Web literacy among the researchers and faculty members of select universities in India during COVID-19

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Abstract

Purpose: The study is taken to assess the awareness, ability, use and web literacy skills of social sciences researchers and faculty of select universities in Punjab and Chandigarh from North India during COVID-19.

Methodology: A survey-based study was conducted on social science departments of select universities in Punjab and Chandigarh from North India. The data were collected from a sample of 532 respondents using a structured questionnaire through emails via Google docs. The data were analyzed using SPSS and MS Excel using statistical techniques viz. percentage, Pearson Chi-square test etc.

Findings: The study has found that most of the social sciences faculty and researchers of the universities under study used open web during COVID 19 for read/download web content most of them were found having the ability to use the web to some extent. The faculty was found to be more familiar with data security, digital privacy than researchers. The most of them learned how to use the web through self-study and were willing to improve their web literacy skills through some digital literacy programs.

Originality: This study is original study that was focused on assessing the web literacy skills of social science faculty and researchers which helped them to use the web especially during the period of COVID-19.

Practical implications: The results of this study can be used for university libraries to plan and organize some digital literacy/capacity building programs for the social sciences faculty and researchers according to their specific needs and it will help users to use web in situation like COVID-19 pandemic.

Keywords: Awareness, ability, use, web literacy skills, COVID-19, digital literacy program.

1. Introduction

The web has become a common place for people to access and use different kinds of information resources and services and web literacy comprises all the skills and competencies required for reading, writing, and participating on the web. It can be depicted as both content and activity. The web literacy includes very widely on a variety of competencies-from composing and coding to understanding why privacy does matter online-but it allows people to do all essential things meaningfully to enable them to engage on the internet or web. Web literacy empowers people as they are web literate, web-based information resources and services become more accessible, and learning becomes more dynamic for them. It can enable them to evaluate web resources before their actual use. The ability to evaluate and analyze web resources is particularly important "in the contemporary environment of rapid technological change and proliferating information resources" (American Association of College and Research Libraries, 2000, p.2).

Web literacy ensures the use of the internet or web optimally and wisely during all the times. The entire educational system has been collapsed during the lockdown period of COVID-19 (the novel coronavirus disease, 2019) in all over the world. Online education and research became the active part of faculty and researchers. "The COVID-19 pandemic has affected the health sector and other fields of activity around the world (United Nations Educational Scientific Cultural Organization" [UNESCO], 2020). The web was proved to be beneficial to the academic community, especially in institutions of higher learning such as colleges, universities, and other research institutions during the pandemic period.

COVID-19 has affected day to day life of almost each and everyone severely in all spheres including academics. Libraries around the world were facing tough time with fewer users' footfalls and limited or restricted services. At this moment when COVID-19 imposed a barrier on getting and providing services in physical form. The web-based resources and services have played a crucial role by providing a wide variety of networked resources and services in different forms and formats. This couldn't be accessed remotely during this pandemic period when the functioning of these traditional libraries became limited. (Kumar et al. 2021, p.5) The field of education is also one of the areas that were greatly affected by the pandemic, but with the support of the Internet or web, it may have been possible for people to connect with each other and share knowledge.

2. Literature review

Several research studies have been carried out on digital literacy, internet literacy but very few were conducted on web literacy during the recent past, out of which some important ones are reviewed and presented as under:

