ELECTRONIC INFORMATION SOURCE (EIS) PREFERENCES BY FACULTY MEMBERS AT THE UNIVERSITY OF PESHAWAR

Dr Muhammad Ismail
Rameez Ali Mahesar
Muhammad Idrees

ABSTRACT

Information Communication Technologies (ICTs) has been widely adopted by faculty members and students for education, study and research. It has changed the environment of Information. Higher education had a trend of non-adoption of technologies. However since the last few decades this trend has changed since almost every educational institution of higher learning uses electronic information sources for study, teaching and research. The present study is an attempt to analyze the use of Electronic Information Sources (EIS) by the faculty members of University of Peshawar, Pakistan and to find out their EIS preferences, EIS use experience, e-journal use experiences and preferences. The study is a descriptive survey designed to obtain data which described available trends in the use of electronic information sources by faculty members in the University of Peshawar, Khyber Pakhtunkhwa (KP), Pakistan. A self-constructed questionnaire was administered to a sample of 285 faculty members working in the University of Peshawar. Two hundred and thirty five (235) questionnaires were returned back dully filled in with a response rate of 82.45%. Using SPSS-19, the data was analyzed using descriptive feature of statistical analysis. Cross tables were drawn to analyze whether faculty members' electronic source preferences varied by designation, gender, age and number of publications in the last five years.

Results of the study showed that Lecturers followed by Assistant Professors used EIS more than Associate Professors and Professors. Thus increased age and academic designation meant decreased frequency of EIS use. Those who had more publications to their names in the last five years were more experienced in using EIS than those who had few. It was observed that EIS use experience of the respondents was moderate and significant. One of the major findings of the study was that majority of the faculty members preferred e-journals than print journals. The study revealed that faculty members use EIS quite often. EIS has become a significant information assent for faculty members in the present world of information explosion. It can impact positively on educational development in Pakistan if they are used in a proper way.

Keywords: Online information use, electronic resources, University of Peshawar, faculty members, Library use, Information use pattern, Information use and seeking behaviour.

INTRODUCTION

The rapid growth of ICTs in every walk of life has brought great changes in the information scenario which has given rise to a number of options to handle varied information sources easily and efficiently due to which electronic information sources (EIS) have become the most sought after modern library's reserves in satisfying varied needs of faculty members, students and research scholars with minimum risk and time. The introduction of Electronic Information Sources (EIS) into educational circles particularly universities, is almost predictably followed by rapid growth in awareness by students and teachers. Owolabi *et.al.,* (2012) citing Ekwelem, Okafor and Ukwoma described EIS as information sources that are available and can be accessed electronically through such computer networked facilities as online library catalogues, the internet, www and digital libraries. EIS has become an excellent source of information in teaching, learning and research. With the use of EIS faculty members have access to up –to –date information on various subjects and also assist in developing new thinking and learning skills. University faculty are reading less information from each article they consult, while consulting a broader array of sources. One study reported that university faculty read twice as much as they did thirty years ago, with electronic articles accounting for the greater part of the readings (Tenopir *et.al.,* 2009).Corroborating this assertion Chisenga (1997) maintained that internet gives the faculty members a wide range of opportunities, in the creation, processing, transmission and dissemination of information. Electronic resources have exploded in popularity and use. They can and do enable innovation in teaching, timeliness in research as well as increase discovery and creation of new fields of inquiry (Henderson and Machewan, 1997 and Negahban and Talwar 2009).

The present study is an attempt to analyze the use of Electronic Information Sources (EIS) by the faculty members of University of Peshawar, Pakistan and to find out their EIS preferences, EIS use experience, and e-journal use experiences and preferences.

LITERATURE REVIEW

Several studies on the use of electronic information resources (EIS) have been carried out by students, research scholars, and teachers of various institutions all over the world. For example Watts and Ibegbulam

(2006) surveyed some of the barriers to the use of EIS available at the Medical Library of College of Medicine, University of Nigeria, Nsukka. Their study identified that lack of an adequate ICT infrastructure, expensive online access, absence of in-depth ICT skills and information searching skills, and cost of using the cybercafé are barriers to the use of electronic resources. Okiki (2012) found that faculty members use electronic information sources mainly for research activity, paper writing for publication, and teaching. Tenopir (2003) conducted a literature review of more than 200 studies on EIS published between 1994 to 2003. He concluded that EIS have been used by a great majority of academicians and scholars.

