

Utilization Pattern of e-Resources Among the Postgraduate Scholars

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Paper Received on July 14, 2020, Accepted on September 21, 2020 and Published Online on October 01, 2020

ABSTRACT

e-Resources became the centre of every higher education intellectual activity today. Understanding the importance of e-resources most of the universities generously participating to provide access to these resources to facilitate learning, teaching and research. The present study area was state of Rajasthan by selecting three agriculture universities i.e. MPUAT (Udaipur), SKNAU (Jobner) and SKRAU (Bikaner) purposively. Among these three universities 180 respondents were selected randomly. The basic information regarding the personal profile characteristics were collected from the postgraduate scholars. To determine the relationship of each independent variable with the dependent variable i.e., utilization pattern of e-resources the coefficient correlation 'r' value was used. The coefficient correlation 'r' clearly showed that age, training, internet use and ICT skills had significant relationship with the utilization pattern of e-resources at 1 percent level of significance. The other variables like academic performance and computer exposure was associated at 5 per cent level of significance. Remaining independent variables like gender and annual income does not had any relationship with the dependent variable.

Key words : e-resources; Utilization pattern,; Coefficient correlation; Postgraduate scholars;

Today, ICT's emerging technology in knowledge generation and communication have brought the users and knowledge closer, the information is collected, stored, arranged, accessed, retrieved and consumed are really productive and more user friendly. In modern times, access to information is more relevant for academic work in all higher institutions. Universities are the higher 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 the process. Libraries are now moved from traditional resources to more dynamic and flexible e-resources. The traditional environment has been rapidly changing to an electronic one and the demand for internet and e-resources among the academic and research community has increased manifold over the years being the most popular source of undertaking research. However, the literature reveals that there is a dearth of studies on use of e-resources and internet in context of academics, researchers' and students not only in India but also across the globe. This

makes internet use a necessary condition for effective utilization of library resources. However, the use of electronic resources does not take the place of printed resources but facilitates it through access to large stock of library materials (Okazie, 2016).

METHODOLOGY

Rajasthan state comprises of five Agricultural Universities, out of which three Agriculture Universities were selected on the basis of post graduate programmes (M.Sc. and Ph.D. in Agriculture) are running for more than 20 years in various disciplines. 60 postgraduate scholars were selected from each identified college with the help of a random selection technique. Thus, a total of 180 postgraduate students were included in the sample of study. Coefficient of correlation was calculated to find out the relationship between each independent variables and dependent variables. It gives an overall idea about the influence of different personal variables with the extent of utilization of e-resources for the academic and research work. Coefficient of

correlation was calculated to find out the relationship between each of the independent variables and dependent variables. This technique was used to find out the relationship between two variables and the following formula was used for computation of the “r” value.

$$r = \frac{\sum X_i Y_i - \frac{(\sum X_i)(\sum Y_i)}{N}}{\sqrt{\sum X_i^2 - \frac{(\sum X_i)^2}{N}} \sqrt{\sum Y_i^2 - \frac{(\sum Y_i)^2}{N}}}$$

Where:

r = Coefficient of correlation

X = Independent variable

Y = Dependent variable

N = Total number of respondents

RESULTS AND DISCUSSION

Profile of the postgraduate scholars : To study the various characteristics of the postgraduate scholars studying in higher agriculture education in Agriculture Universities in Rajasthan was one of the objectives of the present study. Based on review of literature, some of the important characteristics of the postgraduate scholars were selected and information were collected. The findings regarding these have been presented in forthcoming pages.

Age : Age is an important factor in the decision-making behaviour of any individual. Age of the postgraduate scholars at the time of data collection was recorded and classified into three groups viz. less than 23 years, 23-27 years and above 27 years based on mean and standard deviation. The data are presented in Table 1.

Table 1. Age of postgraduate scholars (N=180)

Category	MPUAT		SKNAU		SKRAU		Total	
	No.	%	No.	%	No.	%	No.	%
<23 yrs	13	21.67	4	6.66	7	11.67	24	13.33
23-27 yrs	37	61.67	48	80.00	42	70.00	127	70.56
>27 yrs	10	16.66	8	13.34	11	18.33	29	16.11
Total	60	100	60	100	60	100	180	100

The information presented in Table 1 shows that 80.00, 70.00 and 61.67 per cent of the postgraduate scholars have belonged from 23-27 years of age in SKNAU, Jobner, SKRAU, Bikaner and MPUAT, Udaipur, respectively. This was followed by 18.33, 16.66 and 13.34 per cent respondents of SKNAU, Jobner, SKRAU, Bikaner and MPUAT, Udaipur were from above 27 years of age, respectively. While, 21.67, 11.67

and 6.66 per cent students of MPUAT, Udaipur, SKRAU, Bikaner and SKNAU, Jobner fell in the group of less than 23 years of age, respectively.