A study, conducted by Mishra and Maharana (2007), revealed that most of the faculty members are having working knowledge about the application of internet and use search engines for searching their required information. Most of the faculty members evaluate their information resources which they access through the internet and 'authenticity' and 'reliability' are the most important parameters, generally applied by them for the purpose of evaluation. Joshi (2010) carried out a study for mapping internet literacy among the faculty members of Rajeev Gandhi College of Engineering, Chandrapur and found that most of the faculty members use electronic journals followed by electronic databases and electronic theses/dissertations respectively. Most of the faculty use electronic information to update their knowledge followed by research activities. The study of Sinha (2012) revealed that most research scholars and teachers use search engines for accessing electronic resources and face many problems in accessing and using internet resources. A study conducted by Lata and Sharma (2013) at Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh, and Pt. B.D. Sharma University of Health Sciences (PBDSUHS), Rohtak, pointed out that most of the faculty and students have their skills very high in evaluating the print resources whereas they are having average level of skills in evaluating electronic resources. The findings in the study of Kumar and Gagendra (2014) showed that the numbers of urban students who use computers are more than that of the rural students. Anjaiah (2016) found that the majority of the students and research scholars are familiar with digital resources and have ICT skills. Most of them use Wikipedia, followed by open access journals and electronic databases respectively and most of them are fully satisfied with digital resources. Chakraborty et al. (2020) indicated in their study that the students and research scholars with less computer literacy, ICT access, technical skills, and technical infrastructure are found to be at a disadvantage for personal and professional development. The study indicated that the academic libraries have a big role to play to enhance the use of online and digital resources by their users. Taking this inference, the study of Shwetha and Mallaiahin (2017) revealed that the majority of the faculty members use internet daily and have the IT skills. Most of them use a search engine for searching resources on the internet. Most of them use the keyword search technique. Further, Soomro et al. (2020) study indicated that ICT access was found not to be universal among Pakistan's faculty members, indicating the existence of a digital divide among them related to their personal and positional categories such as age gender and type of university. The study confirmed that there was a digital divide among the faculty related to their usage level in respect of their age and gender. The study indicated that the faculty's physical access to ICTs at the university level and their endogenous motivational access were the major predictors for their instructional usage of ICTs.

On the other side, Subudhi (2020) in his research article explains that the internet plays a very crucial role in providing various digital platforms during the Covid-19 pandemic period. The internet or web act as blessings that make it possible to connect people in

the whole world by maintaining social distance during the lockdown period. The internet or web provides different kinds of communication tools or digital platforms which connect people and with the rest of the world that has resulted in smooth operations of personal and professional activities by the people. The internet or web has made it possible for people to come closer with each other by maintaining social distance with the help of digital closeness. The article also elaborates that as Covid-19 has turned out to be the disastrous crisis faced by the whole world with using social distancing as the only option for people prevent this pandemic, the internet or web has proved to be a boon for human beings. Likewise, Asif and Singh (2020) explained in his article, suffering of world during the Covid-19 pandemic, each institution or public domain has been affected; the libraries have been the gateways to provide relevant information and knowledge for conducting research and other developmental activities in different subject fields. They throw light on different initiatives which are providing easy access to web-based resources such as Hathi Trust, Internet Archive, National Digital Library of India (NDLI), Khan Academy, Open Library, Project Gutenberg, etc. They also put stress on discovering new library services having a dynamic library website, Lib Guide with a list of resources, and virtual reference service. Apart from this, libraries should be well equipped with all technical infrastructure and skilled manpower. Similarly, Bhatti and Kumar (2020) describe the new role of library and information professionals in a pandemic situation like Covid-19 in this article has been portrayed as information disseminators as well as organizers of web-based digital information through various Information pools and tools. The authors highlight that it is their social responsibility to provide the users with easy and access to information digital resources especially during the period of the pandemic when the information requirements of users are generally increased. The library and information professionals can show their expertise using their skills and experience during the period of the pandemic of Covid-19 facing the challenge of doing work in a new way and providing information access to remote users. They can also play the role of stress busters in this challenging situation.

3. Significance of the study

The web has become a first place that people look for information in the contemporary environment. There has been a widespread use of web-based information resources and services among the academic community especially in higher educational institutions such as universities. The web has been proved as a boon for the academic community especially in the pandemic period of COVID-19 by providing an easy access to a wide variety of information resources and services. In general, the academic community belonging to science stream was more familiar with the web technology than that of belonging to social sciences and humanities. So, it is relevant to know about the web literacy skills among the academic community of Social Sciences that enable them to take advantage of web technologies especially during the COVID-19 period. The results

of these studies can be used by the libraries to plan to conduct some web literacy programs for their specific users as per their requirements.

