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Awareness and Use of E-resources: A Case Study of Mohinder Singh Randhawa Punjab Agricultural University Library, Ludhiana

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ABSTRACT

Availability of various information and communication technology (ICT) tools and accessibility of electronic information resources have fuelled the growth of e-learning all over the world. Present paper focuses on the use and awareness of various e-resources available in Punjab Agricultural University Library. The use of consortia and e-databases is also analysed. The findings of the study revealed that electronic resources have become an integral part of the information for various features such as easy download and fast searching capability. Despite the fact that e-resources have eased the task of research, respondents still prefer information in both print as well as electronic formats.

Keywords: Information communication technology, Punjab agricultural university, e-resources, consortium, e-database, electronic format

1. INTRODUCTION

Agricultural libraries have undergone tremendous change in terms of growth and development. Though many factors are responsible for this change, but technology plays a significant role that enables sharing of information resources worldwide. Electronic information resources have become integral part of libraries and form an invaluable tool for teaching, learning, and research. The revolution in ICT, particularly the internet and web-based technologies, have a profound effect on information-based resources and services. Consequently, libraries have witnessed a thespian shift in recent years both in service models and collection development structures.

Moreover, availability of various ICT tools such as tablets, PCs, smart phones, etc., and accessibility of e-information resources have fuelled the growth of e-learning all over the world. This study is an attempt to present the use and awareness of all e-resources available in Punjab Agricultural University library and problems faced by the users. The use of consortia and e-databases is also analysed.

1.1 Punjab Agricultural University, Ludhiana

The Punjab Agricultural University[1] (PAU) established in 1962 excels in the extension of agriculture research and education. Mohinder Singh Randhawa Agricultural University Library, popularly known as, Punjab Agricultural University Library was established in 1959. The Library houses about 2,43,716 books, 36,628 theses and 1, 03,040 periodicals. It also subscribes to various e-resources such as Consortium of electronic resources in Agriculture (CeRA-online database of full text journals), J-gate Agricultural and Biological sciences (online database of abstracts and full text journals), Indiastat.com (online database of statistical information); KrishiPrabha (online database of theses submitted to all the state agricultural universities (SAUs) and deemed agricultural universities (DAUs) under National Agricultural Research System (NARS); Myilibrary (online database of 22 e-books); CRCnetBASE (online database of 12 e-books); EBSCO Netlibrary (online database of 17 e-books); ISO standards on Food Products, etc. Besides, the Library also subscribes to 158 Indian and 61 foreign print journals and over 31,584 online journals.

2. LITERATURE REVIEW

Large number of studies have been conducted to know the user awareness of e-resources in the fields of engineering, management and medicine but the studies related with agricultural universities are a few. Some significant studies related to the study have been mentioned here. Singh & Satija[2] reported journals as the most and dissertations/thesis as the least used information source by ICAR and PAU scientists, however, attending seminar, workshops, conferences (77.6 %) ranked second. Sankaranarayanan & Nagarajan[3] found e-journals as the most preferred resource by the faculty of agricultural colleges as compared to online database (16.39 %) and e-books (10 %). Time saving and easy to use were the most preferred benefits of using e-resources. Okorie & Agboola[4] examined the various electronic databases and observed that 50 % respondents use, 'The Essential Electronic Agricultural Library (TEEAL)' database

