Use of Electronic Information Resources in CSIR-IMTECH Library, Chandigarh: A Study

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Abstract - The paper aims to determine the attitude of scientists towards electronic information resources (EIS) in the library of Institute of Microbial Technology, Chandigarh. The study further aims to investigate the satisfaction of the scientists towards (EIS). The findings reveal that access and use of e-information is an important component of research activities for scientists. E-journals, websites and email are most preferred e-resources and scientists are very highly satisfied with them. Also, research indicates that the INDEST and DST are the most preferred databases of access of information; there is a need to provide high bandwidth to overcome slow access speed.

Keywords: E-Resources, CSIR-IMTECH, Usage survey

I.INTRODUCTION

As the twentieth-first century begins, the widespread use of information and communication technologies, especially the internet and web, has brought significant changes in the way information is generated, stored and accessed. With the rapid development and use of the internet and web-based technologies, publishing and distribution of information resources in digital format has become widespread. Electronic information resources (EIR) play an integral role in libraries, assisting the users in learning, teaching and research. Hence it is very essential for librarians to know about the users' demand for e-resources which forms an integral part of their information needs, users' skills and problems faced in identifying, accessing, utilizing (Tahir, Mahmood and Shafique, 2010) and handling those resources in comparison to conventional sources.

Scientists all over the world use various databases, journals and other e-resources to search and use the latest information in their respective fields and related ones. Based on the user information behavior and awareness (Deng, 2010) towards access and use of e-resources, publishers try to produce and develop qualitative collections, which are further collected and managed in better ways by librarians to substitute services and fulfill user (Zhang, Ye and Liu, 2011) information requirements with improved satisfaction. Because of increased publication of information on e resources and also because of the benefits of e resources, they are introduced in the libraries to meet the information requirements of the users. The user uses these e resources offered by the libraries or information centers to fulfill their information requirements. When these e resources meet their expectations, i.e. when they provide the required information and also at a fast rate, then Positive attitude develops towards these e resources.

Attitude

A predisposition or a tendency to respond positively or negatively towards a certain idea, object, person, or situation.Attitude influences an individual's choice of action ,and responses tochallenges, incentives,and rewards (togeth er called stimuli). (http://www.businessdictionary.com)

Attitude is an evaluation of an object, stored in memory; in other words, it is a relatively enduring cognition about the value of an object (Ramachandran, V.S., 1994). Thus attitude is …"state of mind" or "readiness to respond" to a certain class of objects with a specified type of response, usually connoting liking or disliking for that class of objects (Ramachandran, 1994).

The above definitions of attitude, when applied in the present case, make it clear that the user, who uses the electronic resources, evaluates the resources, which are beneficial to him, and provide the necessary relevant information. This evaluation when positive, results in positive attitude. The positive attitude towards e resources enhances the usage of those e resources.

Therefore, it becomes necessary for the libraries to know how far the users are using the e-resources acquired by them. In this context, an attempt has been made in the present paper to study the use of electronic information resources in the Institute of Microbial Technology (IMTECH), Chandigarh.

II.LITERATURE REVIEW

Young-Ju Joo (2000), in his study entitled "Self-efficacy for self-regulated learning, academic self-efficacy, and internet self-efficacy in web-based instruction" explores relationships among some of the important motivational variables, known to influence students' learning and performance in typical classroom settings, in WBI contexts. More specifically, it attempted to extend applicability of the self-efficacy theory into computer-mediated learning environments.

The present investigation further examines effects of correspondence between self-efficacy beliefs and target performance on their predictive relations.

Daudu, Hanna Mamman (2014), in his study entitled "Information dissemination, access and utilization for socio-economic empowerment of rural people in northern states of Nigeria" investigated the role of agricultural research Institute libraries in consolidating research and development in Kaduna state, Nigeria. The study discovered that the available information resources do not meet the need of the users. Most resources like textbooks were outdated and irrelevant to agriculturalists. The study also revealed low provision of e-resources which is the trend in contemporary research. His research recommends that the libraries should acquire both current print and e-resources to meet the need of their users. There is also a need to device method by which new information resources and services acquired by the libraries are made known to the users.