4. Objective of the study

1. To assess the awareness about different types of the web in social science researchers and faculty
2. To find the ability to access and use of web resources and services by social science researchers and faculty
3. To discover the purpose of using the web by social science researchers and faculty
4. To find the methods used to improve their web literacy skills by social science researchers and faculty to improve their web literacy skills
5. To know awareness of legal/ethical issues, data security and digital privacy related to using the web by social science researchers and faculty

For these objectives, an attempt was made to test the following hypothesis that was developed based on the review of literature along with consulting many faculty members, researchers, subject experts, and practitioners.

H01: There is no significant difference between the social sciences researchers and faculty related to their web literacy skills.

H0 2: There is no significant difference between the social sciences researchers and faculty in their ability to access and use of web resources and services

H03: There is no significant difference between the social sciences researchers and faculty in their purpose of using the web

H04: There is no significant difference between the social sciences researchers and faculty in methods used by them to improve their web literacy skills

H05: There is no significant difference between the social sciences researchers and faculty in their awareness of legal / ethical issues, data security and digital privacy related to using the web.

5. Methodology

The population of the present study included the social sciences researchers and faculty of three universities namely Punjabi University, Patiala, Panjab University, Chandigarh and Guru Nanak Dev University, Amritsar. A structured Google form questionnaire on Likert 4-point scale was used for the collecting primary data from the respondents. It was not possible to visit university personally and therefore sample data were collected by sending questionnaire through emails via Google docs. Population of the study is shown in Table 1. Table 1 displays the respondents of 08 social science departments of select universities in Punjab and Chandigarh from North India i.e., Punjabi University, Patiala, Panjab University, Chandigarh and Guru Nanak Dev University, Amritsar. The 08 departments of Social Sciences of three universities were as per ICSSR (Indian

Council of Social Science Research). The respondents from a total population of 1061 were of researchers and faculty.

Table 1: Population of the select universities under study

Departments	Punjabi University, Patiala		Panjab University, Chandigarh		Guru Nanak Dev University, Amritsar		Total
	Researchers	Faculty	Researchers	Faculty	Researchers	Faculty	
History	27	09	30	10	08	04	88
Sociology	50	07	30	08	09	05	109
Political Science	28	10	20	07	06	04	75
Law	10	16	100	18	18	07	169
Economics	200	14	30	11	14	08	277
Psychology	93	15	30	06	13	05	162
Library & Information Science	32	06	20	04	04	03	69
Education	22	04	45	8	28	05	112
Total	**462**	**81**	**305**	**72**	**100**	**41**	**1061**
	543 (51.17)		**377 (35.53)**		**141 (13.28)**		

The stratified random sampling distribution for collecting sample from researchers and faculty of these universities under study is shown in Table 2.

Table 2: Proportionate stratified random sampling

Respondents From the three university	Total population N (%)	Minimum stratified sample size required sample of total population=N	Minimum Required Sample=N	Total sample used for study N (%)
Researchers	867 (81.72)	290.48⋆867/1061=237.36	237.36	422 (39.77) ⋆ 1061
Faculty	194 (18.28)	290.48⋆194/1061=53.11	53.11	110 (10.37) ⋆ 1061
Total	1061 (100)	290.48(27.38%) ⋆	290.48	532 (50.14) ⋆1061

⋆Using Solvin's Formula

A proportionate random stratified sampling has been employed as presented in Table 2. Sample data collected from respondents comprising researchers and faculty from a total population of 1061 includes, total numbers of faculty members were 194 (18.28%); total numbers of researchers were 867 (81.71%).

The sample size has been calculated using Solvin's formula where sample size (n) is given by:

$$n = \frac{N}{1 + Ne^2}$$

Where n= sample size, N= population size, e = the margin of error (0.05)

$$n = \frac{1061}{1 + 1061(0.05)^2}$$

$$= \frac{1061}{3.6525} = 290.48$$

According to Solvin Formula, the proposed sample size calculated was 290.47 (27.38%) from the whole population (1061). As per the proportionate stratified random sampling, data were collected from 110 faculty members (20.7% of 532) and 435 researchers (79.3% of 532) for a total of 532 responses. As a result, the sample represents 532(50.14%) of the total population (1061) was taken for study. Therefore, in this study, (Table 2) total sample were collected from 532 (50.14%) of the total population of 1061, includes total numbers of faculty members were 110 (10.37 %); total numbers of researchers were 422 (39.77%). As a result, 532 (100%) represents the total sample of the study and used for data analysis.