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followed by AGORA (41.6 %), AGRICOLA (3 %), AGRIS (2.5 %) and CAB Abstract (1.6 %). The problem of power outage was maximum (50 %) followed by lack of adequate computers (18.3 %) and server breakdown (11.6 %). Parmar[5] highlighted that the faculty of CCSHAU preferred to access e-journals through CeRA(97.87 %) more as compared to search engines, publishers websites, e-databases and other CDROM databases. Slow speed of downloading, slow response of network, lack of trained staff and printing problems were the hampering factors reported. Francis[6] discussed the utilisation of consortia-based digital information resources and observed the use of online journals (91.43 %), CD-ROM databases (69.29 %) and online databases (25.71 %). Majority of respondents (61.43 %) access the e-resources from the computer centre of the colleges. The resources available through CeRA were used by 87.14 %, library subscribed online resources by 85.71 % users and CD-ROM database by 65 % users. Most of the users were not satisfied with the adequacy of CeRA resources. Goria[7] focused on the importance of new tools to access the library website with less content on smart/mobile phones for the maximum utilisation of library resources and services resources. Hasan[8] described the projects associated with National Agricultural Research System (NARS); National Agricultural Innovation Project (NAIP) and National Agricultural Technology Project (NATP) of Indian Council of Agricultural Research (ICAR). Nikam & Kumar[9] also found that e-journals is the most used e-resource among the faculty and research scholars. The preference of format is slightly inclined towards the print resources. The use of e-resources is mainly preferred for clear display and easy to read format of the article. Title approach (mean 2.82) is the most popular strategy to access e-journals. The users identify relevant electronic articles by 'browsing through recent issues' (mean=3.39) followed by 'searching full-text databases from publishers or aggregator (e.g. Elsevier, Springer).

Kandpal, Rawat & Vital[10] established the awareness of different e-resources like KrishiPrabha (26.5 %), Science Direct (20.4 %), CeRA (14.2 %), and OPAC (38.8 %). The college library notice board (64.715) was the main source of information regarding e-resources. None of the respondent use college website. The most used e-resources were e-journals (50 %) and e-databases (39.28 %) while nobody used e-theses and dissertations. The authors found lower number of e-resources and less infrastructure as the problems hindering the use and access of e-resources. Naqvi[11] found e-resources were mostly used for the research purpose. The mean score was obtained and found that CD-ROM databases (mean 3.14 PG & 3.13 RS), e-journals (mean 2.63 PG & 3.22 RS), online databases (mean 1.43 PG & 2.07 RS) and e-books (mean 1.05 PG & 1.47 RS) were the most used e-resources among users. The online databases like AGRIS (2.92 PG & 3.43RS), AGRICOLA (2.63 PG & 3.11 RS), CAB Abstract (2.50 PG & 3.57 RS), Agriculture & Natural Resources (2.47 PG & 2.32 RS) and FSTA (1.53 PG & 1.61 RS) were the most used databases among the respondents. The users felt inadequate e-collection as compared to the print collection. Bhat & Mudhol[12] ascertained that most of the users sought information through library catalogue and directly visiting the book shelves as compared to OPAC and online databases. MEDLINE is the most used online database as compared to e-journals and e-books. Virus problems, limited number of computer terminals and irrelevant information were the major lacunas behind the limited access of e-resources. Prakashe & Tayade[13] focused upon the e-resources in the libraries of Institutes of Management (IIM's) in India and observed that all the libraries are having e-resources and are member of some library networks like DELNET, INFLIBNET,ERNET, NICNET, etc. Authors proposed a resource sharing model for the libraries that promises the maximum availability of e-resources. Bhat & Ganaie[14] assessed the use of electronic information resources (EIRs) and observed that CeRA(94.23 %) was the most used e-database among AGRIS (64.42 %), CABI (50.96 %), J-gate Agriculture and Biological (26.92 %), FSTA(19 %), AGRICOLA (18 %) and BIOSIS (14 %). The least used databases were INDEST and UGC-Infonet Consortium. The users did not make much use of e-books. The users preferred both the formats but in case of electronic formats they preferred online mode of access to information. Authors concluded that library must procure equal or balanced collection as well as better and reliable access to its e-resources. Kumar[15] ascertained that the most used e-resources were e-research reports and search engines followed by ETD. However, very few used e-journals, e-books and online databases. The title approach was the most used approach. Very few users used DOI approach.

The studies so far are limited to the use of few e-resources. The studies mostly concentrated on specific e-resources like use of e-journals or use of CERA, or databases but not on all the available agricultural based e-resources altogether. A comprehensive study has been undertaken to gain knowledge of the user awareness of all the e-resources available in Punjab Agriculture University Library and all the aspects associated with its use. This study enables critical analysis of the existing information dissemination set up, the strengths and weaknesses of the organisation and the users preference of e-resources. The preference of e-resources of respondents has been validated by taking log data from the library which indicates how many times the website has been hit.