Kumar and Singh (2011) in their study " Access and use of electronic information resources by scientists of national physical Laboratory in India: a case study" observed that access and use of e-information is an important component of research activities for scientists, also qualitative and quantitative developed e-collections overcome conventional resources with the characteristic of fast accessibility. Title field, simple search techniques and self-taught methods are used to access the e-information. E-journals are most preferred e-resources and scientists are very highly satisfied with the retrieved e-information. Also, his research indicates that as the internet is most preferred medium of access, there is a need to provide high bandwidth to overcome poor network connectivity. Also there is a constructive suggestion for developing an automated library system and increased electronic resources with improved library services.

III.NEED FOR THE STUDY

When the user uses the resources, the mind evaluates the resources on the basis of benefits derived from the resources. This results in the formation of the attitude. When the resources have helped in the professional work, it results in positive attitude, which in turn results in satisfaction. When the user is not benefited by the use of resources, it results in negative attitude, leading to dissatisfaction. Satisfaction enhances the usage of the resources. Therefore, it becomes necessary to know how far the users are benefited and satisfied by the available resources.

There have been no studies on the usage of EIR by scientists of IMTECH, Chandigarh. This study is the first attempt to identify awareness, usage, attitude and satisfaction of scientists towards EIR in IMTECH. Results of this study will be helpful for librarians and information specialists, to know the actual usage of the library resources and it will help to enhance the usage of EIR in library.

IV.OBJECTIVES

1. To identify the awareness and usage of electronic information resources by Users in IMTECH
2. To identify the attitude of the users towards electronic information resources in IMTECH
3. To identify the satisfaction of the users towards electronic information resources.

V.SCOPE AND LIMITATION

The present study is limited to the analysis of awareness, usage, attitude and satisfaction of scientists regarding electronic resources in the library of IMTECH. Only scientists have been selected for the study and the study does not cover other types of users (i.e. non scientific staff and research scholars) of the library.

VI.METHODOLOGY

The survey was conducted with the help of a questionnaire and personal interview. Questionnaire was distributed to a random sample of 50 scientists from different fields of microbial technology, available at the time of study and out of 50, 45 filled-in questionnaires were received, with a response rate of 90%. The responses received have been presented in the form of tables and figures and data is analyzed by using simple calculation of percentage method.

TABLE 1 GENDER-WISE DISTRIBUTION OF THE RESPONDENTS

Male	Female
27 (60%)	18 (40%)

Table 1 depicts the gender-wise distribution of respondents. Data reveals that out of 45 respondents covered in the study, 60 percent of the scientists are male and 40 percent are female.

Table 2 depicts the age wise representation of the respondents. It is observed from the table that out of total 45 respondents 24 (53.33%) belong to the age group of 41-50, followed by 12 respondents (i.e. 26.67%) belonging to the age group of below 40. Only 9 respondents (i.e. 20%) are in the age group of 51-60.

TABLE 2 AGE WISE DISTRIBUTION OF THE RESPONDENTS

	M	F	Total
Below 40	7 (15.56)	5 (11.11)	12 (26.67)
41 to 50	15 (33.33)	9 (20)	24 (53.33)
51 to 60	5 (11.11)	4 (8.89)	9 (20)

TABLE 3 AWARENESS ABOUT ELECTRONIC INFORMATION RESOURCES * (MULTIPLE RESPONSES WERE PERMITTED)