Oguntayo and Aregbesola (2014) conducted a study on the use of electronic resources by faculty members in Landmark University. His study revealed that faculty members use electronic resources for academic purposes. Having access to wide range of books and journals, increased access to current materials, and, to carryout research are the major motivations of electronic resources use by faculty members. The consequence of prolonged e-book reading and the need to be computer literate were identified as constraints of electronic resources use. The study recommends that user training should be frequently organized for better usage as well as stimulates the interest of users. Kwafoa, Imoro and Afful-Arthur (2014) established that university teachers depend highly on EIS for teaching and research.

Oyedapo and Ojo (2013) in a study on the use of electronic resources in Obafami Alowowo University observed very low usage of electronic resources. The major reason that contributed to low utilization of electronic resources was limited searching skills. Manda (2005) added additional factors leading to underutilization of electronic resources which included lack of accessibility to computers connected to internet, low internet bandwidth and unreliable power supply.

In a study on the use of electronic resources by faculty members in Bangladesh, Ahmad (2013)found that difficulty in retrieving the required information, limited access from home, and slow internet speed were the main obstacles in using EIS. These obstacles have greatly affected the use of EIS in the public sector universities. However, the study further added that these barriers are due to the poor IT infrastructure and limited access to e-resources, which may also lead to other constraints such as an unwillingness to use the resources regularly and consequently low satisfaction with such resources. Igbo and Imo (2010) reported lack of e-resources and irregular subscription to e- journals as some of the major

factors inhibiting the use of EIS. In the same context, Omotayo (2010) found that, a major obstacle that constrains users is the unawareness of EIS. Natarajan *et.al.,* (2010) identified inadequate time, poor awareness, poor subject coverage, and slow downloading as the major constraints in using EIS.

Brennan *et.al.,* (2002) conducted a study on how the adoption of EIS has affected the information behaviour of faculty members. Their findings revealed that faculty members very seldom make use of the library and read more on the internet. The study found that slow internet speed, erratic power supply, non-availability of relevant information were the main barriers in using EIS. The study suggested that the universities must provide more Internet facilities as well as create a wireless enable environment.

Ogiegaen and Isah (2005) quoting Naquin and Cohen indicated that older teachers are less enthusiastic in using Information Communication Technology than younger teachers. He also found that Technology and Business faculty members were the most experienced with computers and the internet while teachers in education faculty were the least experienced with computers and internet.

Mansoor (2007) conducted a doctoral study to ascertain how often education faculty use Internet in the public sector universities in Jordan. He found that younger teachers, especially Lecturers, Instructors, and Assistant Professors used internet more often than Professors for teaching and research purposes. Other researchers like Rogers (1995), Al-Erieni (1999), Henry (2002), Peluchette and Rust (2005), and Cooper (2006) have also confirmed the findings of Becker (2000), Dhurlabhji and Fusilier (2005), Becker (1999), Ogiegaen (2007), and Mansoor (2007) who found that younger faculty members use internet more frequently than older faculty.

METHODOLOGY

The study is a descriptive survey designed to obtain data which described available trends in the use of electronic information sources by faculty members in the University of Peshawar, Khyber Pakhtunkhwa (KP) Pakistan. Keeping in view the successful use of questionnaire as a research instrument in the earlier studies on the use of EIS, it was therefore, decided to use a self-administered questionnaire in this study as well. The questionnaires used by Erdamar and Demirel (2013) and Satpathy and Rout (2010) was adopted with some modification for the data collection.

Total population of the study is consisted of 595 faculty members working in the University of Peshawar. Using a convenient sampling technique, the questionnaire was administered to 285 faculty members of the University of Peshawar with equal distribution to all six faculties. Two hundred and thirty five (235) questionnaires were returned back with a response rate of 82.45%. Of those who completed the questionnaire, 140 (59.57) were males while female population was 95 (40.42). There were 80 (30.04%) lecturers, 68 (28.93%) were Assistant Professors, 45 (19.14%) were Associate Professors and 42 (17.87%) were Professors. Their age distribution was as follows: 80 (34.04%) respondents were 35 years or less, 82 (34.89%) were between 36-45 years, while 73 (31.06%) were in the age group of 46 years or above. Using SPSS-19, the data was analyzed using descriptive feature of statistical analysis. Cross tables were drawn to analyze whether faculty members' electronic source preferences varied by designation, gender, age and number of publications in the last five years.