3. OBJECTIVES AND METHODOLOGY

Use of internet has become a part of higher learning. To keep pace with the evolving needs of the society, libraries are reinventing themselves in terms of resources, services and staff and have become dynamic in nature. The web enabled applications have become a part of the libraries and it is thus imperative to assess the awareness and use of e-resources by the users.

The study is confined to the users of Mohinder Singh Randhawa Punjab Agricultural University Library, Ludhiana. Aim of this case study is to assess the purpose, awareness and use of e-resources available in the university library.

The objectives of the present study is to:

(a) Know the awareness and use of e-resources

(b) Identify the purpose of use of e-resources

(c) Assess the impact of Cera and digital library project-based information resources

(d) Explore the impact of user education programme

(e) Suggest suitable measures to improve the use of e-resources.

A structured questionnaire was developed for the purpose of data collection and distributed randomly to 150 users in the library from which, 92 responses (61.3 %) has been received and analysed. The total number of students registered are 1689. The users present in the reading hall of the library were requested to fill the questionnaire. The respondents were pursuing graduation, post graduation and PhD in different colleges of the university such as College of Agriculture, College of Agricultural Engineering & Technology, College of Basic Sciences & Humanities and College of Home Science. The data has been collected from 62 respondents pursuing graduation, 22 respondents pursuing post-graduation and eight PhD candidates. In addition to personal information, various significant parameters such as use of library, e-resources and more specifically e-databases, consortia and digital library Project, etc., are covered in the questionnaire. The data collected has been analysed using percentage.

4. ANALYSIS

4.1 Use of Library: Visit and Frequency

Application of web-based technologies to libraries have brought significant shift in the global information scenario. The students today approach the world with an 'information age mindset' and consider technology as 'a fact of life' Frand[16]. It is thus important to know in today's times that how frequently users use the library resources and services. Table 1 shows that users are frequently visiting the library. Library and its resources are of immense value to the scholars, researchers and students, etc.

4.2 Time Spend and Purpose of Visit

Table 2 depicts that 37 % respondents spend one to two hours per week in the library. Very few respondents spend more than four hours in the library.

Table 1. Frequency of library visit

Frequency	Percentage (%)
Daily	33
Twice a week	37
Fortnightly	6
Monthly	11
Occasionally	13

Table 2. Time spend in the library

Time spend per week (hrs)	Percentage (%)
Less than 1	20
1-2	37
2-3	27
3-4	12
4-5	3
Above 5	1

Table 3 shows the purpose for which the users visit the university library. It can be observed from the Table 1 to Table 3 that the library is visited by the students more often and the resources in it are highly used for research work. The library has a good collection of books and they are being used by its users. The lower percent of access to e-resources corresponds to the campus-wide access to e-resources and hence they did not feel more need to visit the library only to access e-resources.

Table 3. Purpose of library visit

Purpose	Percentage (%)
Issue/return of the document	30
To consult books in the library premises	39
Class Assignments	38
Research	61
To access e-resources	27
Recreation	10
To keep yourself update	13

4.3 Awareness, Sources of Knowledge About E-resources

Emergence of e-resources has dramatically changed the way in which information is accessed and used. Consequently, e-resources have become an integral part in the library's collection. It is thus becomes imperative to know the awareness and use of e-resources, which aid in real time access The result shows that 72 % users were aware about e-resources and 28 % were not aware regarding e-resources.

Table 4 shows the sources or channels from which the users gained knowledge about e-resources. It can be observed that respondents are aware of e-resources and friends and colleagues are the major source of information. Analysing the collected information critically, it can be said that the user education programme is not even as effective as library web page and there is a need to improve both the facilities.

4.4 Awareness and Usefulness of Library's Web Page

Digital technologies especially the World Wide Web have a great potential to serve the challenges faced by libraries. Any university's web page is a great source of

Table 4. Sources of knowledge of e-resources

Sources of knowledge of e-resources	Percentage (%)
User education programme	27
Library Web page	28
Friends and colleagues	39
Any other	6

information serving remote users with its resources and services in an efficient way. It is essential in today's time to assess the role of library's webpage in providing information. Replies regarding the awareness as well as the ratings by the users, 77 % users were aware about the library webpage, however, 23 % were not aware.

