University of Nebraska - Lincoln
DigitalCommons@University of Nebraska - Lincoln

Library Philosophy and Practice (e-journal) | Libraries at University of Nebraska-Lincoln

7-2021

Awareness, Satisfaction and Problems Faced by Faculty Members regarding Electronic Information Resources: A Survey

Ms Saddiqa
Department of LIS, Khushal Khan Khattak University Karak, Pakistan, saddiqaktk92@gmail.com

Mohammad Hussain
Department of LIS, Khushal Khan Khattak University Karak, Pakistan, mhustb@gmail.com

Muhammad Shahab
Department of LIS, Khushal Khan Khattak University Karak, Pakistan, shahabktk10@yahoo.com

Follow this and additional works at: https://digitalcommons.unl.edu/libphilprac

 Part of the Library and Information Science Commons

Saddiqa, Ms; Hussain, Mohammad; and Shahab, Muhammad, "Awareness, Satisfaction and Problems Faced by Faculty Members regarding Electronic Information Resources: A Survey" (2021). *Library Philosophy and Practice (e-journal)*. 6095.
https://digitalcommons.unl.edu/libphilprac/6095

Awareness, Satisfaction and Problems Faced by Faculty Members regarding Electronic Information Resources: A Survey

Ms. Saddiqa, M. Phil Scholar,
Department of LIS, Khushal Khan Khattak University Karak, Pakistan
Mohammad Hussain, Lecturer
Department of LIS, Khushal Khan Khattak University Karak, Pakistan
Muhammad Shahab, Teaching Assistant
Department of LIS, Khushal Khan Khattak University Karak, Pakistan

Abstract

Purpose. This study evaluated the awareness and satisfaction of faculty members with of e-resources. The specific objectives were to identify the sources from which faculty members learn about e-resources, the extent of awareness, satisfaction and problems faced by teachers while accessing e-resources.

Research Design and Methodology. The study was quantitative, and the questionnaire-based survey was conducted to achieve the target goals. Three strata of faculty members were made, and then a sample of 340 faculty members was taken using the random sampling technique. Statistical Package for Social Sciences version 22 (SPSS) was used to analyze the data, and descriptive and inferential statistics were used according to the study's objectives.

Results. The sample constituted of 72.9% male and 27.1% female respondents. The faculty members used different sources to learn about e-resources, including self-learning, friends, workshops and course modules. Most of the teachers were aware of e-resources such as e-books, e-journals, e-zines, and HEC databases. The results also indicated that male teachers were more aware of e-resources than female teachers. The faculty members showed a high level of stratification with sources like e-journals, e-zines and HEC databases.

Implications. The results of the study could be beneficial for the concerned authorities. The key points to be considered include 1) proper training and workshops be organized to enhance the awareness and use of e-resources among the teaching community 2) more databases should be subscribed to satisfy the information needs and enhance the research productivity.

Originality. The study is unique because such study is not conducted in the region to assess the awareness and satisfaction of faculty members with e- resources. Moreover, it will also fill the literature gap.

***Keywords*:** Awareness of Electronic Information Resources, Satisfaction with E-resources, Electronic Information Resources, E-resources, Khyber Pakhtunkhwa, Pakistan

1. Introduction

The digital environment, Information and Communication Technologies (ICT), and e-resources provide a platform for academicians and researchers to access information that enhances and improves their research and academic activities. Electronic information resources are the latest advancements in information technology and are the most influential instruments ever developed in human history. The advancement in communication and networking technologies has enabled the libraries and information centers to provide information to their users on their desktops rather than physically visit the library (Ganesh and Rajendran, 2019). Electronic resources have gradually gained popularity in library collections around the world. New technologies and techniques have made these resources important to the academic community (Akpojotor, 2016; Velmurugan, 2013).

The usage of these resources has increased rapidly among research scholars and academicians. Now, the teachers and research scholars are dependent on electronic resources and have adopted them as common academic activities tools (Amjad, Ahmad and Naeem, 2013). Electronic information sources are available in electronic format and accessible via different electronic devices, such as computers, laptops, tablets, or other electronic devices (Johnson et al., 2012). An electronic resource is defined as a "resource that requires a computer or any electronic gadget for its accessibility including full-text databases, electronic journals, image collections, multimedia products, numerical, graphic, and other digit content" (Kenchakkanavar, 2014; Suresh & Ravi, 2020; Zibani & Kalusopa, 2019).