EIRs	Not aware		Very less		To some extent		Sufficiently		Fully aware		
	No	%	No	%	No	%	No	%	No	%	Total
Journals	0	0.00	0	0.00	0	0.00	18	40	27	60	45
E books	0	0.00	0	0.00	10	22.22	20	44.44	15	33.33	45
Databases	0	0.00	0	0.00	14	31.11	18	40	13	28.89	45
Blog	0	0.00	0	0.00	15	33.33	19	42.22	11	24.44	45
Websites	0	0.00	0	0.00	0	0.00	10	22.22	35	77.78	45
Email	0	0.00	0	0.00	0	0.00	6	13.33	39	86.67	45
OPAC	0	0.00	0	0.00	5	11.11	28	62.22	12	26.67	45
Patents	8	17.78	9	20	15	33.33	6	13.33	7	15.56	45
Standards	9	20	13	28.89	13	28.89	5	11.11	5	11.11	45
Dictionary	0	0.00	0	0.00	10	22.22	15	33.33	20	44.44	45
Online theses/dissertations	0	0.00	0	0.00	17	37.78	15	33.33	13	28.89	45

Any resource will be considered successful, when it is used by the users. It is also true that resources will be used when the users are aware of the resources. Hence it is very important to know the awareness of the e resources. Table indicates that almost all the respondents are aware of all the e resources. The resources which all the respondents are aware to full and sufficient extent are e journals, email and websites. All the respondents are fully (60%) and sufficiently (40%) aware of e-journals, which provides latest scientific information. The other e resource, which all the respondents are fully (86.67%) and sufficiently (13.33%) aware is email, which is another important facility offered by internet for exchange of information. Official websites, which 77.78% are fully aware and 22.22% are sufficiently aware, is important resource providing latest information about the organizations, notification etc. Table further indicates that, patents and standards are the two EIRs about which around one fifth of the users have no awareness (patents 17.78%; standards 20%) or very little awareness (patents 20%; standards 28.89%).
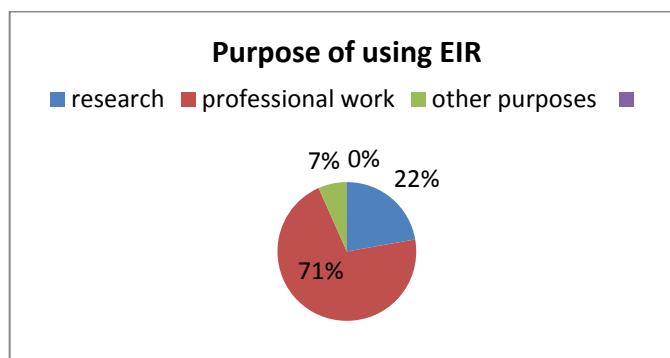

Fig.1 Purpose of Using Electronic Resources

The e-resources are used for different purposes. As such, the scientists were asked about the purpose for which they use electronic resources. The different purposes stated by them have been listed in the figure. Figure reveals that 71% of the scientists use e resources for professional work. This is followed by research, i.e. 22%. Only 7% of the scientists use e resources for other purposes. It is confirmed from the study that majority of scientists use e resources for their professional work. It is necessary to mention here that the institute, under study, is a research institute. Hence, a clear-cut demarcation cannot be made between professional work and research work, since research is the profession of scientists.

TABLE 4 USAGES OF ELECTRONIC INFORMATION RESOURCES * (MULTIPLE RESPONSES WERE PERMITTED)

EIRs	Not used		Very little		To some extent		Sufficiently		Full extent		
	No	%	No	%	No	%	No	%	No	%	
Journals	0	0	0	0	0	0	20	44.44	25	55.56	45
E books	5	11.11	5	11.11	10	22.22	15	33.33	10	22.22	45
Databases	4	8.89	6	13.33	12	26.67	13	28.89	10	22.22	45
Blog	3	6.67	3	6.67	17	37.78	14	31.11	8	17.78	45
Websites	0	0.00	0	0.00	0	0.00	11	24.44	34	75.56	45
Email	0	0.00	0	0.00	0	0.00	6	13.33	39	86.67	45
OPAC	10	22.22	10	22.22	13	28.89	7	15.56	5	11.11	45
Patents	14	31.11	9	20	14	31.11	5	11.11	3	6.67	45
Standards	15	33.33	13	28.89	11	24.44	4	8.89	2	4.44	45
Dictionary	0	0.00	4	8.89	18	40	13	28.89	10	22.22	45
Online theses/dissertation	3	6.67	4	8.89	24	53.33	9	20	5	11.11	45