The overall data show that majority (70.56%) of the postgraduate scholars had 23-27 years of age, followed by 16.11 and 13.33 per cent of them had above 27 years and less than 23 years of age, respectively. This indicates that the postgraduate scholars were matured enough to know about the advantages of e-resources in their education and career development.

Academic performance : The academic performance refers to the degree of brilliance, interest, sincerity, involvement, and intelligence of research scholars in agricultural education. The academic performance of the postgraduate scholars is the marks in terms of OGPA obtained in the M.Sc. and Ph.D. examination. To understand the role of the academic performance of the postgraduate scholars on their e-resources, data were collected and results are presented in Table 2.

Table 2 reveals that majority of postgraduate scholars (45.00 %) of MPUAT, Udaipur were with 7.00 to 8.00 OGPA, followed by 36.66 per cent of respondents with above 8.00 OGPA and 18.33 per cent students were with <7.00 OGPA. Academic performance of postgraduate scholars in SKNAU, Jobner was 46.67, 33.33 and 20.00 per cent with 7.00 to 8.00 OGPA, above 8.00 OGPA and <7.00 OGPA, respectively. Whereas, 43.33 per cent of the postgraduate scholars of SKRAU, Bikaner having 7.00 to 8.00 OGPA followed by 30.00 percent with above 8.00 OGPA and 26.67 per cent of scholars possessed < 7.00 OGPA with regards to academic performance.

Table 2. Postgraduate scholars according to their academic performance (N=180)

Academic OGPA	MPUATU		SKNAU		SKRAU		Overall	
	No.	%	No.	%	No.	%	No.	%
<7.0	11	18.33	12	20.00	16	26.67	39	21.67
7.0 to 8.0	27	45.00	28	46.67	26	43.33	81	45.00
>8.0	22	36.67	20	33.33	18	30.00	60	33.33
Total	60	100	60	100	60	100	180	100

The overall academic performance indicates that the 45.00 per cent of the postgraduate scholars studying in Agriculture Universities in Rajasthan had 7.00 to 8.00 OGPA, followed by 33.33 per cent with above 8.00 OGPA and only 21.67 per cent were having less than 7.00 OGPA. The high quality of education imparted and the self-motivation among scholars to excel might have

resulted in better academic performance among postgraduate scholars of identified agriculture universities of Rajasthan.

Gender : Based on gender composition postgraduate scholars were categorized into two categories i.e. male and female. Data were presented in Table 3.

It can be inferred from the above Table 3 that 66.66, 58.34 and 46.67 per cent of the postgraduate scholars were male in SKNAU, Jobner, MPUAT, Udaipur and SKRAU, Bikaner, respectively. While, 53.33, 41.66 and 33.34 per cent respondents were female in SKRAU, Bikaner, MPUAT, Udaipur and SKNAU, Jobner, respectively.

Table 3. Distribution of postgraduate scholars according to their gender (N=180)

Gender	MPUATU		SKNAUJ		SKRAU		Overall	
	No.	%	No.	%	No.	%	No.	%
Male	35	58.34	40	66.66	28	46.67	103	57.22
Female	25	41.66	20	33.34	32	53.33	77	42.78
Total	60	100	60	100	60	100	180	100

The overall distribution of gender shows that the majority (57.22%) of the respondents of selected agriculture universities in Rajasthan were male and only 42.78 per cent were female. The reason behind that low percentage of females in postgraduate is that the parents don't want to send their daughters away from home. It was also noted that year after year the number of girl students is increasing in agriculture education due to more scope in various sectors like Banks, State Agriculture Department, ICAR, Agriculture Universities, NSC, RSCs and private sectors, etc.

Annual Income : It refers to the total annual earnings of the family of the postgraduate research scholars through all sources. The respondents were categorized into three groups based on mean and standard deviation and the results have been presented in Table 4.

Table 4. Classification of postgraduate scholars according to their family income in lakh (N=180)

Income	MPUATU		SKNAU		SKRAU		Overall	
	No.	%	No.	%	No.	%	No.	%
<Rs. 1	15	25.00	18	30.00	20	33.33	53	29.44
Rs. 1-2	25	41.67	28	46.67	30	50.00	83	46.11
>Rs. 2	20	33.33	14	23.33	10	16.67	44	24.45
Total	60	100	60	100	60	100	180	100

The results from the Table 4 reveals that 46.11 per cent of the postgraduate scholars of Agriculture

Universities in Rajasthan had Rs. 1,00,000 to 2,00,000/ annual family income, followed by 29.44 per cent were with less than Rs.1,00,000 of annual income and 24.45 per cent were with above Rs. 2,00,000 of annual family income. It was clearly stated that more than 50.00 per cent respondents were having low to medium economic status. The reason for the low economic status of respondents can be attributed to the fact that they belonged to rural backgrounds and agriculture is the main source of their family income.