These resources have numerous characteristics, including timely provision of information, easy access, 24/7 availability, free from limitations of spaces, and remote access to users. Furthermore, these information assets can easily meet users' information needs instantly (Madhusudhan,2010).

Electronic resources are essential elements for the academic community as they enable users to access up-to-date information in the proper format without spending much time (Adekannbi, 2016). As Hadagali, Kumbar, Nelogal and Bachalapur (2012) expressed, in academia, electronic resources dominate the research activities and the researchers also have realized the importance of such resources. According to Kwaghga, Anthony and Helen (2019), electronic resources have the potentials for enhancing students learning as they provide teachers and students with vast quantities of information in an easily accessible and non-sequential format.

E-resources are increasingly crucial to all aspects of education – from teaching and

learning through the collection of student data, administration and marketing activities. The internet and the web constantly influence the development of new modes of scholarly communication; their potential for delivering goods is quite vast, as they overcome the geographical limitations associated with print media. E-resources are convenient to use and make the research easier and enable the user to search for information faster than printed resources (Kavitha, 2018). As stated by Ahmad, Dar and Basharat (2019), electronic resources have the potential to increase the learning opportunities of students by providing the interactive and multimedia elements.

2. Literature Review

Ansari (2020) analyzed the awareness and utilization of e-resources among the research scholars of Banaras Hindu University. It was reported that most of the users had knowledge of e-resource, and they were also aware of the features and characteristics of these information assets. However, some respondents were found confused with the diverse nature of these resources. It was advised that awareness sessions be organized to inform all the scholars and students of the university.

Abba (2019) examined the awareness of internet services, resources and their competencies among the respondents. The stratified sampling techniques were used, and data was gathered from the respondents through the survey. The study results indicate that the respondents were aware of e-services and resources at an average level. The study recommended that e-services and resources be provided, and instructions and information literacy programs should be arranged to inform the users about e-resources.

Hussain and Saddiqa (2019) reported that most teachers and research students were aware of various e-resources, including e-books, e-journals, e-zines, and the databases provided by the Higher Education Commission (HEC) of Pakistan. Sharma (2019) measured the faculty members and research scholar's expertise, accessibility, and usage of digital resources and found that most respondents were aware of library facilities and e-resources. It was found that the "Indian Citation Index, Web of Science, and Scopus" were used by the study's participants for citation analysis. It was suggested that orientation sessions and training programs be arranged to inform the respondents about e-resources and enhance their searching skills.

Srinivasulu, Balu and Narendra (2019) found that most respondents were aware of e-resources while publishing articles and getting information were the primary purposes of using these resources. In addition, they were satisfied with the overall use of e-resources. Subha and Natarajan (2019) adopted the questionnaire based survey method to investigate the awareness, availability, and usability of e-resources by academicians. The results show that

respondents knew about e-resources and used these regularly to improve knowledge, study, and learning.

Rafiq (2018) reported that teachers were aware of e-resources through self-learning, discussion with friends and colleagues. It was also discovered that e-books, e-journals, and e-zines were the most used resources among the teachers' community. It was suggested that orientation and training sessions should be organized to enhance faculty's skills regarding electronic information resources. Boakye (2017) identified the problems faced by the teachers while accessing e-resources which include slow internet, regular power outages and an unstable networking facility. Larson (2017) also reported some issues and barriers confronted by teachers while accessing e-resources. These were slow internet, lack of searching skills, and VPN's unavailability for off-campus use.

Sheikh (2017) found that almost all teachers were aware of open access information resources. The respondents used these resources for academic and research purposes. Kumar and Anjaiah (2016) said that most of the study respondents were aware of e-resources, including e-books and e-journals and used these to update their knowledge about the subject. It was reported that 72.69% of respondents were satisfied, while 27.26% were not satisfied with the e-services of the library.

Ali, Jan, Rehman and Jan (2015) revealed that most of the study's respondents were male and were not completely informed of the available databases. It was recommended that the librarians arranged awareness and training programs for the library users to make possible the best use of digital resources. Out, Asante and Martin (2015) found a correlation between awareness and utilization of e-resources, but statistically, it was not significant. It was suggested that awareness of electronic journals among faculty should be enhanced by organizing regular workshops and tools like newsletters, flyers, and brochures should be used for this purpose.

