as web, networks, internet, etc., have influenced the library services. ICT has made a reasonable impact on library users and the way they want information. It provides new opportunities for information retrieval. The growing impact of ICT and web technologies has compelled the libraries to use these technologies effectively to provide services to the users according to their demands. Hassan and Umar (2017) deliberated that ICT enabled information

services help users in accessing the library resources and services anytime and anywhere. The university libraries are facilitating many ICT enabled information services. It is imperative to make users aware of the services facilitated by university libraries to encourage the use of these services. If users lack awareness, then it discourages them from using these services. Although various channels are available to make the user understand the information services, still the users are not fully aware of these services and even not utilizing them. Urgent steps need to be taken to make them aware of information services. Rajanbabu and Murugesapandian (2017) studied different types of universities in Chennai. The authors discussed the patterns of Information access in the digital environment by the faculty. Majority of their patrons were not aware of the information services and resources facilitated by the libraries. Hossaina and Munshib (2015) recommended that as per the marketing concept, an organization must find out what the customers want and use this information to create satisfactory services and products. It means to provide excellent services and make every effort to satisfy customer requests.

Colepicolo (2015) suggested to regularly evaluate the satisfaction level of the patrons whenever an e-information service is implemented and used to search and retrieve information for academic research. Patel (2018) explains that patrons lack the knowledge to search the required and relevant materials. Users are not getting needed guidance, training and assistance from the library professionals. It was recommended that the CKSVIM library hold

varied training programmes for the effective and better use of ICT services and resources. Jindal et al. (2019) studied the university libraries of Delhi & NCR and concluded that university libraries need to make efforts to market their information services provided through ICT to bring awareness to the unaware patrons. It was also recommended to take regular feedback from the patrons to check the usefulness of the service and make appropriate modifications and innovate new services to satisfy the user & their needs. Jindal et al. (2020) compared central university libraries of Delhi & NCR and recommended them to promote their ICT enabled information services to increase the awareness of patrons and usage of the services also. The marketing may be through organizing various programmes and using various tools and technologies of web 2.0 (viz. Youtube, Facebook, Blogs, Instant messaging, Social media platforms). The study concluded that overall 69.9% of patrons are aware of the information services studied. They need to be more visible online to their tech-savvy generation of patrons.

Given above, it can be said that patrons will drive maximum benefits from the ICT enabled information services if they are taught to sharpen their information handling skills. They need to be taught to use library resources effectively and without any intervention of library staff. It is also found that patrons are unaware of the varied ICT enabled information services of their libraries. The shortfall of promotion programmes in university libraries leads to users being unaware of its resources and services. The review of the literature revealed that no analytical study has been done to measure the user awareness of ICT

enabled information services being provided by the deemed university libraries of Delhi and NCR. In the light of this, the authors were interested in investigating user awareness of information services provided by the deemed university libraries of Delhi and NCR, comparing them and ranking the universities under study.

OBJECTIVES OF THE STUDY

The research objectives of the study are:

1. To study and analyse the user awareness of ICT enabled services;
2. To assess user awareness across the three University libraries and the five information services; and
3. To compare and rank the Universities based on user awareness.

SCOPE AND POPULATION

For completion of the research on time, the scope of the study is confined to the following limitations:

1. There are many universities (Central, State, Deemed and Private) on the website of the University Grant Commission (UGC, New Delhi, India, 2020). Only Deemed universities were considered for the study.
2. Geographically, the area covered is universities of Delhi and NCR. Major cities of NCR included in the study were Delhi, Ghaziabad, Faridabad, Gurgaon, Noida & Meerut.
3. The Deemed Universities of Delhi and NCR were selected from the list of top hundred universities of India available on National

Institute Ranking Framework (NIRF) (MHRD, National Institute Ranking Framework (NIRF), 2020) of Ministry of

Human Resource Development (MHRD). There were only three deemed universities in the above list, which are as follows:

Table 1: List of Universities selected for the study

Sl. No.	University & the link of their website	NIRF rank	Abbreviation
1	Indian Agricultural Research Institute, Delhi URL: http://library.iari.res.in/	15	IARI
2	Jamia Hamdard, Delhi URL: http://www.jamiahamdard.ac.in/LibrayInformationSystem/	26	JH
3	Jaypee Institute of Information Technology, Noida URL: http://www.jiit.ac.in/lrcjiit/	81	JIIT

4. Following information services were selected for the study, out of the many ICT enabled information services facilitated by the university libraries.

