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10-17-2020

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ABSTRACT

The present study attempts to evaluate the level of awareness and attitude towards the application of web-based services among library professionals of central university Jamia Millia Islamia in Delhi. The questionnaire technique is used to collect the data from 34 library professionals working in the library system of JMI. The result of the work explains that the majority of the library professionals employed in the Jamia library system are aware of web-based services with the highest level of awareness about the use of open access e-resources with WAM value (9.30) and lowest value of RSS feeds (7.33). The investigation likewise uncovered that library professionals of Jamia have an uplifting mentality towards the execution of web-based services in libraries. It was also found that library professionals lacked adequate training on the use of web-based technologies applications in libraries to enhance library services.

Keywords: Web technology; Library professionals; University library; Jamia Millia Islamia; Online library services

1. INTRODUCTION

Information communication technology (ICT) has changed the working idea of institutions from conventional to worldwide information communities that are available anywhere and whenever, because of current web innovation, networks, and the internet, and so forth. The developing advances have constrained the libraries to utilize them. These innovations oblige their clients with the best services. There is a need for skilled professionals to implement and apply the web tool to its library (Seena & Pillai Sudhier, 2014). Web 2.0 is the new version of the

web which is more social, user-friendly, and interactive. Nowadays academic libraries are getting attracted to current web tools and technologies such as Social Networking Sites (SNS), blogs, RSS, multimedia, instant messaging (IM), podcasting and tagging services into their library websites (Santosh, 2017). To implement emerging features in the libraries, library professionals must have awareness and knowledge about these technologies (Rahman & Sadik Batcha, 2020).

Jamia Millia Islamia, an institution established at Aligarh in 1920 and became a central university in 1988 by the act of Parliament. Jamia is an Urdu word for 'University' and Millia is for 'National'. Jamia was shifted from Aligarh to Delhi in 1925. Dr. Zakir Husain Library is the central library of the university established in 1920. However, it was named after Dr. Zakir Husain, former President of India and former Vice-Chancellor of Jamia in 1973. Jamia Millia Islamia Library system comprises of Dr. Zakir Husain Central Library, College of Engineering Library, and several departmental libraries of Education, Law, Fine Arts, and Dental library (Jamia Millia Islamia, 2020). This study is to calibrate the awareness of web technologies among library professionals of Jamia Millia Islamia, a Central University in Delhi.

2. REVIEW OF LITERATURE

Idiegbeyan-Ose et al., (2019) studied the application and challenges faced by the libraries of developing countries to implement web 2.0 technologies such as blogs, Rich Site Summary (RSS), instant messages (IM), social networking sites (SNS) in library and information centers. They found that lack of ICT infrastructure, lack of policy support, staff, and skills to implement the web 2.0 technologies in developing countries. The authors suggested that government and other institutions should provide adequate infrastructure to libraries for the implantation of web 2.0 technologies. Singh (2018) explored the use of web 2.0 tools in the Indian Institute

of Technology (IITs) and Indian Institute of Management (IIMs) and found that respondents were aware of web 2.0 tools.

This study also revealed that SNSs are the key components of web 2.0 so it should be used by all the institutions for the promotion of their services. Ekwelem et al., (2018) evaluated the librarian's perception of online reference services (ORS) of academic libraries in Nigeria. The result revealed that e-mail services got the first rank in the overall application of ORS and web 2.0 tools and technologies have not been implemented in libraries are due to lack of ICT infrastructure. Further, the authors have recommended that the government should provide basic facilities and technical staff of academic libraries should be trained for effective utilization of ORS in academic libraries in Nigeria. Santosh (2017) have studied to investigate the utilization of web 2.0 instruments and innovation among the library proficient in academic libraries in India. The study revealed that the respondents' library professionals were aware of Web 2.0 tools and technologies. Further study indicated that Facebook, Wikipedia, Blogs, and YouTube are the most use by the respondents. However, library professionals lack in proper depth knowledge of web 2.0 tools and technologies. Pirshahid et al., (2016) have assessed the levels of awareness and use of web 2.0 technologies by library professionals in the university libraries in Iran. The study found that library professionals were more familiar with web 2.0 technologies and used mostly for sharing information about library resources and services. However, the lack of internet speed and training was the major barrier in implementing web technologies in the library.