Ahmad, Basha and Fatima (2012) said that though most respondents were satisfied with the internet facility, they faced some problems while accessing e-resources. The major problems were limited workstations, slow internet connectivity, difficulties in finding relevant information, retrieval issues, insufficient time and lack of training.

3. Objectives of Study

This study focused on the following goals: -

- To describe the demographic information of faculty members.
- To identify the sources from which faculty members learn about e-resources.

- To investigate the awareness of faculty members of e-resources.
- To see whether there is a significant difference in awareness of electronic resources between male and female faculty members.
- To assess the satisfaction of teaching staff with respect to electronic services.
- To point out the problems faced by the faculty while accessing e- resources

4. Research design and Methodology

The quantitative research design was used and the survey research method was employed to gather data from the study's respondents. This method was appropriate and suitable for the study because the population was spread over a large geographical area. Moreover, this method was applied because many research scholars of LIS have already used this method in such studies (Bashorun, Isah & Adisa, 2011; Rehman, Shafique, & Mahmood, 2011; Tyagi, 2011).

The study population was the faculty members of the six public sector universities situated in the southern part of Khyber Pakhtunkhwa (see Table 1). Six hundred sixty one (661) faculty members were working in these universities, which constituted the study's population. According to Gay, Mills and Airasian (2011), for the quantitative study, if the population size is around 500, then 50% should be taken as a sample. Keeping in view, 340 faculty members were selected as a sample of the study. The stratified sampling technique was used to draw the sample from the population. The faculty members were grouped into three strata based on their designations. 1) professors and associate professors; 2) assistant professors; and 3) lecturers. The sample size of each stratum was equal to the group's proportion in the whole population. The researcher was then randomly select the respondents from each stratum to achieve the desired sample size.

The required data for the study was collected through the questionnaire from the sample. The collected data was analyzed using Statistical Packages for Social Sciences and descriptive and inferential statistics were applied as par the objectives of the study. Moreover, the paper is formatted according to the "Publication Manual of the American Psychological Association" (APA 6th ed.), and the references are organized using the reference management tool EndNote x8.

Table 1

Details of population and sample

S. No.	Name of University	*(Stratum 1)* Professor and Associate Professor		*(Stratum 2)* Assistant Professor		*(Stratum 3)* Lecturer		Total	
		*Total	*Sample	*Total	*Sample	*Total	*Sample	*Total	*Sample
1.	Gomal University D I Khan (GUDIK)	34	17	120	61	113	58	267	136
2.	Kohat University of Science and Technology, Kohat (KUST)	7	4	100	51	79	41	186	96
3.	University of Science and Technology, Bannu (UST, Bannu)	5	3	52	27	68	35	125	65
4.	Khushal Khan Khattak University Karak (KKKUK)	1	-	21	11	32	16	54	27
5.	*FATA University (FU)	1	-	6	4	11	6	18	10
6.	University of Lakki Marwat (ULM)	-	-	3	2	8	4	11	6
	Total	**48**	**24**	**302**	**156**	**311**	**160**	**661**	**340**

*FATA= Federally Administered Tribal Areas, *Total= Represents population, *Sample= Represents sample

5. Data Analysis and Interpretation

The information gathered was analyzed according to the study's objectives, and the results are presented in tables and explanations.

5.1 Demographic Information of Respondents

This section describes the respondents' demographic information in terms of gender, age and teaching experience. The results indicate that the study sample was constituted of 249(73.2%) male and 91(26.8%) female respondents. Therefore, it may be concluded that the ratio of male respondents was higher than the female respondents. In addition, the data reveals that 154(45.3%) respondents were of age group ranged from 35-39 years followed by 103(30.3%) respondents with age 40-44 years, 44(12.9%) respondents were of age ranged from 45-49 years. There were 29(8.5%) respondents with age group 30-34 years and only 10(2.9%) respondents were of the age group 25-29 years.

