AWARENESS AND USE OF WEB RESOURCES AND SERVICES AMONG THE FACULTY MEMBERS AND RESEARCHERS OF BANGALORE UNIVERSITY: A STUDY

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The integration of web technology has affected all functions of the library, particularly web-based library and information services. This study was conducted to assess the familiarity and usage of web-based library and information services among the faculty members and research scholars of Bangalore University. The investigators collected responses from 91 users of Bangalore University Library, through a structured questionnaire. The study basically reviews the use of web-based library services in eight service categories namely reference, acquisition, circulation, cataloguing, periodical, interlibrary loan and document delivery and miscellaneous services. Results of the study revealed that out of these categories most commonly used services were searching for the availability of a particular document online, access to online databases and electronic journals, electronic thesis & dissertations (ETDs), an online list of new arrivals and index to journal articles. It is observed from the study that the effective usage of web-based library and information services is not very significant and university library is lagging behind in providing online Inter-Library Loan services, electronic document delivery service and chat with library/ real-time services. The paper highlights the current state of web-based library and information services and suggest**s** the new approaches for effective use of web-based library and information services.

KEYWORDS: Bangalore; Library and information services; University library; Web technology

INTRODUCTION

The World Wide Web and its associated technologies have changed the world in the way of business, education, research, communication and more. The traditional methods of offering library and information services have transmuted greatly in recent years due to the development and application of Internet and web technologies. The demands and expectations of users have also changed drastically.

Due to the tremendous development and continuous growth of web technology, the role of the library and information centres will become more responsive in providing library services to users and making them more techno-savvy. The web technology has changed the method of information processing, storage, and retrieval system in the libraries. Libraries and their information resources have partially moved to the virtual world of the Internet. Accordingly, users can access library resources from outside the physical library. Web technology now allows users to submit their queries to the library at any time from any place in the world. Web Based Library Services, Digital Library Services, Electronic Library Services, and Internet-Based Library Services are terms with comparative implications (Bhatnagar, 2005). Because of their popularity with the users, overwhelming attention is being given to the web-based information services in libraries (Krishnamurthy and Chan,2005).

WEB-BASED LIBRARY AND INFORMATION SERVICES

Web-based library and information services are offering integrated access to library resources and services through the library website. According to (White, 2001), web-based library services can be defined broadly as 'an information access service in which users ask questions via electronic means e.g., email or web forms'. As stated by (Madhusudhan, 2012), "Web based Library Services means library services provided using the internet as medium and library website as a gateway with the help of integrated library management system."

The present study looks at the web-based library services provided by the Bangalore university library in different sections and their use by users. The purpose of the study was to learn what type of web-based library and information services were used by the library user and how they were used. In addition, the study aims to highlight the opinion on web-based library and information services and expectations of the users in the web environment.

REVIEW OF RELATED STUDIES

The principle emphasis of web-based library services is about setting up a service to suit an online environment, designing user-friendly pages to ensuring acceptance of the new service and preparing library users to make full utilization of web-based library services (Mary Peterson 2001). Web-based library services that are modified versions of existing and technology-driven library services (Arora, 2001). Web-based library services are transformed from traditional library services incorporating new services that are peculiar to the web environment (Moyo, 2004). Web-based interactive references services are essentially used to give brief authentic information, the fundamental direction in conducting library research, and to answer inquiries regarding library resources and services (Xue-Ming, Bao 2003). It is exceptionally basic for libraries and librarians to design, develop, enhance, implement, and deliver high-quality user-centered information services, resources, and instructions at the fingertips of library users (LiLi Li 2006).

Academic libraries are quickly becoming the major players in adopting and incorporating

Web 2.0 applications into their services compared with other types of libraries (Xu, Ouyang and Chu, 2009). LIS professionals must recognize the significance of web-based library services and step up with regards to provide web services to library users (Mirza, Muhammad Sajid & Mahmood, Khalid 2009). The utilization of current web development technologies and deploying for mainstream web information services is not widespread as web information services are yet to take off widely in academic libraries (Preedip, Balaji B & Kumar, Vinit 2011). The libraries should make high utilization of both traditional library tools like bibliographies and web-based services including web forms, chat, videoconferences, and so forth to meet their objectives and goals (Zarei, Hajar & Abazari, Zahra 2011). There is an urgent need to develop dynamic library websites and incorporate relevant Web 2.0 based services including web forms in each web-based library service; apply semantic technologies and ontology's; provide multi-language support content and adopt next-generation internet (Madhusudhan, M & Nagabhushanam, V 2012)

RESEARCH OBJECTIVES

In the light of the aim of the study and review of the literature, the following research objectives were set to analyze the web based library and information services provided by the Bangalore university library;

- To analyze the existing web-based library and information services in different sections of the Bangalore university library;
- To study the use of web-based library and information services by the users and the

frequency of their visits to the library website; and

- To know the problems in using web-based library information services; and
- To suggest the new approaches for effective use of web-based library and information services in study libraries.