TABLE-1
DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS

Variable	Number of Respondents	%
Gender		
Male	140	59.57
Female	95	40.42
Designation		
Lecturers	80	30.04
Assistant Professors	68	28.93
Associate Professors	45	19.14
Professors	42	17.87
Age		
35 years or less	80	34.04
36-45 years	82	34.89
46 years or above	73	31.06
Number of publications of the respondents in the last five years (n=215).	71	33.02
	64	29.76
1-6 publications	42	19.53
7-12 publications	38	17.67
13-18 publications		
19 and more		

RESEARCH CONTEXT

University of Peshawar, founded in 1950, is the largest and oldest university of the Khyber Pakhtunkhwa, Pakistan, situated about 10 kilometers North-West from the city center on the main trunk road leading to Pak-Afghan border. It offers a wide ranging program in several disciplines. There are six faculties consisting of 48 departments, four constituent colleges and two constituent schools with a student population of 14000. The students' population includes undergraduate, post graduate and doctoral students. The University of Peshawar has a large library system comprised of a central library and 48 seminar/departmental libraries with a strong monographic collection complemented by thousands of print and e-journals in addition to more than 50 database subscriptions.

RESULTS

Use Experience of EIS: As is shown in table-2, a huge majority of the respondents (29.78% moderate and 53.61% significant) had a moderate and high level of experience in using electronic information sources (EIS). When the data was compared designation wise, it was found that lecturers (45%) and Assistant professors (36%) had sufficient experience of using EIS. No significant difference was found between groups (x^2=8.25, p=.581). When the data was studied gender wise, it was noticed that 57.89% of female and 50.70% male respondents reported the use of their EIS experience as significant (x^2=9.11, p=.043). When the data was analyzed by age it was found that as the age increases, EIS use experience declines. A significant difference between groups was found i. e. x^2=22.82, p=.000. The data was also analyzed by the number of publications published by faculty members. Those who had 13-18 publications to their names (61.90%) had more experience in using EIS followed by those who had 19 or more publications (52.63%). No significant difference between groups was found x^2=12.58, p=.124.

TABLE-2
USE EXPERIENCE OF EIS BY DESIGNATION, AGE, GENDER, AND NUMBER OF PUBLICATION

Designation, gender, age, and No. of publications	Never		Rarely		Moderately		Significantly	
	Respondents	%	Respondents	%	Respondents	%	Respondents	%
By designation								
Lecturer n=80	----	----	10	12.5	25	31.25	45	56.25
Assist. Professor n=68	1	1.47	11	16.17	20	29.41	36	52.94
Assoc. Professor n=45	----	----	6	13.33	13	28.88	26	57.77
Professor n=42	2	4.76	9	21.42	12	28.57	19	45.23
By gender								
Female n=95	----	----	10	10.52	30	31.57	55	57.89
Male n=140	3	2.14	26	18.57	40	28.57	71	50.71
By age								
35 years and below n=80	----	----	6	7.5	25	31.25	49	61.25
36-45 years n=82	1	1.21	8	9.75	23	28.04	50	60.97
46 years and above n=73	2	2.73	22	30.13	22	30.13	27	36.98
By number of Publications								
1-6 publications n=71	1	1.40	12	16.90	26	36.61	32	45.07
7-12 publications n=64	1	1.56	12	18.75	25	39.06	26	40.62
13-18 publications n=42	----	----	7	16.66	9	21.42	26	61.90
19 and more publications n= 38	----	----	2	5.26	16	42.10	20	52.63
Total(designation, gender, age)	**3**	**1.27**	**36**	**15.31**	**70**	**29.78**	**126**	**53.61**

USE FREQUENCY OF EIS

Respondents were also asked to record their responses regarding the use frequency of EIS in the last six months. As is shown in table-3, 56.17% of the faculty members used EIS 11 times or more during the previous six months. It is worth to mention that 12.34% of the total respondents did not use any of the EIS in the last six months out of which a large number of the subjects were the professors. EIS use frequency of the Lecturers and Assistant Professors was far greater than Associate Professors and Professors. Lecturers make use of EIS more than other category of respondents. There was significant differences between groups (x^2=33.02, p=.034).

As far as the use frequency of EIS by gender is concerned, It was found that 65.26% of female and 50% of male population made use of EIS more than 11 times. A significant difference between groups was found (x^2=15.21, p=.013). When the data was analyzed by age, it was observed that those aged 30 years or less, 73.73% used them more than eleven times followed by age group of 36-45 years. 17.80% of age group 46+ years, 14.80% of age group 36-45 years and 5% in the age group of 35 years or less reported that they had never used EIS in the last six months. There was significant differences between groups (x^2=44.32, p=.000). Of those who had got published 1-6 publications in the last five years, 35.21% used EIS more than 11 times and were thus the least

frequent users of EIS. Those who had got published 13-18 publications (57.14%) were the more frequent users of EIS. As is evident in table-3, as the number of publications rises the use frequency of EIS also rises. There was significant difference between groups $x^2=29.55$, p=.014.