Tabusum et al., (2014) discussed the importance and usage of digital literacy among three colleges of Arts and Science students of Tiruvallur District in Tamil Nadu. Thanuskodi (2013) has researched the degree of attention to Library 2.0 application among library experts at Annamalai University. He additionally distinguished the observation and issues of library professionals in implementing the Library 2.0 application in the library. The study also found that a reasonable number of library professionals were aware of Library 2.0. Most of the respondents have expertise in

the web browser, search engines and they mentioned the requirement of training on web 2.0.

3. OBJECTIVES

The major objectives of the study are to:

- Identify the level of technology skills among library professionals of Jamia Millia Islamia (Central University), New Delhi;
- Assess the attitude of library professionals towards the implementation of web technologies in the library;
- Find out the challenges faced by library professional in online technologies in the JMI library;
- Suggest the steps for the development of web skills among JMI library professionals.

4. METHODOLOGY

The present study moves around library professionals of the central, college of engineering, and the departmental library of Jamia Millia Islamia. A well-structured questionnaire is used as a tool for the data collection of the study. The questionnaire was designed with optional type questions and Licker's 5-point scale. A hyperlink of the questionnaire along with introductory information was mailed to selected 41 library professionals except for library attendants. The researcher personally visited the library and requested a response. The data were collected during September 2020. Responses were received from 34 library professionals. The collected data were analyzed using statistical techniques Weighed Arithmetic Mean (WAM) and MS-Excel. The WAM method is utilized to evaluate the degree of variation among the factors. a score called weight is appointed by considering the relative significance of every factor. On the gauge premise of professional's exhibition

utilized in web 2.0 advancements, score 1 to 5 were designated (5 for excellent and 1 for poor). WAM was figured by utilizing the equation (Seena & Pillai Sudhier, 2014):

$$WAM = \frac{\sum wz}{\sum w}$$

where 'z' denotes the number of respondents and 'w' denotes the weight assigned to each number.

5. ANALYSIS

5.1 General Information of Respondents

Table 1: Demographic Information of Respondents

S.no	Profile of respondents		No. of respondents (34) (%)
1.	Gender	Female	8 (23.52)
		Male	26 (76.48)
		Total	**34**
2.	Age (In years)	31-40	9(26.47)
		41-50	16(47.05)
		51-60	8(23.52)
		61 and above	1(2.94)
		Total	**34**
3.	Designation	Librarian	1(2.94)
		Deputy Librarian	1(2.94)
		Assistant Librarian	7(20.58)
		Information Scientist	1(2.94)
		PA	14(41.17)
		SPA	10(29.41)
		Total	**34**
4	Professional Qualification	BLIS	2(5.88)
		M.Phil.	6(17.64)

		MLIS	17(50.00)
		Ph.D.	9(26.47)
		Total	**34**
5	Professional Experience (In years)	0-5	3(8.82)
		6-10	5(14.705)
		11-15	3(8.82)
		16 and above	23(67.64)
		Total	**34**