Information in Table 4 and 5 show that there is a need to conduct an effective user education programme to make them understand the importance of a library webpage and the resources they can access by using library webpage. Also as per Table 5, the rating of library webpage 'can't say' (22 %) describes that the library webpage needs to be more expressive.

Table 5. Rating of library webpage

Rating of library webpage	Percentage (%)
Very useful	34
Somewhat useful	38
Very useless	1
Somewhat useless	5
Can't say	22

4.5 Training on Use of E-resources

Training is the most essential instrument to bridge the digital divide between 'have' and 'have not'. Before starting any particular venture, it is significant to consider the key skills of employees who will be going to train the beneficiaries or users. The need of training arises due to technology-driven advancement and for improving performance or as part of professional development. The vast majority of respondents (72 %) though aware of e-resources did not have any formal training on use of e-resources, however, only 28 % received formal training.

Table 6 shows the mode of training. The reasons given by the users for not attending the training programme are highlighted in Table 7. The information gathered shows that the library users are unaware of the user education programme are conducted by the library for the users. That is why the users rely on friends and colleagues for information as per data of Table 4.

Though, think, pair and share is a good aspect of any classroom education programme, the library

Table 6. Mode of training

Mode of training	Percentage (%)
Virtual tour on web	12
User education/orientation programme	38
Compulsory course/paper	50

Table 7. Reasons for not attending the training

Reasons for not attending training	Percentage (%)
Unaware of it	50
Library not providing	17
Not interested	12
Language barrier	0
Lack of time	20
No need of it	1

provides the compulsory course paper on technical writing, communication skills, library and information services only for post graduates and is missing in the curriculum of undergraduate students. It is pertinent to mention here that virtual tour option is not available in PAU Ludhiana library webpage.

4.6 Importance of E-resources

The respondents we asked to state their views on the importance of various features of e-resources. Table 8 presents their preference on various features of e-resources. It can be interpreted that the 'easy to download' and 'fast searching' are highly significant features of e-resources.

4.7 Purpose and Search Approach of Accessing E-resources

Table 9 exhibits the purpose of accessing e-resources. Regardless of the fact that the number of respondents pursuing graduate courses are more than the respondents pursuing postgraduate and PhD studies, the e-resources are being used more for research and project work. This shows that the students are more inclined towards

Table 8. Features of e-resources (Important)

Features of e-resources	Most Imp (%)	Very Imp (%)	Imp (%)	Less Imp (%)	Not Imp (%)
Fast searching	50	36	14	0	0
Easy to download	54	31	15	0	0
Easy to make notes	33	40	18	9	0
Round the clock availability	34	40	17	9	0
Availability of document in advance of print	23	28	27	13	9
Customisation	22	46	22	7	3
Easily accessible	43	37	17	3	0
Utilisation of less space	15	43	28	13	1
Comfort in portability	32	39	17	9	3

Table 9. Purpose of accessing e-resources

Purpose	Percentage (%)
Writing papers	39
Projects	43
Research work	70
Seminars	39
Any other	3

research.

Table10 shows the search approach of the respondents to e-resources. It is observed that title approach is the most popular among the respondents as compared to keywords or author. However, in the literary world keyword approach is the most popular. On the other hand the onus lies on the professionals to reduce the information gap through effective user education programme.

Table 10. Search approach to e-resources

Search approach	Percentage (%)
Keyword	52
Subject	39
Title	60
Author	48
Publisher	3
Any other	2

4.8 Preference of Type of E-resources

As far as the preference of type of e-resources is concerned, the findings in Table 11 suggest that e-journals we highly preferred over e-books, e-dissertations and e-databases. The findings fall in line with the findings in Table 9 that e-resources are mostly accessed for the purpose of research.

It can be seen from Table 12 that the open access journals are being accessed in abundance apart from the journals available through consortium and library subscribed journals. It shows the awareness of respondents about the benefits of open access journals.