The data in Table 2 shows that out of 340 faculty members, 205(60.3%) respondents were Lecturers, 108(31.8%) were Assistant Professors, 17(5%) were Associate Professors and only 10(2.9%) were Professors**.** Furthermore, the data illustrates that 172(50.6%) faculty members had 6-10 years of teaching experience, 102(30%) faculty members had 11-15 years' experience, 62(18.2%) respondents with 1-5 years of teaching experience, whereas 4(1.2%) respondents had 16-20 years of experience.

Table 2

Demographic information of respondents

Gender	**Frequency**	**Percentage (%)**
Male	249	73.2
Female	91	26.8
Age		
25-29	10	2.9
30-34	29	8.5
35-39	154	45.3
40-45	103	30.3
46-49	44	12.9
Designation		
Professor	10	2.9
Associate Professor	17	5
Assistant Professor	108	31.8
Lecturer	205	60.3
Experience		
1-5	62	18.2
6-10	172	50.6
11-15	102	30
16-20	4	1.2

5.2 University and Faculty wise Distribution of Respondents

The data was collected from the faculty members of various universities; Table 3 depicts the university-wise distribution of respondents. The data shows that out of 340 respondents, 136(40.4%) were from Gomal University D.I Khan (GUDIK), followed by Kohat University of Science and Technology (KUST) with 96(28.2%) respondents and University of Science and Technology, Bannu (UST, Bannu) with 65(19.1%) respondents, 27(7.9%) respondents were from Khushal Khan Khattak University Karak (KKKUK), whereas 10(2.9%) respondents were from FATA University (FU) and 6(1.8%) respondents belonged to University of Lakki Marwat (ULM).

The faculty-wise distribution of the study's sample indicates that 117(34.4%) respondents were from the faculty of social sciences, followed by science faculty with 114(33.5%) respondents. The faculties of management& economics and engineering & technology had the least number of respondents with 60 and 49 respectively.

Table 3

Affiliation of respondents with universities and faculties

Name of University	**Frequency**	**Percentage (%)**
GUDIK	136	40.4
KUST	96	28.2
UST, Bannu	65	19.1
KKKUK	27	7.9
ULM	6	1.8
FU	10	2.9
Name of Faculty		
Faculty of Social Science	117	34.4
Faculty of Science	114	33.5
Faculty of Engineering &Technology	49	14.4
Faculty of Management & Economic	60	17.6

5.4 Sources from which Faculty Members Learnt about e-resources

The faculty members were asked to specify how they learnt about e-resources. Their responses are given in Table 4, which shows that the faculty members used different sources to know about e-resources. The majority of the faculty members, 110(32.4%), learnt about e-resources from self-learning, 103(30.3%) respondents got information through friends, 68(20%) respondents aware themselves through the workshops while 58(17%) learnt from course modules. Siwach and Malik (2019) also investigated that 73.65% and 59.58% of respondents learned about e-resources through self-learning and friends, respectively.

Table 4

Sources of awareness of e-resources

Statement	**Frequency**	**Percentage (%)**
Through friend	104	30.6
Self-learning	110	32.4
From course modules	58	17
Workshops	68	20

5.5 Awareness of Electronic Information Resources

The use of e-resources depends on their awareness among the users. The faculty members were asked on a five-point Likert scale (from Not at all aware--highly aware) to show their awareness about different electronic resources such as e-books, e-journals, e-zines, etc. The responses of the respondents are mentioned in Table 5, along with means scores. It is demonstrated from the data that the faculty members were more aware of e-resources like e-books, e-journals and e-zines because these received higher mean scores. They were also moderately aware of e-resources like HEC databases (μ=3.97), HEC repository (μ=3.85) and

open-access database like Library Genesis (μ=3.57) and Directory of Open Access Journals (μ=3.53). It can be concluded that the faculty members were aware of electronic information resources.

Sebastian and Muthumari (2020); and Bassi and Camble (2011) supported the study's findings. They discovered that majority of the respondent were aware of e-books and e-journals.