It was observed from Table 1 that the majority of the respondent from library professionals in the Jamia Millia Islamia were males 26(76.48%) and the number of females were 8(23.52%). 17(50%) of respondents were master degree in library science, 9 (26.47%) having a doctorate in library and information science, while 23(67.64%) library professionals having more than 16 years of experience, 14(41.17%) Professional Assistant and 16(47.05%) aged range 41-50 years constituted the highest in the study population.
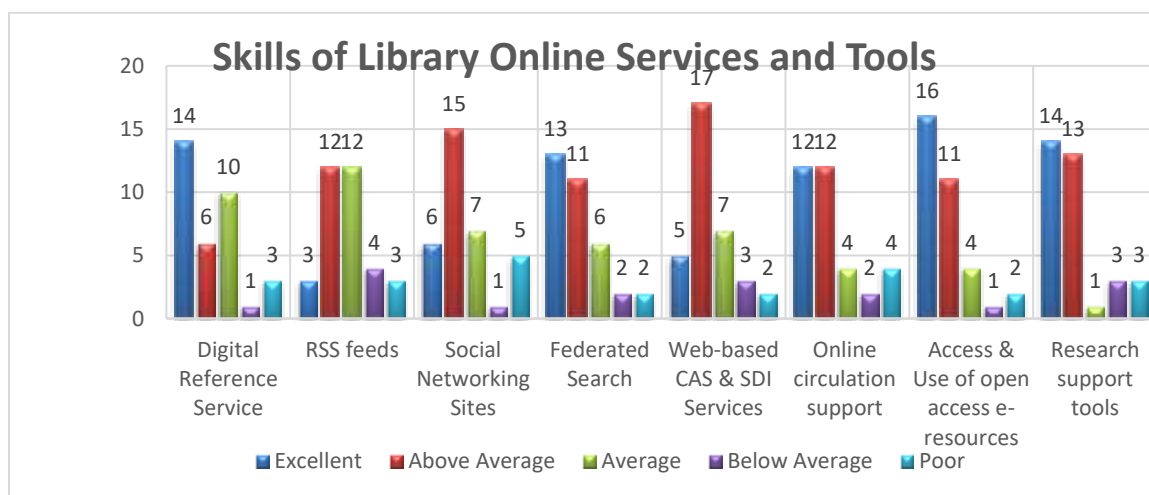
5.2 Skills for Online Services and Tools

With the development of web technologies, many new online services and tools have been introduced in the libraries to provide better services to their users. Library and Information Science professionals were solicited to rate their level of awareness about web advancements and gathered information has been analyzed in table 2 with weighted arithmetic mean (WAM) values and ranked them.

Table 2: Skills of Library Online Services and Tools

Technical Knowledge of Library Online Services and Tools	Excellent	Above Average	Average	Below Average	Poor	WAM	Rank
Digital Reference Service (Ask a Librarian, Instant messaging, E-mailing, FAQ, etc.)	14 (41.76)	6 (17.64)	10 (29.41)	1 (2.94)	3 (8.82)	8.6	4
RSS feeds	3 (8.82)	12 (35.29)	12 (35.29)	4 (11.76)	3 (8.82)	7.33	8
Social Networking Sites i.e. Facebook, Instagram, Twitter, LinkedIn, Library blogs, etc.	6 (17.64)	15 (44.11)	7 (20.58)	1 (2.94)	5 (14.705)	7.87	7
Federated Search (Database Search)	13 (38.23)	11 (32.35)	6 (17.64)	2 (5.88)	2 (5.88)	8.87	3
Web-based CAS & SDI Services	5 (14.705)	17 (50.00)	7 (20.58)	3 (8.82)	2 (5.88)	8.13	6
Online circulation support	12 (35.29)	12 (35.29)	4 (11.76)	2 (5.88)	4 (11.76)	8.53	5
Access & Use of open access e-resources	16 (47.05)	11 (32.35)	4 (11.76)	1 (2.94)	2 (5.88)	9.33	1
Research support tools i.e. Anti-plagiarism software, Reference management software	14 (41.17)	13 (38.23)	1 (2.94)	3 (8.82)	3 (8.82)	8.93	2

To calculate WAM, a score was assigned to each scale such as score 1 for 'Poor', 2 for 'Below Average', 3 for 'Average', 4 for 'Above Average', and 5 for 'Excellent'.

Fig. 1 Skills of Library Online Services and Tools

It is obvious from Table 2 that the greater part of the LIS professionals of Jamia Millia Islamia know about web technologies and services. Among the selected tools and services the highest WAM value was shown in the access and use of open access e-resources (9.33) followed by research support tools (8.93). Further, the

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study discloses that most of the LIS professionals have a relatively low level of awareness of the use of online circulation support (8.53) and web based CAS & SDI services (8.13). Furthermore, the analysis showed that the lowest levels of awareness among respondents are social networking sites (7.87) and RSS feeds (7.33). Figuring of WAM for the attention to professionals towards explanations on library online services and has been appeared in Table 3.