Computer exposure : The computer is an advanced electronic device that takes raw data as input from the users and processes these data under the control of a set of instructions and gives the results and saves the output for further use. Over the past two decades, the computer has played an important role in the area of agriculture research, education, extension, and management. With the decreasing cost of computer hardware, it has become possible to utilize computer technology in agriculture also. At the present time, a computer has become a part of a student's daily life. The use of the computer helps them to get acquainted with technological advances as well as speedy accomplishment of all their assignments and research works. The data collected from respondents in this regard are presented in Table 5.

Table 5. Categorization of postgraduate scholars according to their computer exposure (hr/day) (N=180)

Computer exposure	MPUAT		SKNAU		SKRAU		Overall	
	No.	%	No.	%	No.	%	No.	%
<1	24	40.00	31	51.67	12	20.00	67	37.23
1 to 2	19	31.67	18	30.00	25	41.67	62	34.44
>2	17	28.33	11	18.33	23	38.33	51	28.33
Total	60	100	60	100	60	100	180	100

It can be seen from Table 5 that 37.23 per cent of the postgraduate scholars used a computer for their academic and research work <1 hour/day, followed by 34.44 per cent and 28.33 per cent respondents were using a computer for 1 to 2 hrs/day and above 2 hrs/day, respectively. The computer exposure among the postgraduate scholars can be accounted for their increasing need for computers in the course curriculum as well as the perceived advantages of using computers in their study and research purpose. It was observed during the investigation that every scholar had a laptop with an internet connection so that they can a used

computer in their hostels and rooms for academic assignments which are given by the teachers and supervisors.

Internet exposure :The internet is a network of networks that consists of millions of private, public, academic, business, and government networks of local to global scope, that is linked by a broad array of electronic, wireless and optical networking technologies. The internet is being widely used by the students now a day. Internet exposure refers to the frequency of use of internal facilities by the postgraduate scholars. The internet has become one of the most powerful media today. The internet is an effective communication tool in the everyday life of students, teachers and research workers. It provides postgraduate scholars with updated global information without any delay. The internet also provides information pertaining to the career choices of postgraduate scholars. Data were collected and presented in Table 6.

Table 6. Distribution of postgraduate scholars according to their internet exposure (hr/day) (N=180)

Internet use	MPUAT		SKNAU		SKRAU		Overall	
	No.	%	No.	%	No.	%	No.	%
<1	25	41.66	24	40.00	10	16.66	59	32.78
1 to 2	15	25.00	22	36.66	15	25.00	52	28.88
>2	20	33.34	14	23.34	35	58.34	69	38.34
Total	60	100	60	100	60	100	180	100

Data presented in Table 6 reveal that 38.34 per cent of the postgraduate scholars used the internet more than 2 hours per day. While, 32.78 and 28.88 per cent postgraduate scholars were used the internet <1 hour/day and 1 to 2 hours per day, respectively for their academic and research assignments. The high internet exposure among the postgraduate scholars might be a result of the provision of free WIFI internet facility in the postgraduate hostels by the university authority which helps in research and learning activities of the scholars during the study period.

Table 7. Classification of postgraduate scholars according to training received on e-resources (N=180)

Training	MPUAT		SKNAU		SKRAU		Overall	
	No.	%	No.	%	No.	%	No.	%
No	35	58.34	38	63.34	42	70.00	115	63.88
Yes	25	41.66	22	36.66	18	30.00	65	36.12
Total	60	100	60	100	60	100	180	100

Training received : Training is the ability of postgraduate

scholars to resolve problems effectively and efficiently at the right time. Training is considered one of the most important inputs for the use of e-resources in the study area. The data collected from the postgraduate scholars in this regard are given in Table 7.

It is apparent from Table 7 that 70.00, 63.34 and 58.34 per cent of the postgraduate scholars were not received specific training about the use of e-resources in SKRAU, Bikaner, SKNAU, Jobner and MPUAT, Udaipur, respectively. While, 41.66, 36.66 and 30.00 per cent postgraduate scholars were receiving training about various e-resources in MPUAT, Udaipur, SKNAU, Jobner and SKRAU, Bikaner, respectively.

The overall distribution of training shows that the majority (63.88%) of the respondents of all the Agriculture Universities in Rajasthan have not received training and 36.12 per cent postgraduate scholars received training about the use of e-resources for their academic and research work. It may be concluded that most of the students learned to use the computer and laptop at their level through friends and other sources.

ICT skills : Information and communication technology (ICT) is a global term that includes all technologies for the manipulation and communication of information encompassing: computers, internet, cell phones, network hardware and software, satellite systems and so on, as well as the various services and applications associated with them. ICTs are emerging as a very important tool for agricultural education and it is now essential for every agriculture student to have working knowledge and skills of ICT tools and devices.