- * Online Public Access Catalogue (OPAC);
- * Current awareness service (CAS);
- * User Orientation/Education;
- * Online databases; and
- * Interlibrary Loan (ILL).

METHODOLOGY

All the selected universities had official websites with a link to the web page/s of the library. Content analysis of university library websites helped in finding out the ICT information services being facilitated by them and literature review helped in selecting the information services for the study as given in limitation and in preparing a structured questionnaire. The services were selected with the users' perception (usefulness to the users) to achieve the research objectives.

The study commenced in March 2018 and ended in August 2018.

The authors personally visited the libraries, distributed a hundred questionnaires to the users of libraries under study. That is in all, 300 (three hundred) questionnaires were distributed in three university libraries. The online form was also prepared to collect the data and was merged with the data collected through the hardcopy of the questionnaire. Students were the maximum respondents as they were available in the libraries during the study period. The data were also collected through an informal observation and interview of the users. The five selected services were studied on the scale of three, which are 'Aware and useful'; 'Aware but not useful' and 'Not aware'. The response rate was 83.33% (250 out of a total of 300 questionnaires of all three deemed university libraries under study). The highest number of responses were received from

JIIT 94% (94 out of 100 distributed), followed by IARI 81% (81 out of 100 distributed), and lowest from JH 75% (75 out of 100 distributed). Simple percentage calculation through Google spreadsheet was used to analyse the data and also to represent it pictographically for easy understanding.

FINDINGS AND ANALYSIS

Online Public Access Catalogue (OPAC)

The library catalogue is the mirror of the library and is a very basic service to connect users with its collection. The advent of ICT, World Wide Web and the internet converted print catalogue into OPAC and OPAC into Web OPAC, which is accessible remotely. The category wise data analysis of table 2 shows that in the first category, the highest, i.e. 80.25% users are of IARI, while the lowest, 53.33% are of JH. In the second category, the highest 26.67% of users are of JH, while the lowest is 6.17% of IARI. The users in this category are aware of the OPAC service but do not find it useful. They need to be made aware of the usefulness of the services through marketing, orientation, education and information literacy tutorials. In the third category, the

highest, i.e. 20% users are of JH, i.e. while the lowest is 10.64% of JIIT. Considering the infrastructure and facilities provided by these university libraries, the numbers are quite high in this category. Irrespective of the usefulness of the service, the university wise analysis shows that the highest 89.36% users of JIIT are aware of the service, followed by 86.42% of IARI and 80% of JH. The analysis (Mean) further highlights that overall 70.8% users are in the first category, 14.8% are in the second category and 14.4% are in the third category for OPAC service. Collectively 85.6% users are 'aware' of the service and 70.8% find them useful too.

Current Awareness Service

It is a service provided to make users aware of the new arrival in the centre, the new collection, resources, services, products, even the modern technologies and events of the centre. The most convenient tool in use is e-mail but now through interactive websites and integration of various web 2.0 tools, the method of facilitating CAS has changed a lot. The category analysis of data (table 3) reveals that in the first category the highest 76.54% users are of IARI, while the lowest is 46.67% of JH. In the second category, the

Table 2: User awareness of OPAC: University analysis

Category	(No. of responses) / % responses			
	IARI	JH	JIIT	Total
Aware and Useful	(65) 80.25%	(40) 53.33%	(72) 76.60%	(177) 70.80%
Aware but not Useful	(5) 6.17%	(20) 26.67%	(12) 12.77%	(37) 14.80%
Not aware	(11) 13.58%	(15) 20.00%	(10) 10.64%	(36) 14.40%
Grand Total	(81) 100.00%	(75) 100.00%	(94) 100.00%	(250) 100.00%

Table 3: User awareness of CAS - University analysis

Category	(No. of responses) / % responses			
	IARI	JH	JIIT	Total
Aware and Useful	(62) 76.54%	(35) 46.67%	(71) 75.53%	(168) 67.20%
Aware but not Useful	(10) 12.35%	(30) 40.00%	(13) 13.83%	(53) 21.20%
Not aware	(9) 11.11%	(10) 13.33%	(10) 10.64%	(29) 11.60%
Grand Total	(81) 100.00%	(75) 100.00%	(94) 100.00%	(250) 100.00%

maximum 40% of users are of JH, while the lowest is 12.35% of IARI. In the third category, the maximum 13.33% of users are of JH, while the lowest is 10.64% of JIIT. The university analysis shows that without considering the usefulness of the service, collectively the highest 89.36% of users are aware of CAS, while the lowest is 86.67% of JH. The analysis (Mean) further highlights that overall 67.2% of users of university libraries under study are in the first category. While 21.2% are in the second category. Only 11.6% are in the third category. Collectively 88.4% users are aware of the CAS service but only 67.2% find them useful.