Table 3: Calculation of WAM for DRS

Scale	z	Weight(w)	wz
Digital Reference Service			
Excellent	14	5	70
Above Average	6	4	24
Average	10	3	30
Below Average	1	2	2
Poor	3	1	3
		$\sum w = 15$	$\sum wz = 129$

$$WAM = \frac{\sum wz}{\sum w} = 8.60$$

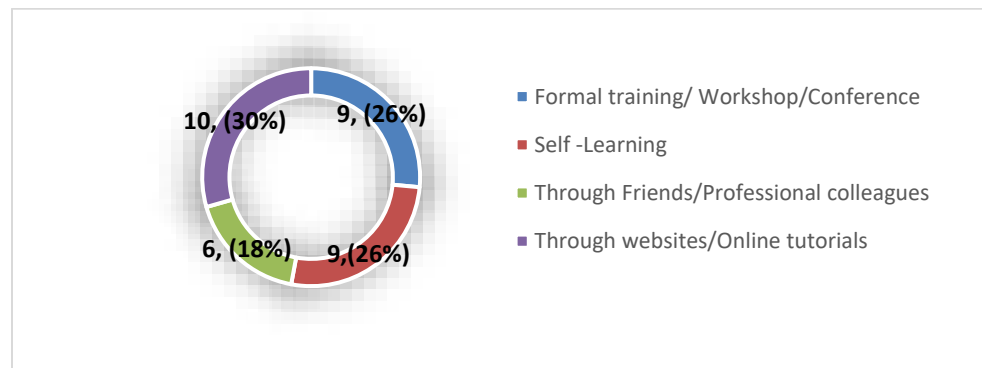**5.3 Means of skills acquisition for the use of Web Tools**

Fig 2. Skills acquisition for the use of Web Tools

Library professionals of JMI were asked to indicate the means through which they acquire the skills for the use of web tools (Fig.2). 10(29.41%) library professionals indicated acquiring the skills through websites/online tutorials, followed by

9(26.47%) through self-learning & formal training/workshop attended and only 6(17.65%) through friends and colleagues.
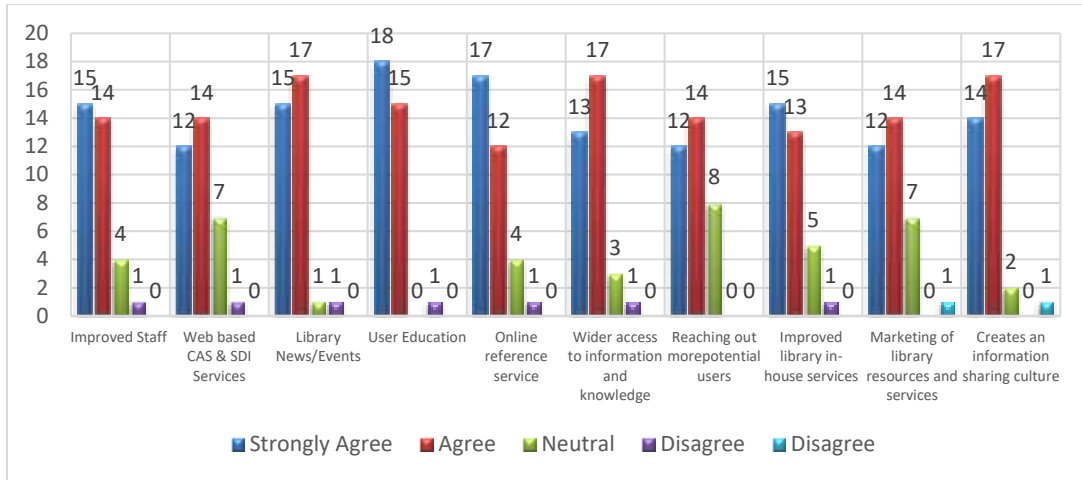
5.4 Respondents' Attitude towards Application of Web Technology

Table 4 uncovers the mentality of library experts towards the reason for applying web tools and technologies in libraries and the separate WAM esteems with rank. To calculate WAM, a score was assigned to each scale such as score 1 for 'Strongly Disagree', 2 for 'Disagree', 3 for 'Neutral', 4 for 'Agree', and 5 for 'Strongly Agree'.