SCOPE AND METHODOLOGY

In order to realize the above objectives, the study has been restricted to the web-based library and information services, such as; reference, acquisition, circulation, cataloguing, periodicals, interlibrary loan/document delivery, and other web-based library and information services and 100 respondents of Bangalore university libraries were surveyed.

The survey method was conducted by means of structured questionnaires circulated personally among 100 respondents including research scholars and faculties of different departments of Bangalore University. A stratified accidental random sample method was used for the selection of respondents and interaction with those who were available in the University library during the survey period.

ANALYSIS OF THE STUDY

The responses received from the users to 17 questions are presented in the form of tables, figures and descriptions and analyzed by using a simple method of calculation. On the basis of the responses received through questionnaires the data were analyzed and interpreted, in the following sections:

Population Characteristics

Copies of questionnaires were distributed to the 100 respondents and out of which 91 respondents were completed and returned the copy of the questionnaire representing a response rate of 91 %. Out of the total respondents, the majority of the respondents (52.74%) were male; 47.26 percent were female. Majority of the respondents were in the age group of 26-35 years.

Member of the discussion forum and professional associations

Itwas revealed that the majority of respondents (57.14%) are the member of discussion forums. There are 64.83%percent respondents are having membership in professional associations also.

Awareness of Web resources provided by the library and their mode of the access point of web-resources

More than 92.3% of respondents were aware of the web resources provided by the library while 7.7% of respondents did not aware about the same. This is because of the effectiveness of users' attitudes towards the web resources provided by the university library. Majority of respondents (29.6%) access point to web resources was the library following by the departments (18%) and remaining respondents were accessing web resources at their home, hostel and internet cafe.

Mode of access and navigate to web resources

More than 33 percent respondents were using only IP Based network to access the web resources followed by 28.57 and 16.5 percent respondents were using Wi-Fi and Individual user ID to access the web resources respectively. And rest of the respondents were using other mode i.e. IP Based, Individual user ID and Wi-Fi to access the web resources Majority of respondents were using only search engines as the mode of

navigation tool to access the web resources and rest of the respondents were using Web Portal, Subject Directory, Bibliographic Database and direct link from library website.

Preferred version of library resources

Due to the tremendous development of the internet and web technology, a majority of the library users prefers electronic resources. More than 70.32% of the respondents were using both print and electronic resources while 28.58 percent of respondents were using only electronic or online resources and only 1 percent of respondents were prefer the print version of library resources.

Frequency of use of web resources

This is the most important aspect to the appraisal of the usefulness of web based library and information services; because web technologies have influenced libraries significantly so university libraries subscribe more number of web resources. The study respondents were asked to indicate how frequently they use web resources. All the respondents reported that they use web resources which imply that the library users are well aware of the web technology.

A majority of the respondents (58.24%) used the web resources daily, followed by 27.47 percent 2-4 times a week, 10.99 percent once in a week; remaining 3.3 percent use the web resources occasionally. The highest number of faculties and research scholars using the web resources daily which is indicative of their interest to use web based library and information services in their day to day study and research activities.

LEVEL OF FAMILIARITY WITH THE USE OF WEB RESOURCES

To identify whether library users are familiar with web based library and information services, respondents were asked to describe their familiarity in the use of web resources. A majority of respondents are familiar with the use of web based library and information services.

It is evident from the study that 63.7 percent of the respondents are familiar with the use of web resources, followed by 24.1 percent were very much familiar, 10 percent are somewhat familiar and remaining only 2.2 percent of respondents are not familiar with the use of web resources. The study indicated that most numbers of respondents were familiar with the use of web resources.

USE OF WEB BASED LIBRARY AND INFORMATION SERVICES

Web-based library services in university libraries have a far-reaching effect on the quality of services.These web-based library services are presented seven sections, such as; reference, acquisition, circulation, cataloguing, periodicals, interlibrary loan/document delivery, and other miscellaneous services.

The following table depicts data about the extent of web-based library services used by the respondents in different sections of the University library.