6. Data analysis

Data analysis was done using statistical techniques and testing of hypotheses has been done with the help of statistical tools namely SPSS version 21 (Statistical Package for the Social Sciences) and MS Excel using statistical techniques viz. percentage, Pearson Chi-square test were applied for this purpose.

6.1 Awareness of different types of the web

To know the "Awareness of Different Types of the Web" in the social sciences faculty and researchers in the universities under study, $H_0 1$ was tested statistically using the Chi-square test and its results are presented in Table 3.

Table 3 displays that most of the respondents (75.6%) were aware of "The Open/Surface Web" while only 27.8% of them were having the knowledge of "The Deep Web". Hence, it is pertinent to say that most of the respondents were familiar with "The Open or Surface Web", but they were not so familiar with "The Deep Web". The Chi-square

test has produced statistically significant results related to "The Open Web" (χ^2=10.296, df=2, p-value=0.000<0.05) and "The Deep Web" (χ^2=168.732, df=2, p-value=0.000<0.05) respectively. It means that there was a significant difference between the social sciences researchers and faculty related to their awareness about different types of the Web. Hence, $H_0$1 was rejected for these variables.

Table 3: Awareness of different types of the web

Web	Response	Respondents		Total N (%)	Chi-Square χ^2 (df; C)
		Researchers N (%)	Faculty N (%)		
Open Web/ Surface Web	No	116 (21.8)	14 (2.6)	130 (24.4)	139.068 (1; 0.000)
	Yes	306 (57.5)	96 (18.0)	402 (75.6)	
	Total	422 (79.3)	110 (20.7)	532 (100)	
	Statistically significant difference among researchers and faculty (H_0 1-Rejected)				
Deep Web/ Invisible Web	No	314 (59)	70 (13.2)	384 (72.2)	104.692 (1; 0.000)
	Yes	108 (20.3)	40 (7.5)	148 (27.8)	
	Total	422 (79.3)	110 (20.7)	532 (100)	
	Statistically significant difference among researchers and faculty (H_0 1-Rejected)				

6.2 Ability to access and use of web-based resources and services

To find the "ability to access and use of web-based resources and services" among the respondents including social sciences faculty and researchers, $H_0$2 was tested statistically using the Chi-square test and its results are presented in Table 4.

Table 4: Ability to access and use of web-based resources and services

Variable	Rating	Respondents		Total N (%)	Chi-Square χ^2 (df; C)
		Researchers N (%)	Faculty N (%)		
Ability	Not at All	2 (0.4)	0 (0)	2 (0.4)	**479.549 (3; 0.00)**
	To A Little Extent	176 (33.1)	56 (10.5)	232 (43.6)	
	To Some Extent	200 (37.6)	48 (9)	248 (46.6)	
	To A Great Extent	44 (8.3)	6 (1.1)	50 (9.4)	
	Total	422 (79.3)	110 (20.7)	532 (100)	
	Statistically significant difference among researchers and faculty ($H_0$2-Rejected)				

Table 4 shows the analysis of the data related to the self-assessment of the respondents about their ability to access and use web-based resources and services. The results of the study show that most of the respondents (46.6%) was found having the ability to access and use of web-based resources and services 'to some extent' while 43.6% of the

respondents were having such ability 'to a little extent' and only a few of them (9.4%) were having such ability 'to a great extent'. Thus, it is relevant to say that most of the social sciences researchers and faculty were having the ability to access and use of web-based resources and services 'to some extent'.

The Chi-square test has produced statistically significant results (χ^2=4.775, df=3, p-value=0.00<0.05) which indicate that there was a significant difference between the social sciences faculty and the researchers about their ability to access and use of web-based resources and services. Hence, $H_0$1 was rejected for this variable. So, it is pertinent to say that the social sciences researchers and faculty were having no equal ability to access and use of web-based resources and services.