Table 4: Respondents' attitude towards application of web technology

Purpose/objective of applying web-based tools and technologies	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	WAM	RANK
Improved Staff – User Interaction	15 (44.11)	14 (41.17)	4 (11.76)	1 (2.94)	0	9.67	4
Web-based CAS & SDI Services	12 (35.29)	14 (41.17)	7 (20.58)	1 (2.94)	0	9.27	7
Library News/Events	15 (44.11)	17 (50.00)	1 (2.94)	1 (2.94)	0	9.87	2
User Education/Information Literacy	18 (52.94)	15 (44.11)	0	1 (2.94)	0	10.13	1
Online reference service	17 (50.00)	12 (35.29)	4 (11.76)	1 (2.94)	0	9.80	3
Wider access to information and knowledge	13 (38.23)	17 (50.00)	3 (8.82)	1 (2.94)	0	9.60	5
Reaching out to more potential users	12 (35.29)	14 (41.17)	8 (23.52)	0	0	9.33	6
Improved library in-house services i.e. Circulation, acquisition, and technical	15 (44.11)	13 (38.23)	5 (14.70)	1 (2.94)	0	9.60	5
Marketing of library resources and services	12 (35.29)	14 (41.17)	7 (20.58)	0	1 (2.94)	9.20	8
Creates an information-sharing culture	14 (41.17)	17 (50.00)	2 (5.88)	0	1 (2.94)	9.67	4

It is evident from table 3 that the majority (10.13) of professionals strongly agreed that web tools application in libraries supports the user education & information literacy to users followed by Library News/Events (9.87), Online reference service (9.80), User interaction (9.67) with WAM and rank 1 to 4 respectively. However, professionals also agreed that web technologies enhance the wider access to information and In-house library services with the same WAM value 9.60.

Fig. 3 Purpose of applying web technologies

The result of the analysis shows that most of the library professionals in Jamia Millia Islamia have a positive response towards the implementation of web tools and technologies in libraries. Further, library professionals showed less agreement in comparison to other purposes of the application of web technologies reaching out to more potential users (9.33), Web based CAS & SDI Services (9.27), and Marketing of library resources and services (9.20). The calculation of WAM to apply web based tools has been shown in Table 5.

Table 5: Calculation of WAM for Improved Staff – User Interaction

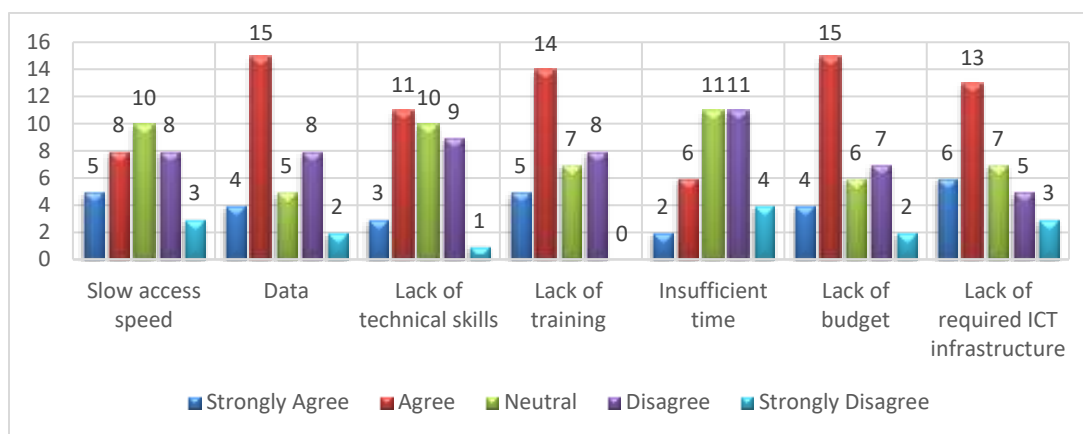| Scale	z	Weight (w)	wz
Improved Staff – User Interaction			
Strongly Agree	15	5	75
Agree	14	4	56
Neutral	4	3	12
Disagree	1	2	2
Strongly Disagree	0	1	0
		$\sum w = 15$	$\sum wz = 145$