Table 1 - Use of Web based Library and Information Services

Description	Faculty Member	Research Scholar	Total (n=91)
Reference Services			
Electronic document delivery service	20	23	43 (47.25%)
Web-based reference tools	22	31	53 (58.24%)
Electronic current awareness service	13	27	40 (43.96%)
Virtual reference desk/Ask- a- librarian	13	22	35 (38.46%)
Acquisition Services			
Online list of new arrivals	36	27	63 (69.23%)
Online status of items (on order, processing, etc)	17	28	45 (49.45%)
Provision of alert services for new additions	18	24	42 (46.15%)
Online acquisition policies	16	17	33 (36.26%)
Online purchase requests	10	19	29 (31.87%)
Bibliographic databases	21	35	56 (61.54%)
Electronic indexes	22	28	50 (54.95%)
Circulation Services			
Online availability of a particular document	40	34	74 (81.32%)
Online circulation (issue/return)	12	23	35 (38.46%)
Online reservation of document	10	15	25 (27.47%)
Online status of reserved documents	8	15	23 (25.27%)
Patron account status online	15	18	33 (36.26%)
Online renewal of loan document	4	10	14 (15.38%)
Alert services through e-mail(reminder)	18	32	50 (54.95%)
Online posting of overdue details of the user	6	22	28 (30.77%)

Online circulation policies	21	17	38 (41.76%)
Cataloguing/OPAC			
Web OPAC	32	26	58 (63.74%)
Access to Online databases	37	38	75 (82.42%)
Search multiple catalogues (federated search)	20	27	47 (51.65%)
Periodical Services			
Electronic journals (subscribed)	38	31	69 (75.82%)
Electronic journals (UGC-Infonet/ e-shodhsindhu digital library consortium)	33	37	70 (76.92%)
Electronic article delivery	25	26	51 (56.04%)
Index to journal articles	35	31	66 (72.53%)
Article alert service	11	19	30 (32.97%)
Web-based table of contents	35	23	58 (63.74%)
Inter-Library Loan/Document Delivery			
Online Inter-Library Loan services	5	8	13 (14.29%)
Electronic document delivery service	11	16	27 (29.67%)
Other Services			
Online library news	29	16	45 (49.45%)
Electronic thesis & dissertations(ETDs)	35	30	65 (71.43%)
Online staff list & contact addresses	23	23	46 (50.55%)
Online Feedback Form	17	20	37 (40.66%)
Online subject gateways	25	20	45 (49.45%)
Online Institutional Repository	25	22	47 (51.65%)
Library forums (e-mail based)	15	24	39 (42.86%)
Online general library policies	19	24	43 (47.25%)
Web-based FAQ	11	22	33 (36.26%)
Web-based user education/virtual library tours	7	19	26 (28.57%)
News Clipping Services	8	17	25 (27.47%)
Chat with Library/ Real Time Services	5	10	15 (16.48%)

Note: Figures in parentheses indicate the percentage.

The computed data in Table 1 demonstrate that most of the faculties and research scholars utilize the web based reference services under each category. A majority of respondents 58.24percentutilize web-based reference tools followed by 47.25 percent use electronic document delivery service, 43.96and 38.46 percent respondents of both the categories use electronic current awareness service and virtual reference desk/ask- a- librarian respectively. The majority of respondents 69.23 percent are browsing through the list of new arrivals under acquisition services. 61.54 percent respondents prefer to use online bibliographic databases followed by online status of items, electronic indexes, provision of alert services for new additions, online acquisition policies and online purchase requests services.

It is evident from Table 1 that the majority 81.32 percent respondents are preferred to knowing the availability of a particular document online; 54.95 percent respondents use alert

services through e-mail (reminder) while 41.76respondents prefer to know circulation policies online; 38.46 percent respondents are using online circulation data (issue/return) and 36.26 percentrespondents prefer to know patron account status online. It interested to note that among the web-based library circulation services, knowing circulation data is the preferred service by all categories of web users.82.42 percent respondents prefer to access online databases; 63.74 percent respondents are searching Web OPAC and 51.65 percent respondents visit the library website to search the multiple catalogues with a single command. Most of the respondents prefer to access online databases; it shows their interest towards online resources.

Among the web-based periodical services used by the respondents, 76.92 and 75.82percent respondents prefer to access subscribed e-journals and journals of e-shodhsindhu digital library consortium respectively;Index to journal articles comes first with 72.53 percent respondents, followed by web-based table of content by 63.74 percent, electronic article delivery by 56.04and next is article alert service used by 32.97 percent respondents had recorded a low percentage than the above services.It shows the clear indication of proper library orientation extended to users for

effective use of existing federated search facilities in the university library.