TABLE-3
USE FREQUENCY OF EIS IN THE LAST SIX MONTHS IN REGARD TO DESIGNATION, AGE, AND NUMBER OF PUBLICATIONS

By Designation, gender, age and number of publications	**Never**		**1-3 times**		**5-10 times**		**11+ times**	
	Respondents	%	Respondents	%	Respondents	%	Respondents	%
By Designation Lecturer, n=80	8	10	7	8.75	10	12.5	55	68.75
Asst. Prof. n=68	7	10.29	16	23.52	6	8.82	39	57.35
Assoc. Prof. n= 45	4	8.88	9	20	7	15.55	25	55.55
Professor, n=42	10	23.80	12	28.57	7	16.66	13	30.95
By gender Female, n=95	10	10.52	11	11.57	12	12.63	62	65.26
Male, n=140	19	13.57	33	23.57	18	12.85	70	50
By age 35 years or less, n=80	4	5	9	11.25	8	10	59	73.73
36-45 years, n=82	12	14.63	13	15.85	12	14.63	45	54.87
46+ years, n=73	13	17.80	22	30.13	10	13.69	28	38.35
By number of publications 1-6 publications, n=71	14	19.71	8	11.26	24	33.80	25	35.21
7-12 publications, n=64	7	10.93	13	20.31	8	12.5	36	56.25
13-18 publications, n=42	11	26.19	1	2.38	6	14.28	24	57.14
19+ publications, n=38	1	2.63	12	31.57	4	10.52	21	55.26
Total (Designation, gender, age)	**29**	**12.34**	**44**	**18.72**	**30**	**12.76**	**132**	**56.17**

E-JOURNAL Vs PRINT JOURNAL PREFERENCES

Faculty members were asked to mention their use preferences of Print and Electronic journals. As is shown in table-4, a large majority of the faculty members (74.46%) preferred to use e-journals as against 24.65% respondents who reported preferring print journals. Faculty members' e-journal preferences varied when analyzed by other variables such as designation, age, gender, and number of publications. Professors (78.57%) made use of print journals more than other category of faculty members followed by Lecturers (75%) and Assistant Professors (73.52%). While Associate Professors (71.11%) were the ones who made

use of e-journals less than their counterparts. When the data was analyzed by gender, males (75%) used e-journals more than females (73.68%). Those aged 36-45 years (76.82%) and those who got published 19 or more publications in the last five years (94.73%) used e-journals more than their counterparts. There was significant difference between number of publications and EIS choices (x^2=17.01, p=.000).

TABLE-4

PRINT JOURNALS/E-JOURNALS PREFERENCES BY DESIGNATION, GENDER, AGE & NO. OF PUBLICATIONS

Designation, gender, age and No. of publications	Print journals		E-Journals	
	No. of respondents	**%**	**No. of respondents**	**%**
By Designation				
Lecturer, n= 80	20	25	60	75
Assistant Professor, n= 68	18	26.47	50	73.52
Associate Professor, n= 45	13	28.88	32	71.11
Professor, n= 42	9	21.42	33	78.57
By gender				
Female, n= 95	26	27.36	70	73.68
Male, n= 140	34	24.28	105	75
By age				
35 years or less, n=80	21	26.25	59	73.75
36-45 years, n=82	18	21.93	63	76.82
46+ years, n=73	21	28.76	53	72.60
By number of publications				
1-6 publications n=71	24	33.80	47	66.19
7-12 publications n=64	14	21.87	50	78.12
13-18 publications, n=42	13	30.95	29	69.04
19+ publications, n=38	2	5.26	36	94.73
Total (designation, gender, age)	60	25.53	175	74.46
Total (No. of Publications)	53	24.65	162	75.34

REASONS FOR E-JOURNAL PREFERENCES

Faculty members were asked to mention the reasons for preferring e-journals. They were given seven choices and were asked to tick all if apply. As is evident in table-5, a large majority of the respondents (98.7)preferred e-journals because e-journals were easily available on the internet without visiting the library, about 92% of the faculty members preferred to use e-journals as they could be accessed 24 hours a day and as they save more time. 86.04% of the faculty mentioned that they use e-journals more because their back issues can be accessed easily. Other reasons mentioned by the respondents were photocopies are not needed

(75.34%), e-journals are published in time (62.32% and less paper is used while consulting e-journals (48.83%).

