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Constraints in utilization of e-resources by postgraduate students of Rajuvas, Bikaner

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Abstract

The present study was conducted in purposely selected all the constituent veterinary colleges of the RAJUVAS, Bikaner i.e. CVAS, Bikaner, CVAS, Navania, Udaipur and PGIVER, Jaipur to find out the constraints encountered by postgraduate students in utilization of e-resources. A sample size of 90 postgraduate students selected through multi-stage stratified random sampling technique. The study findings revealed that majority of the postgraduate students (72.22%) fell in the medium category of severity of constraints, followed by 16.67 per cent in low category of constraints and rest (11.11%) were in high category of constraints severity encountered by the postgraduate students in utilization of e-resources. The pooled analysis of data indicates that the postgraduate students of all the three constituent veterinary colleges of RAJUVAS, Bikaner perceived lack of subscription to more standard journals (MPS 59.25), lack of professional and skilled persons in library (MPS 55.18) and paid software's are not feasible to access (MPS 52.59) as the constraints with utmost severity in utilization of e-resources.

Keywords: Constraints, e-resources, postgraduate students, veterinary, RAJUVAS

Introduction

E-resources are technologies offering new ways of communication and exchange of information and knowledge. The term e-resources is used to denote a wide range of services, applications and technologies using various types of equipment and software, of tenrunning over telecommunication network. It includes a range of technologies starting from e-book, e-newspaper and information kiosk up to modern technologies like mobile phone, multimedia, internet and satellite based communication systems. In recent times, there is a visible shift from old ways of delivering information to modern ways of information delivery. Today, e-resources have become backbone of every intellectual activity of higher education. Realizing the importance of the e-resources most of the universities in India liberally in vesting to provide access to these resources to support learning, teaching and research. In modern times, access to information globally is more important and relevant for academic work in all the higher institutions. Universities are the intellectual hubs to transfer the knowledge and understanding of ideas and values to students and research scholars through various intellectual means and library is an important agent in this process. University libraries are the main focal point of every university as the equally support the teaching and learning process and research activities. Libraries are now changed from traditional resources to more dynamic and flexible e-resources. Many of the e-resources, referred as online databases, can be accessed freely on internet connected device susually made available in the campus, while some are accessed only after a paid subscription of them (Kumari, 2008) [2]. Despite of the significance of e-resources in the educational institutions, there may be problems in availability, accessing and utilization of e-resources among the students fraternity. Therefore, the study was an attempt to identify the key constraints which affect utilization of e-resources among the postgraduate students.

Materials and methods

The present study was conducted in purposely selected all the constituent veterinary colleges of Rajasthan University of Veterinary and Animal Sciences, Bikaner i.e. College of Veterinary and Animal Science, Bikaner, College of Veterinary and Animal Science, Navania, Udaipur and Post Graduate Institute for Veterinary Education and Research, Jaipur. Rajasthan state comprises of single veterinary university namely Rajasthan University of Veterinary and Animal Sciences (RAJUVAS) and has its headquarters in Bikaner district.

For selection of colleges, all the constituent veterinary colleges of RAJUVAS were selected purposely based on the postgraduate degree programmes running in the campuses. For the selection of respondents, a comprehensive list of all the postgraduate students who were engaged in masters' degree programme in various disciplines was prepared from the selected veterinary colleges. From the list so prepared, 30 postgraduate students were selected from each identified college with the help of disproportionate stratified random sampling technique. Thus, a total of 90 postgraduate students were included in the sample of the study.

In the present study, constraints were operationalized as the impediments or obstacles which are encountered by the postgraduate students in utilization of the e-resources. An interview schedule was developed to identify the constraints encountered by the postgraduate students in utilization of e-resources. All the crucial constraints in accessing and using of e-resources were included in the schedule after extensive review of literature, discussion with scientists, experts and progressive users including the researcher's experience during pre-testing of the schedule. The constraints were measured on a three point continuum viz. most severe, severe and least severe constraints based on the severity of constraints. Further, the groups were developed on the basis of mean and standard deviation of the overall constraints scores obtained

by the students. Additionally, the constraints were ranked in order of severity index calculated on the basis of mean per cent score.