An online inter-library loan and electronic document deliveryservices were preferred by a selectively smaller percentage of web users as demonstrated in Table 1. It shows that lack of interest by the users and lack of facilities on online ILL services provided by the University library. Table 1 depicts the performance of both the categories of respondents in using other miscellaneous web-based library and information services. Both faculties and research scholars have given their first preference for electronic thesis & dissertations (ETDs) and it is used by 71.43 percent respondents as the highest used service among 12 web-based library and information services; it clearly shows their interest towards access to ETDs. And this is followed by 51.65 percent respondents prefer to access online institutional repository; 50.55 percent respondents want to know online staff list and their contact details, followed by 49.45 and 47.25 percent respondents using online subject gateways and online general library policies respectively. Only 16.48 percent respondents using chat with library/ real-time services, it is the least used service among 12 web-based library and information services used by both the category of respondents.

Opinion on Web based Library and Information Services

Table 2 - Opinion on Web based Library and Information Services

Description	Faculty Member	Research Scholar	Total
Web-based library services will save my time			
Strongly Agree	18	11	29 (31.9%)
Agree	26	30	56 (61.54%)
Uncertain	0	2	2 (2.2%)
Disagree	0	0	0

Strongly Disagree	1	3	4 (4.4%)
Web-based library services improve my ability to do research			
Strongly Agree	22	19	41 (45%)
Agree	18	25	43 (47.25%)
Uncertain	5	2	7 (7.7%)
Disagree	0	0	0
Strongly Disagree	0	0	0
Web-based library services enable me to be more productive			
Strongly Agree	17	16	33 (36.26%)
Agree	23	23	46 (50.55%)
Uncertain	5	7	12(13.19%)
Disagree	0	0	0
Strongly Disagree	0	0	0
Web-based library services adequately meet my information requirements			
Strongly Agree	18	10	28 (30.77%)
Agree	24	26	50 (54.9%)
Uncertain	2	7	9 (9.9%)
Disagree	1	3	4 (4.4%)
Strongly Disagree	0	0	0
Web-based library services are efficient			
Strongly Agree	13	13	26 (28.57%)
Agree	22	26	48 (52.77%)
Uncertain	8	7	15 (16.49%)
Disagree	2	0	2 (2.2%)
Strongly Disagree	0	0	0
I find the Web-based library services useful.			
Strongly Agree	18	12	30 (32.96%)
Agree	26	27	53 (58.24%)
Uncertain	0	3	3 (3.3%)
Disagree	1	4	5 (5.5%)
Strongly Disagree	0	0	0
I am satisfied with the web-based library services.			
Strongly Agree	6	8	14 (15.38%)
Agree	32	25	57 (62.63%)
Uncertain	5	9	14 (15.38%)
Disagree	2	4	6 (6.6%)
Strongly Disagree	0	0	0
The library web-based library services are my first choice for information.			
Strongly Agree	6	7	13 (14.29%)
Agree	26	25	51 (56%)
Uncertain	11	9	20 (22%)
Disagree	2	4	6 (6.6%)
Strongly Disagree	0	1	1 (1.1%)

I will be using more of the web-based library services in the future			
Strongly Agree	12	15	27 (29.67%)
Agree	30	23	53 (58.24%)
Uncertain	3	7	10 (10.2%)
Disagree	0	1	1 (1.1%)
Strongly Disagree	0	0	0
I would recommend the web-based library services to others			
Strongly Agree	10	12	22 (24.17%)
Agree	35	26	61 (67.03%)
Uncertain	0	8	8 (8.8%)
Disagree	0	0	0
Strongly Disagree	0	0	0
I will say positive things about the web-based library services to others			
Strongly Agree	11	4	15 (16.48%)
Agree	33	38	71 (78.02%)
Uncertain	0	3	3 (3.3%)
Disagree	1	1	2 (2.2%)
Strongly Disagree	0	0	0

Note: Figures in parentheses indicate the percentage.

The respondents are believed that they can accomplish their teaching and research work easier and fast by using the web based library and information services and it's have a positive impact also on their research and teaching. Table 2 presents information on the opinion of respondents towards the use of the web based library and information services. In this regard, respondents were asked to express their views on eleven statements. It was found that 61.54and 31.9 percent of the respondents ``agreed'' and ``strongly agreed'' respectively that the web-based library services will save the time. More than 92 percent of the respondents ``agreed'' or ``strongly agreed'' that the web-based library services improve the ability to do research while rest of the respondents stated that as unpredictable. Respondents were asked if they agree that the web-based library services enable a user to be more productive, more than 85 percent of the

respondents either "agreed" or "strongly agreed'' with this statement. The same number of respondents also ``agreed'' or "strongly agreed" that web-based library services adequately meet the user information requirements.