Table 5: Use of the web for different purposes

Purpose	Frequency	Respondents		Total N (%)	Chi-Square χ^2 (df; C)
		Researchers N (%)	Faculty N (%)		
Reading (Accessing/Downloading Web Contents)	Never	0 (0.0)	0 (0.0)	0 (0.0)	233.699 (2; 0.000)
	Rarely	6 (1.1)	12 (2.3)	18 (3.4)	
	Sometimes	176 (33.1)	40 (7.5)	216 (40.6)	
	Always	240 (45.1)	58 (10.9)	298 (56.0)	
	Total	422 (79.3)	110 (20.7)	532 (100)	
	Statistically significant difference among researchers and faculty ($H_0$3-Rejected)				
Writing (Uploading Content on the Web)	Never	84 (15.8)	0 (0.0)	84 (15.8)	436.481 (3; 0.000)
	Rarely	258 (48.5)	76 (14.3)	334 (62.8)	
	Sometimes	80 (15)	20 (3.8)	100 (18.8)	
	Always	0 (0.0)	14 (2.6)	14 (2.6)	
	Total	422 (79.3)	110 (20.7)	532 (100)	
	Statistically significant difference among researchers and faculty ($H_0$3-Rejected)				
Participation/ Collaboration	Never	180 (33.8)	18 (3.4)	198 (37.2)	371.158 (3; 0.000)
	Rarely	224 (42.1)	56 (10.5)	280 (52.6)	
	Sometimes	18 (3.4)	32 (6.0)	50 (9.4)	
	Always	0 (0.0)	4 (0.8)	4 (0.8)	
	Total	422 (79.3)	110 (20.7)	532 (100)	
	Statistically significant difference among researchers and faculty ($H_0$3-Rejected)				
Communication/ Peer Networking	Never	0 (0.0)	0 (0.0)	0 (0.0)	194.0 (2; 0.00)
	Rarely	128 (24.1)	42 (7.9)	170 (32.0)	
	Sometimes	252 (47.4)	60 (11.3)	312 (58.6)	
	Always	42 (7.9)	8 (1.5)	50 (9.4)	
	Total	422 (79.3)	110 (20.7)	532 (100)	
	Statistically significant difference among researchers and faculty ($H_0$3-Rejected)				

6.3 Use of the web for different purposes

To identify the "Use of the Web for Different Purposes " among the respondents including social sciences faculty and researchers in the university libraries under study, $H_0$3 was statistically tested using the Chi-square test and its results are presented in Table 5. Table 5 exhibits the data related to use of the web for different purposes among researchers and faculty. The results shows that most of the respondents (56%) 'Always' used the "Web" for "Reading" followed by 40.6% of them who did this practice 'sometimes'. The most of the respondents (62.8%) used the Web for "Writing" purpose 'rarely' while 58.6% of the respondents used the Web for participation/ collaboration purpose 'sometimes', 32% of them did this practice 'rarely', 58.6% of the respondents used the Web for "Communication/Peer Networking" 'sometimes' while 32% of them used the Web for this purpose 'rarely.

The Chi-square test has produced statistically significant results related to 'Reading' (χ^2=233.699, df=1, p-value=0.000<0.05), 'Writing' (χ^2=436.481, df=1, p-value=0.000<0.05), 'Participation/Collaboration' (χ^2=371.158, df=1, p-value=0.000<0.05) and 'Communication or Peer Networking' (χ^2=194.0, df=1, p-value=0.000<0.05) respectively. It has confirmed that there was a statistically significant difference between the social sciences researchers and faculty related to using the Web for different purposes. Hence, $H_0$3 was rejected for these variables.

6.4 Methods to improve web literacy skills

To examine the use of different "Methods to Improve Web literacy Skills" among the respondents, $H_0$4 was tested statistically using the Chi-square test and its results are presented in Table 6.