User Orientation / Education

University libraries organise user orientation and education programmes at the beginning of the session to orient and educate the new students. These programmes help in making users aware of their collections, services, products and systems of the centre. The category wise analysis (table 4) presents that in the first category, the highest 78.72% users are of JIIT, while the lowest is 26.67% of JH. In the second category, the highest 66.67% users of JH, while the minimum

11.70% is of JIIT. In the third category, the highest 20.99% of users are of IARI, while the lowest 6.67% is of JH. The university wise analysis presents that irrespective of the usefulness of the service collectively the highest percentage is 93.33% of users of JH, who are 'aware' of user orientation and education programmes, while the lowest is 79.02% of IARI. The analysis (Mean) presents that overall 59.2% users are in the first category, 28.4% are in the second category, while only 12.4% users are in the third category. Collectively 87.6% users are 'aware' of the service and 59.2% find this service useful.

Interlibrary Loan

It is a service facilitated through the library network or cooperative resource sharing and provides the facility to a patron to borrow books, documents, DVDs etc. from the member library information centre. It works through a union catalogue available on the web. Viz. DELNET. INFLIBNET etc. The category wise analysis (table 5) presents that in the first category, the highest 61.70% users are of JIIT, while the minimum is 33.33% of JH. In the second category, the highest 46.67% users are of JH, while the minimum is

Table 4: User awareness of Orientation / Education: University analysis

Category	(No. of responses) / % responses			
	IARI	JH	JIIT	Total
Aware and Useful	(54) 66.67%	(20) 26.67%	(74) 78.72%	(148) 59.20%
Aware but not Useful	(10) 12.35%	(50) 66.67%	(11) 11.70%	(71) 28.40%
Not aware	(17) 20.99%	(5) 6.67%	(9) 9.57%	(31) 12.40%
Grand Total	(81) 100.00%	(75) 100.00%	(94) 100.00%	(250) 100.00%

Table 5: User awareness of ILL: University analysis

Category	(No. of responses) / % responses			
	IARI	JH	JIIT	Total
Aware and Useful	(33) 40.74%	(25) 33.33%	(58) 61.70%	(116) 46.40%
Aware but not Useful	(17) 20.99%	(35) 46.67%	(23) 24.47%	(75) 30.00%
Not aware	(31) 38.27%	(15) 20.00%	(13) 13.83%	(59) 23.60%
Grand Total	(81) 100.00%	(75) 100.00%	(94) 100.00%	(250) 100.00%

20.99% of IARI. In the third category, the highest 38.27% of users are of IARI, while the lowest is 13.83% of JIIT. The university wise analysis presents that irrespective of the usefulness of the service, collectively the highest 86.17% users of JIIT are 'aware' of ILL, followed by 80% of JH. The lowest 61.73% is of IARI.

The analysis (Mean) presents that overall 46.4% users are in the first category, 30% are in the second category, while 23.6% are in the third category, which is quite high in number. University libraries need to make more efforts in making users aware of ILL service as well as its usefulness. Overall only 76.4% of users are 'aware' of the interlibrary loan service and only 46.4% find it useful.

Online Databases

An online database is a vital resource in the present age of information technology and the internet. The users can access these resources 24 x 7 x 365 and that too remotely. These may be subscribed databases or free, available in the public domain. An online database may be a bibliographic database, full text or indexing abstracting database (e.g. LISA). The category wise analysis (table 6) presents that in the first category, the highest 76.60% users are of JIIT, while the minimum 33.33% is of JH. In the second category, the highest 46.67% users are of JH, while the minimum is 12.35% of IARI. In the third category, the highest 20% users are of JH, while the lowest is 9.57% of JIIT. JH library

Table 6: User awareness of online databases: University analysis

Category	(No. of responses) / % responses			
	IARI	JH	JIIT	Total
Aware and Useful	(60) 74.07%	(25) 33.33%	(72) 76.60%	(157) 62.80%
Aware but not Useful	(10) 12.35%	(35) 46.67%	(13) 13.83%	(58) 23.20%
Not aware	(11) 13.58%	(15) 20.00%	(9) 9.57%	(35) 14.00%
Grand Total	(81) 100.00%	(75) 100.00%	(94) 100.00%	(250) 100.00%

needs to work hard in promoting the service and make users aware of it. The university wise analysis presents that collectively the highest, i.e. 90.43% users are of JIIT, who are 'aware' of ILL, followed by 86.42% of IARI. The lowest is 80% of JH. The analysis (Mean) depicts that overall 62.8% of users are in the first category. 23.2% of users are in the second category, while 14% of users are in the third category. University libraries are spending a huge amount of money in subscribing to the online databases and they need to take more pain in making efforts to educate the users about them and also communicate their usefulness. Overall 86% of users are 'aware' of the online databases and only 62.8% find them useful.