4.9 Frequency of Using E-resources

The frequency of usage of e-resources is as shown in Table 13. The weekly usage of e-journals (33 %) is more than e-books (22 %) and e-databases (20 %). The higher daily usage of e-books show that e-resources are as well being used for assignments and subject reading

Table 11. Preference of e-resources

Preference of e-resources	Percentage (%)
E-Books	48
E-Journals	75
E-Theses and Dissertations	30
E-Databases	13

Table 12. Access of e-journals

Access of e-journals	Percentage (%)
Journals available through consortium	27
Journals subscribed by the library	51
Subscribing directly by publishers	11
Open access journals	37

4.10 Awareness and Frequency of Use of E-databases

Databases are becoming very important tools these days as they are more up to date, and can be accessed anywhere crossing the geographical boundaries. Table 14 shows that the respondents are not highly aware of e-databases though the subject databases are considered to be very important sources of information.

The frequency of use of e-databases is as shown in Table 15. The usability of e-resources depends upon its awareness. It can be seen from the Table 17 that the awareness of J-gate Agricultural & Biological Abstracts and CAB Abstracts is high and so is their usability as compared to other e-databases (Table 15). As per the information gathered from the library, a substantial amount has been spent on the purchase of e-resources (Rs 70,78,892 for 2015-16) by the Library. The results in this study show that library needs to take steps for maximising the usage of e-databases.

Table 14. Awareness of e-databases

Awareness of e-databases	Yes (%)	No (%)	Not Sure (%)
CAB Abstracts	52	36	12
FSTA	34	55	11
J-gate agricultural & biological abstracts	64	25	11
Commodities Database	35	51	14
ISO Standards	25	59	16
Business Source Elite	38	50	12
Indiastat	45	36	19

4.11 Awareness and Frequency of Use of Consortium and Digital Library (DL) Project

The increased demand from the scholars for scholarly literature and ever increasing prices of the journals accompanied with the shrinking budget has forced libraries to think for the best alternatives like consortia. Therefore, it is imperative to study the awareness and frequency of use of consortia and digital library initiatives.

Table 16 shows that the respondents are aware of Consortium of e-Resources in Agriculture (CeRA) as compared to other resources.

On further analysis of frequency of use of consortia and digital library projects as shown in Table 17, it can be concluded that CeRA usage tops among the users. It

Table 13. Frequency of using e-resources

E-resources	Daily (%)	Weekly (%)	Fortnightly (%)	Monthly (%)	Occasionally (%)	Never (%)
E-books	17	22	13	16	23	9
E-journals	10	33	16	14	16	11
E-theses and dissertations	12	13	17	17	23	18
E-databases	13	20	16	18	26	7

Table 15. Frequency of use of e-databases

E-databases	Daily (%)	Weekly (%)	Fortnightly (%)	Monthly (%)	Occasionally (%)	Never (%)
CAB abstracts	9	14	9	5	4	14
FSTA	7	12	1	8	3	18
J-gate Agricultural & Biological Abstracts	9	21	15	10	15	4
Commodities Database	2	4	7	13	5	20
ISO Standards	0	3	8	4	11	18
Business Source Elite	1	11	3	2	9	16
Indiastat	3	8	7	8	17	9

Table 16. Awareness of consortium and digital library projects

Awareness of consortium and DL Project	Yes (%)	No (%)	Not Sure (%)
CeRA	73	23	4
KrishiPrabha	35	55	10
Agricat@eGranth	26	53	21

Table 17. Frequency of use of consortium and digital library projects

Consortium and DL Projects	Daily (%)	Weekly (%)	Fortnightly (%)	Monthly (%)	Occasionally (%)	Never (%)
Cera	17	24	11	5	13	8
KrishiPrabha	1	11	11	9	9	20
Agricat@eGranth	3	8	5	4	5	27

has as well been pointed out by Bhat & Ganaie.[14] It is astonishing to see that database like Agricat@eGranth which is a catalog of 12 major libraries of ICAR institutes and SAUs have very less usage. The results have been cross verified from the library. The university library does not maintain the log statistics of the usage of free databases except CeRA. It has been found that CeRA has been accessed 1,69,351 times in 2015-16.