Results and discussion

1. Constraints encountered by postgraduate students in utilization of e-resources

The perusal of data presented in the Table 1 indicates that majority of the postgraduate students i.e., 90.00, 43.33 and 83.33 per cent of CVAS, Bikaner, CVAS, Navania, Udaipur and PGIVER, Jaipur perceived the constraints in utilization of e-resources at 'severe' level, respectively. Further, 6.67, 36.67 and 6.67 per cent postgraduate students of CVAS, Bikaner, CVAS, Navania, Udaipur and PGIVER, Jaipur perceived the constraints in utilization of e-resources at 'most severe' level, respectively. While, 3.33, 20.00 and 10.00 per cent of postgraduate students of CVAS, Bikaner, CVAS, Navania, Udaipur and PGIVER, Jaipur perceived the constraints in utilization of e-resources at 'least severe' level, respectively. The overall distribution of constraints in utilization of e-resources reveals that a fair majority of the postgraduate students (72.22%) encountered the constraints with moderate severity, followed by most severity (16.67%) and rest of the postgraduate students (11.11%) perceived the constraints with least severity.

Table 1: Distribution of postgraduate students according to severity of constraints encountered in utilization of e-resources

S. No.	Level of constraints	Mean ± SD	CVAS Bikaner (n=30)		CVAS Navania (n=30)		PGIVER Jaipur (n=30)		Total (n=90)	
			F	%	F	%	F	%	F	%
1.	Least severe (<31)	38.42±8.24	1	3.33	6	20.00	3	10.00	10	11.11
2.	Severe (31 to 47)		27	90.00	13	43.33	25	83.33	65	72.22
3.	Most severe (>47)		2	6.67	11	36.67	2	6.67	15	16.67

f= frequency, %= per cent

2. Item wise constraints encountered by postgraduate students in utilization of e-resources

The item wise constraints perceived by the postgraduate students have a comprehensive picture with more clarity at

college and overall (university) level. For each constraint, mean per cent score was calculated and ranked accordingly. The results are presented hereunder in Table 2.

Table 2: Constraints faced by the postgraduate students about use of e-resources

S. No.	Constraints	CVAS Bikaner (n=30)		CVAS Navania (n=30)		PGIVER Jaipur (n=30)		Total (n=90)	
		MPS	Rank	MPS	Rank	MPS	Rank	MPS	Rank
1.	Lack of training to users	42.22	IX	48.89	X	37.78	XII	42.96	XVII
2.	Inadequate infrastructure	41.11	X	42.22	XV	47.78	IV	47.40	IX
3.	Slow speed of internet in the campus	44.44	VII	51.11	IX	47.78	IV	47.78	VIII
4.	Irregular power supply/long hours power cut	38.89	XII	62.22	III	34.44	XIV	48.89	VII
5.	Lack of subscription to more standard journals	53.33	II	67.78	I	56.67	I	59.25	I
6.	Constant problem of network connection hinders access	42.22	IX	52.22	VIII	47.78	IV	47.03	X
7.	Limited computer terminals in the library	44.44	VII	52.22	VIII	43.33	VIII	46.67	XI
8.	Non-user friendly interface to the resources	45.55	VI	54.44	VI	41.11	X	47.03	X
9.	Restrictions of websites for students to download the study material	48.89	III	47.78	XI	46.67	V	47.78	VIII
10.	Inadequate fund for developing e-resources	37.78	XIII	52.22	VIII	42.22	IX	44.07	XVI
11.	Non-availability of password to the students for using e-resources	53.33	II	53.33	VII	50.00	II	48.89	VII
12.	Lack of professional and skilled persons in the library	48.89	III	66.67	II	47.78	IV	55.18	II
13.	Paid software's are not feasible to access by the students	54.44	I	57.78	V	45.55	VI	52.59	III
14.	Threat of virus for damaging the data	45.55	VI	46.67	XII	43.33	VIII	45.18	XIV
15.	Access to e-resources is time consuming	36.67	XIV	42.22	XV	40.00	XI	39.62	XIX
16.	Lack of facilities for timely repair and maintenance of computers	43.33	VIII	62.22	III	43.33	VIII	49.62	V
17.	Lack of publicity on the contents of available e-resources by the institute	47.78	IV	58.89	IV	46.67	V	51.11	IV
18.	Using e-resources often detracts from doing work	38.89	XII	54.44	VI	45.55	VI	46.29	XII
19.	Lack of knowledge about paid and unpaid e-resources	43.33	VIII	54.44	VI	50.00	II	49.25	VI

20.	Lack of finding the relevant information	44.44	VII	44.44	XIV	43.33	VIII	44.07	XVI
21.	Too much information retrieved	46.67	V	46.67	XII	41.11	X	44.81	XV
22.	Reliability of information source	45.55	VI	46.67	XII	44.44	VII	45.55	XIII
23.	Lack of IT knowledge to effectively utilize the services	36.67	XIV	52.22	VIII	43.33	VIII	44.07	XVI
24.	Poor accessibility to e-resources	46.67	V	48.89	X	45.55	VI	47.03	X
25.	Slow speed of PCs	48.89	III	37.78	XVI	45.55	VI	47.78	VIII
26.	Fear of the new technology by scholar	40.00	XI	46.67	XII	36.67	XIII	41.11	XVIII
27.	Privacy issue/problem	46.67	V	45.55	XIII	48.89	III	47.03	X