Table 5

Extent of awareness of the different electronic resources

E-resources	***Mean***	***Std. Deviation***	***Variance***
E- books	4.56	.79001	.624
E-journals	4.48	.94845	.900
E-zines	4.35	.93702	.878
HEC Databases	3.97	1.08585	1.179
HEC Repository	3.85	1.03796	1.077
Library Genesis	3.57	1.25843	1.584
DOAJ	3.53	1.50572	2.267

Scale: 1=Not at all aware, 2= Slightly aware, 3=Somewhat aware, 4=Moderately aware, 5 =Extremely aware

5.6 Awareness of E-resources and Gender Differences

It was checked to know whether there is any significant difference between male and female faculty members about the awareness of various information resources. Independent samples t-tests were used to see the statistical difference between mean values of male and female faculty members. The 0.05 criterion was used to calculate the significant difference. Table 6 lists the results of the t-test along with mean values, standard deviation and variance.

The independent sample t-tests results show a significant difference in the mean scores of male and female respondents regarding the awareness of e-journals (p= .005)) and e-zines (p= .025). As cited in Table 6, the mean scores of male respondents for both the resources are higher than the mean scores of female respondents; therefore, it could be concluded that male faculty members were more aware of these resources than female faculty members. As far as the rest of the e-resources were concerned, the t-tests analysis indicates no significant difference between the mean scores of male and female faculty members.

Table 6

Gender-based descriptive statistics along with the t-test

E-resources	**Gender**	**N**	**Mean**	**SD**	**Sig. (2-tailed)**
E-books	Male	249	4.53	.89358	.279
	Female	91	4.37	1.08165	
E- journals	Male	249	4.65*	.64850	.005*
	Female	91	4.31*	1.05282	
E-zines	Male	249	4.42*	.89515	.025*
	Female	91	4.16*	1.02484	
HEC Databases	Male	249	4.02	1.05848	.133
	Female	91	3.82	1.15078	
HEC Repository	Male	249	3.90	1.01934	.189
	Female	91	3.73	1.08357	
Library Genesis	Male	249	3.63	1.20394	.181
	Female	91	3.41	1.39097	
DOAJ	Male	249	3.60	1.52617	.174
	Female	91	3.35	1.44048	

*Note: *statistically significant ($p < 0.05$)*

5.7 The Satisfaction of Respondents with Electronic Information Resources

The faculty members of the surveyed libraries were also asked to show their level of satisfaction with various e-resources, i.e., including e-books, e-journals, e-zines, and HEC resources. The responses of the faculty member are listed in Table 7 which illustrate that the majority of respondents were highly satisfied with e-books because it received means score of 4.04. They were also satisfied with other e-resources, including e-journals (μ=3.98), e-zines (μ=3.88), HEC databases (μ= 3.82) and other online databases (μ=3.53).

The study results are also in line with previous studies, such as Kavitha (2018); and Mani, Vijayalakshmi and Thirumagal (2019) elaborated that the maximum number of faculty were satisfied with e-books and e-journals.

Table 7

Satisfaction with e-resources

Source	**Mean**	**Std. Deviation**	**Variance**
E-books	4.04	1.08002	1.166
E- Journal	3.98	1.09562	1.200
E- Magazine	3.88	1.20385	1.449
HEC Databases	3.82	1.29529	1.678
Online Databases	3.53	1.43544	2.060

Scale: 1 = Highly Dissatisfied, 2 = Dissatisfied, 3 = Neutral, 4 = Satisfied, 5 = Highly Satisfied

5.8 Respondents' overall Satisfaction with Electronic Information Resources

The faculty members were questioned about their overall satisfaction with e-resources. The data presented in Table 8 indicates that 176(51.8%) respondents were satisfied with e-resources. Whereas 66(19.4%) of the respondents were neutral in their decision, 45(13.2%) of respondents were highly satisfied with e-resources, 42(12.4%) respondents were highly dissatisfied with e-resources and the least of the respondents 11(3.2%) were dissatisfied with e-resources. As most faculty members showed their satisfaction with e-resources, however a significant number of respondents were not satisfied with these resources.

Dhanavandan and Esmail (2012); Chandra, Sankaranarayanan, Nagarajan and Mani (2014); and Mani et al., 2019 also found that majority of the respondents were satisfied with e-resources.

Table 8
Satisfaction with e- resources

Statement	Frequency	Percentage
Highly Satisfied	45	13.2
Satisfied	176	51.8
Neutral	66	19.4
Dissatisfied	11	3.2
Highly dissatisfied	42	12.4

5.9 Problems Faced while Accessing Electronic Resources

Table 9 illustrates the barriers faced by the faculty members while accessing electronic resources. The major problem identified by the faculty members were low speed of internet (μ=4.55), inadequate IT infrastructure (μ=4.49), lack of internet (μ=4.43), non-availability of full-text access to most of the e-journals (μ=4.05), lack of awareness of e-resources (μ=4.05), lack of cooperation from the staff of library/computer lab (μ=3.86), and lack of printing facility (μ=3.80).