Scientists, who are involved in research and development activities, need latest information at every stage of their research. When their purposes are met with the resources, then it leads to more usage of such e- resources. The table indicates that e resources which are used by all the respondents are e journals [i.e. (55.56%) full extent and (44.44%) sufficient extent] , websites [(75.56%) full extent (24.44%) sufficient extent] and email [(86.67%) full extent and (13.33%) sufficient extent]. It was observed in table 3 of the present study that, all the respondents were aware to a full and sufficient extent of these three e-resources, i.e. e-journals, e-mail and websites. In consonance with that these are the three e-resources that all the scientists are using to a full and sufficient extent. Further, of all the e-resources, the lesser used e resources by scientists to a full and sufficient extent are standards (13.33%), patents (17.78%). Again, it can also be observed from table -3 that nearby four-fifths of the users are to a full and sufficient extent of OPAC (88.89%), e-books (77.77%) and dictionaries (77.77%). But when it comes to usage, only one- fourth of the users use OPAC to a full extent(11.11%) and sufficient extent(15.56%) and around half of the users use e-books (full extent 22.22%; sufficient extent 33.33%) and dictionaries (full extent 22.22%; sufficient extent 28.89%) to a full and sufficient extent. This clearly indicates that usage of the e-resources does not merely depend on the awareness but also the information content of the e-resources and the usefulness of the information content in meeting their purpose.
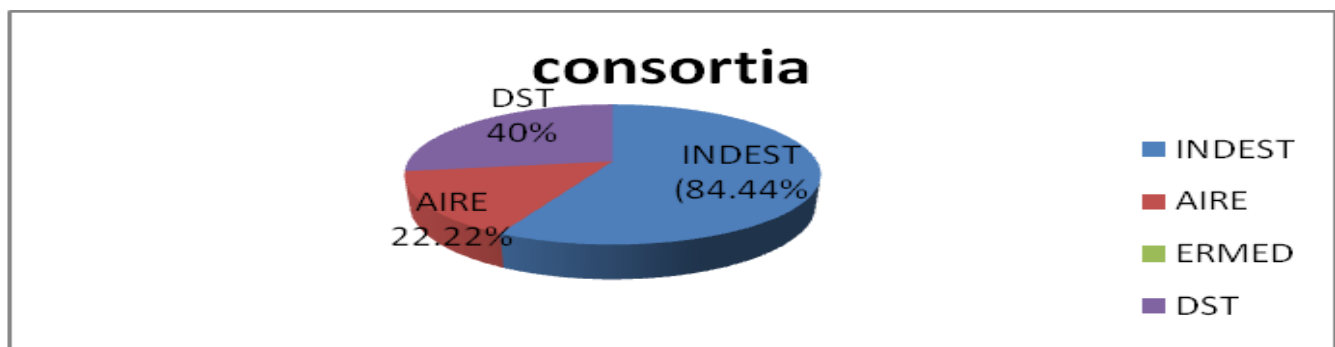

Fig.2 Consortia / Database Accessed

According to American Heritage Dictionary 'a consortium is said to be "a cooperative arrangement among group of institution," or " an association or society". Consortia are commonly formed to increase the purchasing power of the collaborating institutions to expand the resource availability and to offer automated services. In the present table, the consortia offered by the IMTECH-KRC have been listed.