4.12 Satisfaction Regarding Library Services

Libraries being the service institutions have always been at the forefront in catering to the demands of the users. The opinion of the respondents about their level of satisfaction regarding library and its services is shown in Table 18. Most of the respondents are satisfied with library's routine services like 'library's working hours', reading room facility', 'book lending', etc. and rated them as good. It validates our opinion about the need of user education programme and improvement of consortia service. This can help improve the usage of use of e-resources. The respondents are also not sure about inter library loan facility.

4.13 Level of Satisfaction Regarding E-Resources

Table 19 specifies the response regarding the satisfaction with e-resources. Most of the respondents are satisfied with e-resources except KrishiPrabha.

4.14 Barriers in Using E-Resources

Table 20 shows that respondents find less number of terminals as a major obstruction in the use of e-resources but other barriers cannot be ignored. The ICT skills can be improved among the library staff through training. More efforts should be put forward by the authorities for providing better infrastructure and capable staff to maximise the use of e-resources. Singh, Sharma & Negi[17] also found

Table 18. Satisfaction with library services

Library services	Excellent (%)	Good (%)	Fair (%)	Not Sure (%)
Library working hours	36	49	13	2
Reading room facility	28	54	16	2
Book lending service	20	50	26	4
Interlibrary loan service	3	41	14	42
Consortia service	14	35	15	36
Reference service	15	45	20	20
Availability of e-resources	14	46	31	9
Reprographic service	13	33	21	33
Internet service	13	48	35	4
User education programme	12	35	28	25
OPAC service	16	33	27	24
Web OPAC service	8	35	32	25

Table 19. Satisfaction with e-resources

E-resources	Excellent (%)	Good (%)	Fair (%)	Not Sure (%)
E-books	22	44	21	13
E-journals	19	52	18	11
Cera	13	45	22	20
E-theses and databases	14	41	22	23
KrishiPrabha	6	26	16	52
Other e-databases	7	42	17	34

Table 20. Barriers in using e-resources

Barriers	Percentage (%)
Lack of help from the staff	22
Low speed of the internet	51
Less number of computer terminals	59
No power backup	17
Lack of ICT skills	18
Lack of ICT skills in library staff	22
Feel hesitation in use	24
Lack of training	32
Printing Problems	30
Non availability of the 'HELP' staff	23

the problems of inadequate finance, infrastructure, and untrained library professionals as the reason for leaving available ICT infrastructure underutilised.

4.15 Efficiency and Attitude of Library Staff

Table 21 shows the opinion of the respondents about the efficiency of library staff on a four point scale. The majority of the respondents find the staff efficient.

Table 21. Efficiency of library staff

Efficiency	Percentage (%)
Excellent	20
Good	43
Fair	27
Poor	10

Table 22. Attitude of staff

Attitude	Percentage (%)
Very helpful	17
Helpful	44
Satisfactory	22
Unsatisfactory	13
Can't say	4

The attitude of the library staff has also been found helpful by the respondents as shown in Table 22.

4.16 Preference of Format and Comfort with E-Resources

Books have always been associated with the overall development of society enlightening our mind, body and soul. The ICT advancements have changed the way one thinks and communicate, as a result new formats of reading have evolved.

The opinion about preference of format and their comfort with e-resources are as shown in Table 23.

It can be assessed that the respondents have started realising the potential of e-resources, yet they feel the need of both the formats. Majority of respondents are comfortable with the use of e-resources but still they would prefer both print and e-resources alike in their research and studies.

Table 23. Preference of format and conform with e-resource

Preference of format	Percent (%)	Comfort with e-resources	Percent (%)
Only print resources	22	Yes	66
Only electronic resources	28	No	15
Both print and e-resources	50	Not sure	19

4.17 Statement Analysis

The analysis of two statement 'Use of e-Resources has eased the task of research' and 'the e-resources can replace print resources' has been done by taking suggestions from the respondents. To a statement, if the use of e-resources has eased the task of research, majority of the respondents agreed (54 %) while (28 %) strongly agreed by the statement as shown in table 24.

The 63 % respondents partially agree with the statement that the e-resources can replace print resources where as 16 % agree and 21 disagree with this statement. Therefore, it is right to say that the e-resources have eased the task of research and can be a viable alternative to print resources in future.