The findings of the study are similar to those reported by Rajan and Muruganantham (2019); Hanchinal (2019); Sawai and Chavan (2020). They identified that the major problems were low speed of internet, IT infrastructure, lack of internet facility and non-availability of VPN.

Table 9
Problems faced by the faculty members in accessing e-resources

Statement	Mean	Std. Deviation	Variances
Low speed of internet	4.55	.968	.938
Inadequate IT infrastructure	4.49	.970	.941
Lack of access to internet facility	4.43	.874	.765
Non-availability of full text access to most of journals	4.05	1.03	1.079
Lack of awareness of electronic resources	4.05	.887	.788
Lack of cooperation from the staff of library/computer lab.	3.86	1.19	1.425
Lack of printing facility	3.80	1.19	1.423
Load shedding/energy crisis	3.79	1.36	1.851
Lack of training/ orientation to access and use of electronic resources	3.73	1.25	1.583
Non-availability of VPN	3.59	1.34	1.805
Non-availability of latest computers in library/computer lab.	3.57	1.28	1.662
Lack of expertise to search on internet	3.48	1.286	1.655

Note: Scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5=Strongly Agree

6. Major Findings of the Study

The major findings of the are enumerated as under: -

- The findings show that out of 340 faculty members, 249(73.2%) were male and 91(26.8%) female respondents; thus, the proportion of male respondents was higher than that of female respondents.
- It was found that 45.3 % of faculty members were 35-39 years of age and 30.3% of faculty members were between 40-45 years of age.
- The statistics regarding respondents' designation indicate that 60.3 % of faculty members were Lecturers, 31.8% were Assistant Professors, 5% were Associate Professors and only 2.9% were Professors.
- The data were collected from the four faculties of the surveyed universities and found that most respondents (34.4%) were from the Faculty of Social Science and 33.5% were from the Faculty of Science.
- Out of 340 respondents, 40.4 % of faculty members were from Gomal University D.I. Khan, and 28.2% from Kohat University of Science and Technology, Kohat.

- It was found that faculty members used different sources to learn about e-resources. These resources were self-learning (32.4%), friends (30.6%), workshops (20%) and course modules (17%).
- The results demonstrate that most of the respondents were aware of e-resources such as e-books (μ=4.56), e-journals (μ= 4.48), e-zines (μ=4.35) and HEC databases (μ=3.97). They were also aware of open access resources like Library Genesis (μ=3.57) and DOAJ (μ=3.53).
- The results show a significant difference in the mean scores of male and female respondents regarding the awareness of e-journals (p= .005)) and e-zines (p= .025). Moreover, the mean scores of the gender indicate that male faculty members were more aware of e-resources than female respondents.
- The mean score, 4.04 indicate that faculty members were satisfied with e-books,
- e-journals (μ=3.98), e-zines (μ=3.88) and HEC databases (μ =3.82) were satisfied with e-journal
- The overall stratification of faculty members indicates that though majority of faculty members were satisfied, however, there was a significant number of respondents not satisfied with e-resources.
- The major problem identified by the faculty members were low speed of internet, inadequate IT infrastructure, non-availability of full-text access to most of the e-journals, lack of awareness of e-resources, lack of cooperation from the staff of library and lack of printing facility.

7. Recommendations

Keeping in view the results of the study following are some of the recommendations to enhance the use of e-resources among the faculty members:

- The university administrations should arrange proper training and workshops for the faculty member on electronic information resources.
- The labs and libraries should be adequately equipped with computers and fast internet to access the digital contents effectively.
- Seminars and workshops should also be organized on open access resources to inform the faculty members and researchers about the sources relevant to their research domain.