Fig.2 depicts that out of 45 respondents 38 (84.44%) respondents use INDEST. This is followed by 18(40.00%), who use DST consortium. It is observed from the figure that only 22.22% use AIRE. The above table also indicates that among the selected databases, INDEST is used by maximum number of respondents (84.44%) whereas AIRE is used by least number of respondents (22.22%).

TABLE 5 BENEFITS OF USING EIR

1	Up to date information	39	86.67%
2	Reliability	14	31.11%
3	Time saving	28	62.22%
4	Easy to use	18	40%
5	Provide relevant information	24	53.33%

The above table reflects the benefits derived by scientists, which is the result of the evaluation done by the users regarding e resources, after their use. When a user uses the e resources, his mind assesses the resource in the background of his expectation and relevant information obtained from the resources. This assessment results in the formation of attitude. The respondents under study, being scientists, whose major purpose of using e resources being research and professional work (Fig.1), need latest and relevant information at a faster rate. Thus, majority have admitted these factors to be the benefits of e resources. This Table depicts that, e-resources are used by majority of the users (86.67%), because these resources provide up to date information. 62.22% of the respondents opined that e resources help to save their time. 53.33% respondents use e resources because it provides desired information.

With more than four-fifths of the users feeling that the EIRs provide up to date information and around two thirds admitting that the usage of EIRs is time saving and around half of the respondents opining the EIRs to be providing relevant information. In the next table an attempt has been made to identify the satisfaction of the respondents to EIR, since the benefits derived from using the EIRs result in satisfaction towards those resources.

TABLE 6 SATISFACTIONS OF USERS REGARDING EIR

EIR	Very dissatisfied		Dissatisfied		To some extend		Sufficiently		full satisfied		Total (N=45)
	No	%	No	%	No	%	No	%	No	%	
Journals	0	0.00	0	0.00	0	0.00	21	46.67	24	53.33	45
E books	5	11.11	5	11.11	11	24.44	14	31.11	10	22.22	45
Databases	4	8.89	7	15.56	13	28.89	12	26.67	9	20	45
Blog	3	6.67	3	6.67	17	37.78	14	31.11	8	17.78	45
Websites	0	0.00	0	0.00	0	0.00	12	26.67	33	73.33	45
Email	0	0.00	0	0.00	0	0.00	7	15.56	38	84.44	45
Opac	10	22.22	10	22.22	14	31.11	6	13.33	5	11.11	45
Patents	15	33.33	8	17.78	15	33.33	4	8.89	3	6.67	45
Standards	18	40	11	24.44	10	22.22	4	8.89	2	4.44	45
Dictionary	0	0.00	4	8.89	20	44.44	12	26.67	9	20	45
Online theses/dissertation	3	6.67	5	11.11	24	53.33	8	17.78	5	11.11	45

The above table depicts that, the resources with which all the respondents are satisfied are email 9(84.44%) fully satisfied and (15.56%) sufficiently) websites (73.33% fully satisfied and (26.67%) sufficiently) and e journals (53.33 fully satisfied and 46.67% sufficiently).

It is insistently seen in the present study that e-journals, websites, and emails are the three EIRs with which all the users are aware, these are the three resources that are used to full and sufficient extent and these are e-journals,

websites, emails have provided satisfaction to full and sufficient extent.

VII.CONCLUSION

In the present study, since usage is based on awareness of existing e resources, study attempts to trace from awareness, usage, attitude, and satisfaction of users regarding electronic information resources. E resources are introduced in the libraries to meet the information requirements of the users. The user uses these e resources offered by the libraries or information centers to fulfill their information requirements. But, they use only those e resources to a sufficient and to a full extent which meet with their expectations. If these resources provide the required information at a fast rate, then positive attitude develops towards these e resources. This positive attitude leads to satisfaction.

A finding of the study shows that of all the e-resources provided to the users, e journals (100%), Websites (100%), and email (100%) are the major used e resources. In the same way, those are the resources which have provided 100% satisfaction to all the respondents. These e resources provide up to date and timely information to its users.

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