$$WAM = \frac{\sum wz}{\sum w} = 9.67$$

5.5 Problems in implementation of Web Technology

Library professionals were asked to identify the problems faced in the implementation and use of web tools and technologies to libraries.

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Table 6: Problems in implementation of Web Technology

Problems in the use of online library resources and services	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	WAM	RANK
Slow access speed/internet connectivity	5 (14.705)	8 (23.52)	10 (29.41)	8 (23.52)	3 (8.82)	7.07	6
Data/Information security concern	4 (11.76)	15 (44.11)	5 (14.705)	8 (23.52)	2 (5.88)	7.53	4
Lack of technical skills and awareness to use tools	3 (8.82)	11 (32.35)	10 (29.41)	9 (26.47)	1 (2.94)	7.20	5
Lack of training on web tools and technologies	5 (14.705)	14 (41.17)	7 (20.58)	8 (23.52)	0	7.87	1
Insufficient time	2 (5.88)	6 (17.64)	11 (32.35)	11 (32.35)	4 (11.76)	6.20	7
Lack of budget	4 (11.76)	15 (44.11)	6 (17.64)	7 (20.58)	2 (5.88)	7.60	3
Lack of required ICT infrastructure	6 (17.64)	13 (38.22)	7 (20.58)	5 (14.705)	3 (8.82)	7.73	2

Table 6 and figure 4 shows that the major problem faced by library professionals in the implementation of web-based tools and technologies was lack of training on the use of web technology (7.87) followed by lack of required ICT infrastructure (7.73), lack of budget (7.60) and Data security (7.53) with respective WAM. Similarly, the professionals with a mean score of 7.20 agreed that lack of skills on the use of web tools, slow access speed (7.07), and lack of time (6.20). This is in line with the findings of (Okonedo et al., 2016), who found that library professionals in South West Nigeria faced the problems in the use of web 2.0 technologies was low bandwidth, time constraint, lack of skills, etc.

Fig. 4 Problems in implementation of web technology

6. CONCLUSION & RECOMMENDATIONS

The environment of the library system is changing day by day due to the emerging of new web technologies and the user's expectations. The web technology and its application for libraries are using worldwide. University libraries mainly use these technologies to promote library services and more communication with users. The present study found Library professionals are well aware of web tools and services. However, the highest level of awareness among the selected items is access & use of open access e-resources (9.30), and the lowest about RSS feed (7.33). However, RSS is a significant web tool to provide the latest news, website update, new arrival of materials, and CAS in the library.

The mean attitude score towards the application of web-based services for the sample (n=34) was calculated as 9.61 indicated that the majority of the library professionals had a strong positive attune towards the items tested. This is a line of the study (Santosh, 2017) that library professionals have shown a positive inclination towards Web 2.0 in the attitude.

The study further concludes that the use of web-based services by library professionals is challenged by lack of technical skills, lack of infrastructure & budget, and lack of training program on the use of web tools.

The study recommends that the library professionals employed in Jamia library system should be encouraged to learn more about web tools and its application in the libraries by providing training and workshop facilities. The paper concludes that the university authority should provide infrastructure facilities, modern computers with stable internet access, and sufficient funds for the implementation of web tools in the library to enhance the library services.

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ACKNOWLEDGEMENT

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