Nearly 80 percent of the respondents believed that the web-based library services are efficient. However, most of the participants (86 percent) ``agreed'' that the web-based library services are useful. Participants were asked if they are satisfied with the web-based library services, Most of the 71percentrespondents ``agreed'' and "strongly agreed'' with this statement, although rest of the respondents ``disagreed'' or ``unpredicted'' with this statement. In response to a statement that the web-based library services are the first choice for access to required information, a majority of 56 percent respondents agreed with this opinion. A majority

of more than 90 percent of respondents are agreed, they will be using more of the web-based library services in the future and they will recommend the web-based library services to others. A majority 94 percent of respondents agreed and strongly agreed that they will say positive things about the web-based library services to others, the rest of the respondents either disagreed or unpredicted with this statement.

Table 1 reveals that the majority of respondents are given a positive opinion about web-based library and information services provided by the Bangalore University library.

SUGGESTIONS TO STRENGTHEN WEB-BASED LIBRARY AND INFORMATION SERVICES

A question was asked to the respondents to suggest the ways and means for improving/strengthening the web-based library and information services rendered by the Bangalore University library. In order to increase the awareness and use of web-based library and information services, the respondents suggested a few improvements. The following are the major suggestions collected from the respondents for improving the web-based library and information services in university libraries:

(i)   Regular updates of the library web pages and user-friendly library websites.

(ii)   Update on effective online circulation system (issue/return/renew/reservation)

(iii) Higher bandwidth and wireless internet connectivity

(iv)   More hyperlinks to web-based library and information services

(v)   All back-volumes of journals should be available online.

(vi)   Digital literacy programs and more web-based tutorials for users for better utilization of web-based library and information services.

(vii) Effective Chat with Library/ Real-Time Services

(viii) Orientation program and workshop on web-based library and information services

(ix)   Improvement of subject gateways.

(x)   Application of mobile based library and information services

The respondent says that no doubt on web-based library and information services have made professional life simpler and they feel that it becomes the basic necessity of their academic and research activities. Some of the respondents are not aware of the web-based library and information services provided by the library due to the lack of awareness and orientation programme on web-based library and information services.

The survey and the subsequent analysis of the data and the findings of the study have enabled the researchers to provide some practical suggestions for strengthening the web-based library and information services.

(i) There is an urgent need to conduct an orientation programme and user education program on web-based library and information services.

(ii) Update the library website frequently for better utilization of library resources and web-based library and information services.

(iii) An urgent need to develop dynamic library website and compatible with web 3.0 and 4.0 technologies.

(iv) Facilitate the library wikis, instant messaging, RSS feeds, online reference services, virtual library tours, web-based library tutorials, discussion forums, and other latest web-based library and information services.

(v) Develop mobile friendly web-based library and information services.

CONCLUSION

This study investigated the effective use of web-based library and information services in the Bangalore university library. Web-based library services will become more widespread and sophisticated as the web becomes commonplace throughout the world. Libraries must develop effective web-based library and information services. As we actively transfer library services, our central purpose remains the same, to serve and teach users to find, evaluate, and use information effectively. The study basically reviews the use of web-based library services in eight service categories namely reference, acquisition, circulation, cataloguing, periodical, interlibrary loan and document delivery and miscellaneous services. Results of the study revealed that out of these categories most commonly used services were searching for the availability of a particular document online, access to online databases and electronic journals, electronic thesis & dissertations (ETDs), an online list of new arrivals and index to journal articles. Furthermore, respondents prefer to search alert services through e-mail (reminder), web-based table of contents, Web OPAC, web-based reference tools and online library news.

The survey has revealed that study university library is lagging behind in providing online Inter-Library Loan services, electronic document delivery service and chat with library/ real-time services, which are effective tools for library user interaction and communication with library staff for better utilization of library web resources. A majority of the respondents prefer to use web-based library services are their first choice for information and they are satisfied with web-based library services and stated that they will be using more of the web-based library services in the future. Findings show that the surveyed university library is yet to develop an effective web-based information literacy programs and user education programs to enhance the use of web-based library and information services. To meet these challenges the librarians may play a leadership role in providing better web-based library and information services to their current techno-savvy users.

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