MPS= Mean Percent Score

The data presented in the Table 2 indicates that the postgraduate students of CVAS, Bikaner perceived the constraints namely 'paid software's are not feasible to access', 'lack of subscription to more standard journals', 'non-availability of password', 'restrictions of websites to download', 'lack of professional and skilled persons in library', 'slow speed of PCs', 'lack of contents publicity of available e-resources by the institute', 'too much information retrieved', 'poor accessibility to e-resources' and 'privacy issue' with the severity extent of 54.44, 53.33, 53.33, 48.89, 48.89, 48.89, 47.78, 46.67, 46.67 and 46.67 MPS, respectively in utilization of e-resources. Further, the constraints namely 'non-user friendly interface to the resources', 'threat of virus for damaging the data', 'reliability of information sources', 'slow speed of internet in the campus', 'limited computer terminals in the library', 'lack of finding the relevant information', 'lack of knowledge about paid and unpaid e-resources', 'lack of facilities for timely repair and maintenance of computers', 'lack of training to users', 'constant problem of network connection' and 'inadequate infrastructure facility' were perceived by the postgraduate students with the severity extent of 45.55, 45.55, 45.55, 44.44, 44.44, 44.44, 43.33, 43.33, 42.22, 42.22 and 41.11 MPS, respectively. While, 'fear of new technology among scholars', 'irregular power supply/long hours power cut', 'using e-resources often distracts from doing work', 'inadequate fund for developing e-resources', 'access to e-resources is time consuming' and 'lack of IT knowledge to effectively utilize the services' were the other notable constraints perceived by the respondents in utilization of e-resources with the severity extent of 40, 38.89, 38.89, 37.78, 36.67 and 36.67 MPS, respectively.

The postgraduate students of CVAS, Navania, Udaipur perceived the constraints *i.e.* lack of subscription to more standard journals, lack of professional and skilled persons in library, irregular power supply/long hours power cut, lack of facilities for timely repair and maintenance of computers, lack of contents publicity of available e-resources by the institute, paid software's are not feasible to access, non-user friendly interface to the resources, using e-resources often distracts from doing work, lack of knowledge about paid and unpaid e-resources and non-availability of password with the extent of 67.78, 66.67, 62.22, 62.22, 58.89, 57.78, 54.44, 54.44, 54.44 and 53.33 MPS, respectively in utilization of e-resources. Further, the constraints *i.e.*, constant problem of network connection, limited computer terminals in the library, inadequate fund for developing e-resources, lack of IT knowledge to effectively utilize the services, slow speed of PCs, poor accessibility to e-resources, lack of training to users, restrictions of websites to download, threat of virus for damaging the data, too much information retrieved, reliability of information sources and fear of new technology among scholars were perceived by the respondents with the extent of 52.22, 52.22, 52.22, 52.22, 51.11, 48.89, 48.89, 47.78, 46.67, 46.67, 46.67 and 46.67 MPS, respectively. While, privacy

issue in using of e-resources, lack of finding the relevant information, access to e-resources is time consuming, inadequate infrastructure facility and slow speed of internet in the campus were the other notable constraints perceived by the respondents in utilization of e-resources with the extent of 45.55, 44.44, 42.22, 42.22 and 37.78 MPS, respectively.

The postgraduate students of PGIVER, Jaipur perceived the constraints *viz.*, lack of subscription to more standard journals, non-availability of password to students, lack of knowledge about paid and unpaid e-resources, privacy issue in using of e-resources, slow speed of internet in the campus, constant problem of network connection, lack of professional and skilled persons in library, inadequate infrastructure facility, restrictions of websites to download and lack of contents publicity of available e-resources by the institute with the extent of 56.67, 50.00, 50.00, 48.89, 47.78, 47.78, 47.78, 46.67 and 46.67 MPS, respectively in utilization of e-resources. Further, the constraints *viz.*, paid software's are not feasible to access, using e-resources often distracts from doing work, poor accessibility to e-resources, slow speed of PCs, reliability of information sources, limited computer terminals in the library, threat of virus for damaging the data, lack of facilities for timely repair and maintenance of computers, lack of finding the relevant information and lack of IT knowledge to effectively utilize the services were perceived by the postgraduate students with the extent of 45.55, 45.55, 45.55, 45.55, 44.44, 43.33, 43.33, 43.33, 43.33 and 43.33 MPS, respectively. While, inadequate fund for developing e-resources, non-user friendly interface to the resources, too much information retrieved, access to e-resources is time consuming, lack of training to users and fear of new technology among scholars and irregular power supply/long hours power cut were the other notable constraints faced by the postgraduate students in utilization of e-resources with the extent of 45.55, 44.44, 42.22, 42.22, 37.78 and 34.44 MPS, respectively.