Table 6 depicts the different methods, used by the respondents including social sciences researchers and faculty to improve their web literacy skills. The results of the analysis reveal that most of the respondents (50%) improved their digital skills by "Self-Learning" 'to some extent' followed by 47.4percent of the respondents used this method 'to a great extent'. About 52.6percent of the respondents did not improve their digital skills through "Training Programmes or Workshops" 'at all' followed by 44.4percent of the respondents who did this practice 'to a little extent'. Most of the respondents (62.4%) consulted their "Friends and Colleagues" to improve their web literacy skills 'to some extent' followed by 22.9percent of the respondents who did this practice 'to a little extent' and merely 14.7percent of the respondents 'to a great extent'. Most of the respondents (69.9%) did not consult "Technical Experts" in this regard 'at all' and only 27.4percent of the respondents consulted technical experts for this purpose 'to a little extent'. Most of the respondents (68.8%) took the "Guidance from Library Professionals" 'to a little extent' and only 23.3percent of the respondents did this practice 'to some extent'. The Chi-square test has produced statistical significant results related to 'Self-

Learning'(χ^2=226.211, df=2, p-value=0.000<0.05), 'Training Programmes/ Workshops'(χ^2=225.624, df=2, p-value=0.000<0.05), 'Discussion with Colleagues/ Friends' (χ^2=207.805, df=2, p-value=0.023<0.05) and 'Guidance from Library Professionals' (χ^2=600.812, df=3, p-value=0.000<0.05), 'Consultation with IT Experts'(χ^2=369.669, df=3, p-value=0.000<0.05) respectively. It means that there was a significant difference between the social sciences researchers and faculty related to these methods, used by them to improve their web literacy skills. Hence, $H_0$4 was rejected for these variables.

6.5 Awareness of legal and ethical issues

To identify the "Awareness of Legal and Ethical Issues" related to the access and use of web-based resources and services among the social sciences researchers and faculty in the university libraries under study, $H_0$5 was tested statistically using the Chi-square test and its results are presented in Table 7.

Table 7 shows the data related to the awareness of legal/ethical issues, data security and digital privacy about the access and use of web-based resources and services among the researchers and faculty. The results indicate that only 49.2% of the respondents were found aware of the legal and ethical issues related to this subject matter. Most of the respondents (50.8%) were lacking such awareness. The Chi-square test has produced statistically significant results (x^2=23.579, df=1, p-value=0.000<0.05) indicating a significant difference between the social sciences faculty and the researchers related to their related to the awareness of legal / ethical issues, data security and digital privacy regarding accessing and using web-based resources and services. Hence, $H_0$5 was rejected for this variable.

6.6 Evaluation of web-based resources

To know, the exercise of "Evaluation of Web-based Resources", made by the respondents including social sciences researchers and faculty, the Chi-square test and its results are presented in Table 8.

Table 8 indicates facts related to the exercise of evaluation of web resources, made by the respondents. The results reveal that most of the respondents (63.2%) were found to be performing the evaluation of Web resources 'rarely' while only 26.7 percent of them performed this activity ‘sometimes’. Hence, most of them were found to be doing this practice 'rarely'. The Chi-square test has presented statistically significant results (χ^2=480.632, df =1, p-value=0.000<0.05) indicating a significant difference between the social sciences researchers and faculty related to the frequency of performing the evaluation of web-based resources.