User Awareness about Information Service

Overall information service wise analysis of data (table 7) highlights that in the first category, the highest percentage 70.80% of respondents are aware of OPAC, while the lowest percentage is 46.40% for ILL information service. In the second category, the highest percentage is 30% for ILL, while the minimum of 14.80% of respondents in this category responded OPAC as not useful, which is very startling. The reason might be an open access system or the disorganized books on the shelves. In the third category, the highest percentage of 23.60% of responses is again for ILL, while the minimum 11.60% is for CAS. It is interpreted that ICT information services are not well promoted by university libraries. Irrespective

Table 7: Overall user awareness: Information service analysis

Category	Information Services					Total
	OPAC	CAS	User orientation	ILL	Online databases	
Aware and Useful	70.80%	67.20%	59.20%	46.40%	62.80%	61.28%
Aware and Not useful	14.80%	21.20%	28.40%	30.00%	23.20%	23.52%
Not aware	14.40%	11.60%	12.40%	23.60%	14.00%	15.20%
Grand Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

of the usefulness of the service, collectively the highest 88.40% users are aware of CAS, followed by 87.60% of User orientation, 86% of online databases and 85.60% of OPAC. The lowest percentage 76.40% of users is aware of ILL. The data analysis (Mean) further highlights that overall 61.3% of respondents have responded in the first category. 23.5% of respondents are in the second category. While 15.2% of respondents are in the third category. Overall 84.8% of users are 'aware' of the ICT enabled information services.

University wise user awareness

The overall analysis of the study (table 8) shows that in the first category, the highest 73.83% users are of JIIT, while the lowest is 38.67% of JH. In the second category, the highest 45.33% of users are of JH, while the lowest is 12.84% of IARI. These users are aware but do not find ICT information services useful. The highest 19.51% users of IARI, followed by 16% of JH and 10.85% of JIIT are in the third category. Irrespective of the benefits, it is easily assessed that collectively on an average JIIT has the highest 89.15% of the users who are in the category of 'aware', followed by 84% of JH. The lowest percentage is 80.49% of users of IARI. Based on this comparative study of users' awareness, it is

interpreted that JIIT is at rank number one, followed by JH at rank number two and IARI at rank number three. It is astonishing to find that IARI library is at rank number three despite facilitating various ICT information services. They need to look into lacuna and hold various orientation and information literacy programs to improve user awareness and to optimize the usage of these modern services.

SIGNIFICANCE OF THE STUDY

The application of ICT in university libraries has changed the way information services are being facilitated and revolutionized the research activities of their academic community. The present net or techno-savvy generation needs information anytime, anywhere. To meet the needs of the users, university libraries need to evaluate their various ICT enabled services, improvise them and innovate new information services. It is also important to find out the awareness level of the users to evaluate the information services and accordingly take action. Library professionals also need to update themselves with various innovative technologies and implement them in their libraries. Various information services being provided by the university libraries are underutilized due to the unawareness of the user

Table 8: Overall user awareness: University analysis

Sl. No.	Universities under study	Category				Rank
		Aware and Useful	Aware but not Useful	Not aware	Overall Awareness %	
1	IARI	67.65%	12.84%	19.51%	80.49%	3
2	JH	38.67%	45.33%	16.00%	84.00%	2
3	JIIT	73.83%	15.32%	10.85%	89.15%	1

of these services and their benefits. Further lack of marketing strategy is another reason. The marketing strategy must target different types of users differently and make provision of optimum utilization of information resources, services and products.

There are not many studies available which evaluate the user awareness of the various ICT enabled information services of the deemed university libraries of Delhi and NCR. This study provides a unique insight into the users' awareness of the ICT enabled information services offered by the deemed university libraries of Delhi and NCR. It also studied users' perception of the usefulness of these information services. This study is relevant to assess the awareness level of users of university libraries as well as evaluate the effectiveness of the services being facilitated to the user to meet the demand of the user. It will help the other university libraries in assessing their ICT enabled information services and improve them as per the need of their users and also initiate new information services.