Pooled analysis of data presented in the Table 2 indicates that the postgraduate students of all the three constituent veterinary colleges of RAJUVAS, Bikaner perceived 'lack of subscription to more standard journals' as the most severe constraint in utilization of e-resources with 59.25 MPS and ranked first in the hierarchy. It was followed by the constraints 'lack of professional and skilled persons in library' and 'paid software's are not feasible to access' with 55.18 and 52.59 MPS and were ranked second and third, respectively. Further, 'lack of contents publicity of available e-resources by the institute', 'lack of facilities for timely repair and maintenance of computers', 'lack of knowledge about paid and unpaid e-resources', 'irregular power supply/long hours power cut', 'non-availability of password to students', 'slow speed of internet in the campus', 'restrictions of websites to download' and 'slow speed of PCs' were encountered as the constraints by the respondents in utilization of e-resources with the extent of 51.11, 49.62, 49.25, 48.89, 48.89, 47.78, 47.78 and 47.78 MPS and as such were assigned ranks from

fourth to eighth in the rank order, respectively.

The other distinguished constraints as realized by the veterinary postgraduate students of RAJUVAS, Bikaner in utilization of e-resources were the inadequate infrastructure facility, constant problem of network connection, non-user friendly interface to the resources, poor accessibility to e-resources, privacy issue in using of e-resources, limited computer terminals in the library, using e-resources often distracts from doing work, reliability of information sources, threat of virus for damaging the data and too much information retrieved with the extent of 47.40, 47.03, 47.03, 47.03, 46.67 46.29, 45.55, 45.18 and 44.81 MPS and as such were assigned ranks from ninth to fifteen in the rank hierarchy, respectively. While, the constraints lack of IT knowledge to effectively utilize the services, inadequate fund for developing e-resources, lack of finding the relevant information, lack of training to users, fear of new technology among scholars and access to e-resources is time consuming bothered the respondents in utilization of e-resources with the extent of 44.07, 44.07, 44.07, 42.96, 41.11 and 39.62 MPS and as such were assigned last order ranks from sixteen to nineteen, respectively.

From the above findings regarding the constraints in utilization of e-resources by postgraduate students of RAJUVAS, Bikaner, it can be concluded that the level of severity of constraints encountered in utilization of e-resources by the postgraduate students of CVAS, Bikaner was ranged between 54.44 to 36.67 per cent. However, in case of postgraduate students of CVAS, Navania, Udaipur the level of severity of constraints in utilization of e-resources was ranged in between 67.78 to 37.78 per cent and in case of postgraduate students of PGIVER, Jaipur the level of severity of constraints was ranged in between 56.67 to 36.67 per cent. Further, it is inferred that the postgraduate students of RAJUVAS, Bikaner faced the constraints in utilization of e-resources with varying degree of severity. The reasons behind the facing of constraints in utilization of e-resources by the postgraduate students of RAJUVAS, Bikaner might be due to having an average awareness and skills in utilization of e-resources as reported by majority of the postgraduate students. Further, lack of training and non-availability of ICT experts in library or college and other related facilities in using of e-resources, coupled all together might have played a major role in causing constraints in utilization of e-resources.

The present findings of the study are in line with the findings of Madhusudan (2010) ^[3], Thanuskodi (2010) ^[7], Tripathi *et al.* (2016) ^[8], Mumba (2017) ^[5], Thakur (2017) ^[6], Yadav (2018) ^[9], Bano (2019) ^[11] and Mani *et al.* (2019) who also reported that majority of the respondents perceived the constraints in accessing and utilization of e-resources with varying extent of severity.

Conclusions

The study results would provide an intuition into the constraints in utilization of e-resources as encountered by the postgraduate students in order to enquire and recommend appropriate solutions to improve access and use of e-resources. Regarding constraints causing serious concern to postgraduate students in utilization of e-resources, it was observed that lack of subscription to more standard journals, lack of professional and skilled persons in the library, paid e-resources are not feasible to access by students, lack of publicity of e-resource content by institute, lack of facility of expertise help and support hence there should be provision of

an expert available in college every time for help and support of students in using of e-resources. The central library of all colleges and universities should conduct users' survey to identify the usage of e-resources and the future needs of the users particularly the students and research scholars time to time so that needed e-resources can be developed timely.

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