- To increase the use of e-resources, VPN should be created for teachers and researchers so that they may be able to access these resources remotely, i.e., from home, office, etc.
- Moreover, to make the best possible use of e-resources, it is essential that workshops and seminars on searching skills and techniques be organized for faculty members to make effective use of various e-resources.
- More funds should be set aside to acquire/subscribe more e-resources and databases to access the world of literature to the university's teachers and researchers.
- It is said that user orientation programs are a powerful source to maximize and improve the use of electronic resources. Therefore, it is suggested that library staff should arrange such sessions periodically for teachers, staff, researchers, and students.

References

Abba (2019). University lecturers' level of awareness and proficiency of internet services and resources for academic activities in Adamawa state, Nigeria. *Library Philosophy and Practice*, 1-19.

Adekannbi, J. O. (2016). Factors predicting retrieval skills among undergraduates of Nigerian universities. *Asian Journal of Information Science and Technology. 6(2). 13-19*

Ahmad, N., Basha, I., & Fatima, N. (2012). Use of UGC-Infonet Consortia by the research scholars at university of Delhi: A survey. *Library Philosophy and Practice.*

Ahmad, S., Dar, B. A., & Basharat, M. (2019). Usage and perception of E-resources by undergraduate students: a case study of government degree college Baramulla-J&K. *Library Philosophy and Practi*ce 1-14.

Akpojotor, L. O. (2016). Awareness and usage of electronic information resources among postgraduate students of library and information science in Southern Nigeria. *Library Philosophy and Practice (e-journal).* Retrieved from http://digitalcommons.unl.edu/libphilprac/1408

Ali, M., Rehman, H. U., Jan, T., & Jan, S. U. (2015). awareness & utilization of electronic information resources among medical students. *Journal of Medical Sciences, 23*(4), 238-241.

Amjad, A., Ahmed, S., & Naeem, S. B. (2013). Use of electronic information resources among research scholars in the Islamia university of Bahawalpur, Pakistan. *New Review of Academic Librarianship, 19*(3), 316-328.

Ansari, M. N., & Zuberi, B. A. (2010). Use of electronic resources among academics at the University of Karachi. *Library Philosophy and Practice,*1. Retrieve from http://digitalcommons.unl.edu/libphilprac/385

Bashorun, M. T., Isah, A., & Adisa, M. (2011). User perception of electronic resources in the university of Ilorin, Nigeria (UNILORIN).

Bassi, M. D., & Camble, E. (2011). Gender differences in use of electronic resources in university libraries of Adamawa State, Nigeria. *Library Philosophy and Practice, 549.*

Boakye, E. (2017). Faculty members and e-journals: the case of private universities in Kumasi, Ghana. *New Review of Academic Librarianship, 23*(4), 377-395.

Chandra, K., Sankaranarayanan, D., Nagarajan, M., & Mani, V. (2014). A study on use pattern e-resources among faculty members in arts and science colleges in Chennai. *Journal of Advances in Library and Information Science*, *3*(1), 01-05.

Dhanavandan, S., Esmail, S. M., & Nagarajan, M. (2012). Use of electronic resources at

Krishnasamy college of engineering & technology library, Cuddalore. *Library Philosophy and Practice, 1*(1), 1-8.

Ganesh, P., & Rajendran, P. (2019). Use of e-resources by the faculty members and research scholars of SRM institute of science & technology – Kattankalathur Campus" (2019). *Library Philosophy and Practice (e-journal)*. 3020.

Gay, L. R., Mills, G. E., & Airasian, P. W. (2015). *Educational research: Competencies for analysis and applications*. India: Pearson India education services.

Hadagali, G. S., Kumbar,B. D., Nelogal, S. B. & Bachalapur, M. M. (2012). Use of electronic resources by post-graduate students in different universities of Karnataka State. *International Journal of Information Dissemination and Technology, 2(3), 189-195.*

Hussain, M., & Saddiqa. (2019). Use of electronic information resources by teachers and students: A study of Khushal Khan Khattak University Karak, Pakistan. *The Journal of Information Management and Library Studies, 2*(1), 35-51. Retrieved from https://jimls.kkkuk.edu.pk/jimls/index.php/jimls/article/view/20/15

Johnson, S., Evensen, O. G., Gelfand, J., Lammers, G., Sipe, L., & Zilper, N. (2012). Key issues for e-resource collection development: A guide for libraries (pp. 4-6). *The Hague: IFLA*.