RECOMMENDATIONS AND CONCLUSION

The content analysis of websites presented that university libraries are providing many web-enabled information services. The analysis of data revealed that a large number of users not being aware of the services, which is interpreted that university libraries need to promote the services in a targeted way. All the university libraries under study have good infrastructure, staff and other resources (studied through an informal observation and interview of the librarians) and need to convert 15.2% users of 'not aware'

category into users of 'aware' category and also educate 23.52% users about the usefulness of these services in their studies and research. A high percentage of users are not aware of the crucial Interlibrary Loan and OPAC information services. This is a matter of concern and needs to be addressed by the libraries. Efforts need to be put into making more number of users aware of these ICT enabled information services while simultaneously promoting the use of these services.

It is recommended that university libraries promote and market the ICT enabled information services facilitated by them in a result-oriented manner. There is a need to hold frequent awareness activities. Viz. user orientation education programmes, seminars, conferences, and study circles. It will increase the awareness of the users about the services, their advantages and usage of these services. It is also recommended to University library professionals to use various web 2.0 tools and social media platforms to outreach their users and also publicize their events and programmes. To face the challenges of revolutionary ICT, they need to upgrade their skills by continuous education programmes, capacity-building workshops, seminars, refresher courses etc. Feedback, suggestions and recommendations need to be taken from the users for improving the information services.

The comparative study concludes that irrespective of the benefits or usefulness of ICT enabled information services, 85.8% of users are 'aware' of these services of their university libraries. But only 61.3% of users find the ICT information services 'useful'. Based on user awareness, it is further concluded that JIIT

university library is at rank number one, followed by JH university library at second rank and IARI university library at rank number three. It is important to university libraries to be more visible online and market their product and services to their users.

REFERENCES

1. Colepiccolo, E. (2015). Information reliability for academic research: review and recommendations. *New Library World*, 116(11/12), 646-660. <https://doi.org/10.1108/nlw-05-2015-0040>
2. Hassan, H., & Umar, I. (2017). Users' Perception and Satisfaction with Information Services Provision by Mobile Communication Networks in Zaria, Nigeria. *International Journal of Applied Information Systems*, 12(8), 38-45. <https://doi.org/10.5120/ijais2017451721>
3. Hossaina, M. J., & Munshib, M. N. (2015). Customer service performance of a public university library in Bangladesh. *Annals of Library and Information Studies*, 62, 115-125
4. Jindal, R., & Khan, J. (2018). Web 2.0: Applications in Academic libraries to Provide Web Enabled Information Services. *Library Progress (International)*, 38(1), 149. <https://doi.org/10.5958/2320-317x.2018.00015.6>
5. Jindal, R., Khan, J., & Roy, P. (2019). An analytical study of level of awareness of patrons of information services provided via information communication technology in university library and information centres of Delhi and NCR. In *ICDL 2019* (pp. 276 - 303). Delhi: Teri, The energy and resources institute
6. Jindal, R., Khan, J., & Roy, P. (2020). Awareness of ICT Enabled Information Services among Patrons: A Comparative Study of Central University Libraries of Delhi and NCR. *International Journal of Research in Library Science*, 6(1), 27-39. <https://doi.org/10.26761/ijrls.6.1.2020.1307>
7. Madhusudhan, M., & Nagabhushanam, V. (2012). Web-based library services in university libraries in India: an analysis of librarians' perspective. *The Electronic Library*, 30(5), 569-588. <https://doi.org/10.1108/02640471211275657>
8. Nirfindia.org. 2020. *MHRD, National Institute Ranking Framework (NIRF)*. Retrieved June 15, 2017 from <https://www.nirfindia.org/home>
9. Patel, K. (2018). Use of Information and Communication Technology (ICT) Resources by Users of CKSVIM Library, Vadodara: A Study. *International Research: Journal of Library & Information Science*, 8(3), 411-422.
10. Rajanbabu, I., & Murugesapandian, N. (2017). Information access pattern in digital environment among faculty members in select universities in Chennai. *Journal of Advances in Library and Information Science*, 2(6), 150-155.
11. Seena, S., & Sudhier, K. (2014). Impact of Web 2.0 Technology Applications in Kerala University Library: Library Professionals' Perspective. *DESIDOC Journal of Library & Information Technology*, 34(5), 419-425. <https://doi.org/10.14429/djlit.34.6784>
12. Ugc.ac.in. 2020. *Welcome To UGC, New Delhi, India*. Retrieved June 15, 2017 from <https://ugc.ac.in/>