Table 6: Methods to improve web literacy skills

Method	Rating	Respondents		Total N (%)	Chi-Square χ^2 (df; C)
		Researchers N (%)	Faculty N (%)		
Self-Learning	Not at All	0 (0.0)	0 (0.0)	0 (0.0)	226.211 (2; 0.00)
	To A Little Extent	12 (2.3)	2 (0.4)	14 (2.6)	
	To Some Extent	210 (39.5)	56 (10.5)	266 (50)	
	To A Great Extent	200 (37.6)	52 (9.8)	252 (47.4)	
	Total	422 (79.3)	110 (20.7)	532 (100)	
	Statistically significant difference among researchers and faculty ($H_0$4-Rejected)				
Training Programmes/ Workshops	Not at All	238 (44.7)	42 (7.9)	280 (52.6)	225.624 (2; 0.000)
	To A Little Extent	168 (31.6)	68 (12.8)	236 (44.4)	
	To Some Extent	16 (3.0)	0 (0.0)	16 (3.0)	
	To A Great Extent	0 (0.0)	0 (0.0)	0 (0.0)	
	Total	422 (79.3)	110 (20.7)	532 (100)	
	Statistically significant difference among researchers and faculty ($H_0$4-Rejected)				
Discussion with Colleagues/ Friends	Not at All	0 (0.0)	0 (0.0)	0 (0.0)	207.805 (2; 0.023)
	To A Little Extent	86 (16.2)	36 (6.8)	122 (22.9)	
	To Some Extent	272 (51.1)	60 (11.3)	332 (62.4)	
	To A Great Extent	64 (12.0)	14 (2.6)	78 (14.7)	
	Total	422 (79.3)	110 (20.7)	532 (100)	
	Statistically significant difference among researchers and faculty ($H_0$4-Rejected)				
Consultation with Technical Experts	Not at All	312 (58.6)	60 (11.3)	372 (69.9)	369.669 (2; 0.000)
	To A Little Extent	100 (18.8)	46 (8.6)	146 27.4)	
	To Some Extent	10 (1.9)	4 (0.8)	14 (2.6)	
	To A Great Extent	0 (0.0)	0 (0.0)	0 (0.0)	
	Total	422 (79.3)	110 (20.7)	532 (100)	
	Statistically significant difference among researchers and faculty ($H_0$4-Rejected)				
Guidance from Library Professionals	Not at All	36 (6.8)	0 (0)	36 (6.8)	600.812 (3; 0.000)
	To A Little Extent	294 (55.3)	72 (13.5)	366 (68.8)	
	To Some Extent	86 (16.2)	38 (7.1)	124 (23.3)	
	To A Great Extent	6 (1.1)	0 (0)	6 (1.1)	
	Total	422 (79.3)	110 (20.7)	532 (100)	
	Statistically significant difference among researchers and faculty ($H_0$4-Rejected)				

Table 7: Awareness of legal/ethical issues, data security and digital privacy

Variable	Rating	Respondents		Total N (%)	Chi-Square χ^2 (df; C)
		Researchers N (%)	Faculty N (%)		
Awareness of Legal / Ethical Issues Data Security and Digital Privacy	No	252 (47.4)	18 (3.4)	270 (50.8)	23.579 (1; 0.000)
	Yes	170 (32)	92 (17.3)	262 (49.2)	
	Total	422 (79.3)	110 (20.7)	532 (100)	
Statistically significant difference among researchers and faculty ($H_0$5-Rejected)					

Table 8: Evaluation of web-based resources

Variable	Frequency	Respondents		Total N (%)	Chi-Square χ^2 (df; C)
		Researchers N (%)	Faculty N (%)		
Evaluation	Never	8 (1.5)	10 (1.9)	18 (3.4)	**480.632 (3; 0.000)**
	Rarely	276 (51.9)	60 (11.3)	336 (63.2)	
	Sometimes	106 (19.9)	36 (6.8)	142 (26.7)	
	Always	32 (6)	4 (0.8)	36 (6.8)	
	Total	422 (79.3)	110 (20.7)	532 (100)	
Statistically significant difference among researchers and faculty					

6.7 Readiness to attend web literacy programs

To check the "Readiness to Attend Web literacy Programs" soon among the respondents, the Chi-square test and its results are presented in Table 9.

Table 9: Readiness to attend web literacy programs

Variable	Rating	Respondents		Total N (%)	Chi-Square χ^2 (df; C)
		Researchers N (%)	Faculty N (%)		
Readiness to Attend Web literacy Program	Strongly Disagree	2 (0.4)	0 (0.0)	2 (0.4)	**639.429 (3; 0.000)**
	Disagree	18 (3.4)	22 (4.1)	40 (7.5)	
	Agree	166 (31.2)	46 (8.6)	212 (39.8)	
	Strongly Agree	236 (44.4)	42 (7.9)	278 (52.3)	
	Total	422 (79.3)	110 (20.7)	532 (100)	
There is a statistical difference among researchers and faculty					

Table 9 reveal the responses of respondents related to their readiness to attend web literacy programs soon. The results show that most of the respondents (52.3%) were 'strongly agree' to attend web literacy soon while 39.8 percent of them were 'agree' to

attend such programmes and only 7.5 percent of them were 'disagree' to attend these programs. So, most of the respondents were 'strongly agree' to attend web literacy programmes soon. The Chi-square test has drawn statistically significant results (χ^2=34.644, df =3, p-value=0.000<0.05) indicating a significant difference between the social sciences researchers and faculty regarding their readiness to attend web literacy programmes soon.