Table 8. Distribution of postgraduate scholars according to their ICT skills (N=180)

ICT skills	MPUAT		SKNAU		SKRAU		Overall	
	No.	%	No.	%	No.	%	No.	%
Low	15	25.00	16	26.67	18	30.00	49	27.22
Medium	18	30.00	21	35.00	23	38.33	62	34.44
High	27	45.00	23	38.33	19	31.67	69	38.34
Total	60	100	60	100	60	100	180	100

Information Communication Technology has become an integral part in determining the success of an individual in today's competitive world. Even the field of agriculture is also growing rapidly by making use of the knowledge obtained from advanced ICT tools. It is thus very essential for postgraduate scholars studying in agriculture to be competent enough in this technology.

To know the ICT skills among the respondents, data were collected and results were presented in Table 8.

Table 8 reveals that 45.00, 38.33 and 31.67 per cent of the postgraduate scholars had a high level of skills in using ICT tools in MPUAT, Udaipur, SKNAU, Jobner and SKRAU, Bikaner, respectively. Whereas, 30.00, 35.00 and 38.33 per cent respondents had a medium level of ICT skills in MPUAT, Udaipur, SKNAU, Jobner and SKRAU, Bikaner, respectively. The representation of respondents in a low level of ICT skills was not more than 30.00 per cent in all the three selected universities.

Analysis of Table 8 further shows that an overall 38.34 per cent of the postgraduate scholars had a high level of skills of using ICT tools, followed by 34.44 per cent of them were in a medium level group and 27.22 per cent were with a low level of skills of using ICT tools by the respondents. It was observed during the investigation that almost all the postgraduate scholars have a laptop and mobile phone with internet facility which is using their academic as well as daily purposes.

Correlation between profile of postgraduate scholars and their utilization pattern of e-resources

Coefficient of correlation was calculated to find out the relationship between each independent variables and dependent variables. It gives an overall idea about the influence of different personal variables with the extent of utilization of e-resources for the academic and research work.

Table 9. Relationship between the profile and utilization pattern of e-resources (N=180)

Independent variables	Correlation Coefficient 'r'
Age	0.215**
Academic Performance	0.185*
Gender	0.109 ^{NS}
Annual Income	0.135 ^{NS}
Computer Exposure	0.156*
Internet Exposure	0.209**
Training	0.196**
ICT	0.254**

* Significant at 0.05 level of probability

** Significant at 0.01 level of probability,

NS- Non-significant

Age and utilization pattern of e-resources : Data presented in Table 9 reveals that age of postgraduate scholars was found to be positively significant with

utilization pattern of e-resources at 1 per cent level of significance.

Academic performance and utilization pattern of e-resources : The result from Table 9 revealed that the academic performance was found positive and highly significant with utilization pattern of e-resources. The result indicated that utilization pattern of e-resources was observed better among those postgraduate scholars who had higher academic performance.

Gender and utilization pattern of e-resources : It is evident from Table 9 that the result shows that level of utilization pattern of e-resources was similar among the postgraduate scholars irrespective of been male or female. This reveals that educating girl child is as important as educating the boy child.

Annual Income and utilization pattern of e-resources : The data presented in Table 9 shows that utilization pattern of e-resources was found to be non-significant with annual family income.

Computer exposure and utilization pattern of e-resources : The data observed in Table 9 revealed that there was significant relationship between computer exposure and utilization pattern of e-resources at 5 per cent level of significance.

Internet exposure and utilization pattern of e-resources : It is revealed from Table 9 that the results indicated that internet exposure play important role in utilization pattern of e-resources. It can also be inferred that internet exposure of most of the postgraduate students was optimistically higher and similar, so they have significant relationship with utilization pattern of e-resources at 1 per cent level of significance.

Training and utilization pattern of e-resources : The data presented in Table 9 shows that the result reflects that utilization pattern of e-resources highly positive significant with the training. The reason behind that training improve the skills of postgraduate scholars and it helps in utilizing e-resources.

ICT and utilization pattern of e-resources : The data seen in Table 9 showed that the ICT was found positive and highly significant with the utilization pattern of e-resources.

Similar findings were also made by *Chien (2012), Shankaraiah and Swamy (2012), Alkan and Meinck (2016) and Rodolfo et al. (2016), Bringula et al. (2017) Mwantimwa Elia, (2017) and Yadav (2018).*

CONCLUSION

The present study was examining the association between personal variables and utilization pattern of e-resources among the PG scholars indicated that the utilization pattern of e-resources was observed significantly higher among those PG scholars who had

better academic performance higher degree of computer, internet exposure and ICT skills. It was observed the age and training had positive and significant with the utilization pattern of –e-resources. Remaining independent variables was observed almost similar among PG irrespective of gender and annual income.

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