Table 24. Ease of task by using e-resources

Statement analysis	Percentage (%)
Strongly	28
Agree	54
Strongly Disagree	5
Disagree	5
Can't say	7

5. DISCUSSIONS

Move towards the use of e-resources has enabled the scholar community to search information easily. The users now don't have to look up into the piles of books and browse page by page as their predecessors did. The present study found that respondents visits library mostly for research purpose. The respondents are aware and well versed with web technology but still need to understand the significance of library's webpage for accessing information about resources and services. The study also indicates that respondents are not fully aware of the 'library education programme/training' as well as its significance in achieving the academic targets. Regarding the features of e-resources maximum number of respondents observed 'easy to download (54 %)' and 'fast searching (50 %)' as significant features and use them mostly for their research purpose (61 %).

It has been observed that e-journals (75 %) and e-books (48 %) are the most preferred e-resources similar to the findings of Francis[6], Kandpal, *et al*.,[10] Bhat & Ganaie [14]and contrary to the findings of Kumar.[15] It is worthy to mention that national and international

agricultural databases are great sources of agricultural information and libraries are spending large amount of money on e-resources, but it has been found that the awareness of e-databases is low among the respondents. As per the usage statistics provided by the library, CAB abstract has been accessed 27,615 times, FSTA 20,519 times, Business source elite 13,802 times and Indiastate.com 13,845 times. The library did not maintain the statistics of other databases. The respondents are more aware of CeRA (73 %) as compared to KrishiPrabha (35 %) and Agricat (26 %). The user statistics provided by the library shows that CeRA has been accessed 1,69,351 times in the year 2015-16. The usage of CeRA has increased since the year 2011-12 when it was hit 50,428 times. The studies by Francis[6] and Bhat & Ganaie[14] found the maximum use of CeRA (87.14 % and 94.23 % respectively) by the respondents. The statistics of KrishiPrabha and Agricat are not maintained by the library.

The library needs to address the infrastructural problems posing hurdles in the access of e-resources such as lesser number of computer terminals, low speed of internet, printing problems and lack of training, etc., Considering these issues, more efforts should be put forward by the authorities for providing better infrastructure and trained staff for the maximum usage of e-resources. Whereas in view of the satisfaction with the 'staff attitude', most of the respondents found their attitude as 'helpful'.

The status of the preference of 'format of resources' among the respondents shows that large number of respondents prefer 'both print and electronic resources' and are comfortable in using electronic resources. Thus it can be said both the formats complement each other. As far as the statements 'use of e-resources has eased the task of research' and 'e-resources can replace print resources' are concerned, it has been examined that large number of respondents 'agree' with the first statement and 'partially agree' with the second statement. This shows that the traditional (print) resources will continue to be necessary components of the academic community. Though e-resources have started to impact the older generation as well as the young minds, but, e-resources are still in its infancy stage. Thus in the light of foregoing discussion, library professionals should provide the blend of traditional as well as technological innovations which will definitely increase the use of library and its services.

6. CONCLUSIONS AND RECOMMENDATIONS

Libraries are home to scholars and to maintain pace with the net savvy generation, the libraries need to become dynamic in nature allowing scholars to access variety of web resources and services that are place and time independent. E-resources in special libraries are making a significant growth as part of library collection but it is also true that more efforts are needed to make the users aware regarding the potential of electronic resources and the benefits of them. To keep pace with the evolving society, libraries and information centres need to update their resources and services in a new 'avataar'.

On the basis of data analysis and findings, the following recommendations have been made for optimum utilisation and awareness of e-resources in the university library.

(a) Training to the staff in terms of adequate skills should be given on regular intervals.

(b) It should be mandatory for every student to attend the user education programme/training provided by the library.

(c) Consortia services need to be addressed accurately to maximise the use of e-resources in the library.

(d) Advocacy of various e-resources such as KrishiPrabha, Agricat@eGranth need to be executed appropriately.

(e) Librarians should volunteer with the idea of implementing interactive media by extended applications of Web 2.0 to libraries with enhanced services to facilitate two way interactions between users and professionals.

(f) A paper on LIS regarding library resources and services should be mandatory for all the courses and for all the classes.

(g) Infrastructural needs should be taken care off.

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