Kavitha, E. S. (2018). A study on knowledge and usage of electronic resources by the Sc/st research scholars and Pg. students among Periyar university affiliated colleges. *Library Philosophy and Practice*, 1.

Kenchakkanavar, A. Y. (2014). Types of e-resources and its utilities in library. *International Journal of Information Sources and Services, 1*(2), 97-104.

Kumar, K., & Anjaiah, M. (2016). Use of UGC-Infonet e-journals by faculty members and research scholars of Kakatiya University: A case study. *International Journal of Digital Library Services IJODLS*, *6*(3), 2250-1142.

Kwaghga, B., Anthony, I. A., & Helen, T. A. F. (2019). Information Retrieval Skills and the Use of Electronic Resources in University Libraries by Undergraduate Students in Benue State University. *Library Philosophy and Practice (e-journal).*

Larson, A. G. (2017). Faculty awareness and use of library subscribed online databases in the university of education, Winneba. Ghana: A survey.

Madhusudhan, M. (2010). Use of electronic resources by research scholars of Kurukshetra University. *The Electronic Library, 28*(4), 492-506. doi:10.1108/02640471011033684

Mani, M., Thirumagal, A., Vijayalakshmi, B., & Priyadharshini, E. (2019). Usage of e-resources among the students of south Tamil Nadu with the special reference of

Manonmania Sundaranar university, Tirunelveli-A Study. *Library Philosophy and Practice*, 1-16.

Otu, B. O., Asante, P. E., & Martin, O. O. (2015). Awareness and utilisation of e–journals by faculty: evidence from Koforidua Polytechnic, Ghana. *International Journal on New Trends in Education and Their Implications, 6*(4).

Rafiq, S. (2018). Use of e-resources by medical sciences faculty: A case of CMH Lahore medical college and institute of dentistry. *Pakistan Library & Information Science Journal, 49*(1).

Rehman, S. U., Shafique, F., & Mahmood, K. (2011). A survey of user perception and satisfaction with reference services in university libraries of Punjab. *Library Philosophy and Practice, 2011*, 1-14.

Sebastian, R., & Muthumari, D. P. (2020). Impact and usefulness of e-resources on delivering knowledge in contemporary learning environments of medical colleges in Kerala: A study. *Library Philosophy and Practice*, 1-17.

Sethi, B. B., & Panda, K. C. (2012). Use of e-resources by life scientists: A case study of Sambalpur University, India. *Library Philosophy and Practice, 681*.

Sharma, N. (2019). Access and use of electronic resources by the faculty members and research scholars of social sciences in Maharshi Dayanand university, Rohtak, Haryana.

Sheikh, A. (2017). Faculty awareness, use and attitudes towards scholarly open access: A Pakistani perspective. *Journal of Librarianship and Information Science*, 0961000617742455.

Siwach, A. K., & Malik, S. K. (2019). Use of electronic resources by science faculty and researchers in selected North Indian universities. *Library Philosophy and Practice*, 1-25.

Srinivasulu, P., Balu, C. C., & Narendra, A. (2019). Awareness and usage of e-resources by faculty members at Vardhaman college of engineering (autonomous), Hyderabad: A study. *Library Philosophy and Practice*, 1-16.

Subha, S., & Natarajan, N. (2019). Utilization and impact of electronic information resources among the faculty members of arts & science colleges in erode district, Tamil Nadu: A case study. *Asian Journal of Information Science & Technology (AJIST), 9*(1).

Suresh, M., & Ravi, S. (2020). Online database use by science research scholars of Alagappa university, Karaikudi: A Study *Handbook of Research on Digital Content Management and Development in Modern Libraries* (pp. 86-102): IGI Global.

Tyagi, Sunil. (2011). Use and awareness of electronic information sources at IIT Roorkee, India: A case study. *JLIS., 2*(1), 22Pp. DOI: 10.4403/jlis.it-4586 access on dated May 2019.

Velmurugan, V. S., & Amudha, G. (2013). Use of E-resources among college teachers in India. *Mass Communicator: International Journal of Communication Studies*, *7*(2), 23-26.

Zibani, P., & Kalusopa, T. (2019). E-resources marketing in African academic libraries: contexts, challenges and prospects handbook of research on advocacy, promotion, and public programming for memory institutions (pp. 261-283): IGI Global.