TABLE-5
REASONS FOR E-JOURNAL PREFERENCES, N=215

Rank	Reasons	Respondents	%
1	As e-journals are easily available on the Internet, therefore I need not to visit the library	212	98.7%
2	I can access e-journals 24 hours a day	195	92.95%
3	Consulting e- journals save time	199	92.55%
4	I can access back issues quite easily	185	86.04%
5	Photocopies not needed	162	75.34%
6	E-journals are published in time	134	62.32%
7	Less paper is used while consulting e-journals	105	48.83%

REASONS FOR PRINT JOURNAL PREFERENCE

100% of the respondents who preferred using print journals believed that e- journals lack old volumes as compare to print journals. Similarly 100% of the respondents in the same category also mentioned that they use print journals as they can be accessed and examine easily. 90% of the respondents who preferred to use print journals believed that some journals in the field are only printed, 85% mentioned that they don't have access to electronic versions, 75% believed that it is hard to use e-journals, 60% mentioned that they use print journals because using e-journal on computer give them eye strain. Other reasons were 'print journals can be borrowed from the library easily (25%), unfamiliarity with e-journals (10%) and lack of computer literacy (5%).

TABLE-6
REASONS FOR PRINT JOURNAL PREFERENCE (N=20)

Rank	Reasons	Respondents	%
1	Electronic journals lack old volumes	20	100
2	Print journals can be accessed and examined easily	20	100
3	Some journals in the field are only printed	18	90
4	They don't have electronic versions	17	85
5	It is hard to use an e-journal	15	75
6	The computer gives me eye strain	12	60
7	Print journals can be borrowed from the library easily	5	25
8	I don't know about e-journals	2	10
9	Lack of computer literacy is a barrier to me to use e-journals	1	5%

CONCLUSION

If we look at table 2, our first result is that the EIS use experience of the respondents was moderate and significant. When EIS were examined by variables, it was observed that Lecturers followed by Assistant Professors used EIS more than Associate Professors and Professors. Similarly those who aged 45 years or less used EIS more than those whose age was 46 years or more. This shows that younger faculty used EIS more than older faculty. Thus increased age and academic designation meant decreased frequency of EIS use. It was also found that younger faculty had more EIS use experience than senior faculty. This may be due to the fact that younger faculty take more interest in using modern information technology. These findings corroborate with the findings of Rogers (1995), Becker (2000), Dhurlabhji and Fusilier (2005), Peluchette and Rust (2005), Cooper (2006), Osika, Johnson and Buteau (2007), Mansoor (2007), and Erdamar and Demirel (2013). Those who had more publications to their names in the last five years were more experienced in using EIS than those who had few. As far as use frequency of EIS is concerned it was found that Lecturers used EIS more than their counterparts. Professors used them the least than others. Similarly when the data was analyzed by age it was observed that those aged 30 years or less used EIS more frequently than others. This shows that as the age increases EIS use frequency of faculty members decreases. These findings are in line with the findings of Oguntayo and Aregbesola (2014), Ogiegaen and Isah (2005), Mansoor (2007) and Erdamar and Demirel (2013) who found that young faculty make use of EIS more frequently than older faculty.

One of the major findings of the study was that majority of the faculty members preferred e-journals than print journals. This trend has also been shown by several other studies such as King *et.al.*, (2003), Satpathy and Rout (2010), Niu and Hemminger (2011) and Msagati (2014) who found that faculty members prefer to use e-journals than print ones. The faculty members who preferred e-journals more than others were Lecturers, male respondents, those who aged 36-45 years, and those who had more publications to their names in the last five years. It may be noted that in Pakistan it is a pre-requisite for a university teacher to get publish their research articles in journals of repute for academic progression. Thus it can be said that EIS use creates an effect on the number of publications. Using e-journals allow users to conduct more research in less time. Moreover it may be noted that as age increases, e-journal use decreases and as the number of publications increases so does e-journals. As regards reasons for e-journal preference, a large majority of

the respondents preferred e-journals to print journals. Faculty members chose this format because of its easy access and continuous availability. Similar findings have also been reported by, King et al (2003), Manda (2005), Borrego *et.al.,* (2007), Anaraki and Babalhavaeji (2013), Eradamar and Demirel (2013) and Msagati (2014).

The study revealed that faculty members use EIS quite often. EIS has become a significant information assent for faculty members in the present world of information explosion. It can impact positively on educational development in Pakistan if they are used in a proper way. Therefore the university managements must provide full support to EIS. Government should increase funding in the universities to enable university teachers to have an access to the latest information on EIS.

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