7. Discussion of the study

The outcomes of the findings reflect that majority of the social sciences researchers and faculty i.e., 75.6 percent was aware of 'Open Web' and only 27.8 percent of them were aware of the 'Deep Web'. So, the respondents were more aware of 'Open Web/Surface Web' than 'Deep Web/Invisible Web. There was a significant difference between the social sciences faculty and the researchers related to their awareness of different types of the web, i.e., 'Open Web' and 'Deep Web'. This study is in parallel with the findings of Mishra and Maharana (2007). The findings of the study reveal that majority of the social sciences researchers and faculty (46.6%) were having the ability to access and use of web-based resources and services 'to some extent' while 43.6 percent of them were having such ability to 'a little extent' and only a few of them (9.4%) were having such ability 'to a great extent'. There was significant difference between the social sciences faculty and the researchers regarding their ability to access and use of web-based resources and services. The study is consonance with the findings of the study, conducted by Sinha (2012). The study results indicates that most of the social sciences researchers and faculty used the 'Web' mainly for the purpose of' 'Reading' followed by 'Communication', 'writing' and 'Participation' respectively. There was a significant difference between the social sciences faculty and the researchers related to their purposes of using the 'Web' i.e., 'Reading', 'Communication', 'writing' and 'Participation'. Shwetha and Mallaiahin (2017) confirmed the findings of this study. The findings of the study shows that most of the social sciences researchers and faculty researchers improved their web literacy skills through 'Self Learning' followed by 'Discussion with Friends or Colleagues', 'Guidance from Library Professionals', 'Training Programs' and 'Consultation with Technical Experts' respectively. There was a significant difference between the social sciences faculty and the researchers related to using different methods, to improve their web literacy skills. Similarly, Chakraborty et al. (2020) points out in their study that less computer literacy, ICT access, technical skills, and technical infrastructure were found to be at a disadvantage for personal and professional development. It has been found from the findings that 49.2.8 percent of the social sciences researchers and faculty were having the 'awareness of legal /ethical issues, data security and digital privacy" related to access and use of web-based resources and services. There was a significant difference between the social sciences faculty and researchers related to be having 'Awareness about Legal and Ethical Issues' about accessing and using web-based resources and services. The outcomes of the study depict that most of the social sciences researchers and faculty

(63.2%) used to evaluate web resources 'rarely' while only 26.7 percent of them did this practice 'sometimes'. There was a significant difference between the social sciences faculty and the researchers related to their frequency of performing the evaluation of web resources before their use. The results of this study are in difference with Mishra and Maharana (2007). The results of the findings point out that most of the social sciences researchers and faculty (52.3%) were 'strongly agree' to attend web literacy programs to improve their web literacy skills. There was a significant difference between the social sciences faculty and the researchers regarding their readiness to attend web literacy programs soon. Sharing the same opinion, Chakraborty et al. (2020) the study also suggested for organizing information literacy programs by the academic libraries in this regard.

8. Conclusion

Thus, this study concludes that most of the social sciences researchers and faculty were aware of the open web and used the web for reading/downloading contents during the COVID-19 in the university libraries under study. The most of them were having the ability to use the web to some extent but most of them rarely evaluated the web content before using them. The faculty was found to be more familiar with data security, digital privacy than the researchers. The study concludes that the faculty was found to be more able to access and use the web-based resources and services than researchers during the COVID-19 pandemic. The most of them learnt to use the web through self-learning and were willing to attend some digital literacy program soon. In this context, the library professionals have a crucial role to play. They need to take all essential measures to provide the faculty and the researchers to become more familiar with data security and digital privacy.Additionally, some intensive studies can be pursued on the use of web-based resources and services by focusing on co-relation between use, awareness, and satisfaction in different disciplines of Social Sciences

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