



Internet usage behavior among agricultural students in Haryana

ANIL KUMAR MALIK*, A K GODARA, KRISHAN YADAV and SUNIL KUMAR

CCS Haryana Agricultural University, Hisar, Haryana 125 004, India

Received: 16 September 2019; Accepted: 18 August 2019

ABSTRACT

Internet is a versatile tool used by the students for multiple purposes. A study was carried out to find the internet usage behavior among the students of CCS Haryana Agricultural University, Hisar during 2018-2019. The data were collected from 200 respondents using structured interview schedule, as personal interview schedule reduces the bias of respondents and help in collection of credible data. Findings revealed that majority of the students (71.00%) used the internet daily for more than 2 h at their hostel. Most of the students (82.50%) used internet for entertainment purpose compared to academic and professional purpose. Hence, concerted efforts like; formal education of ICT tools, easy access and usage, cost effectiveness measures, etc. have to be made by the policy makers, administrators and academicians concerned to make necessary improvements in planning and implementing ICTs strategies, so that students must be made aware of use of internet and promote interest among them for its optimum academic and professional use. Study also revealed that age, education, medium of schooling, schooling, parental income, family education, scientism, job preference, annual expenditure, mass media exposure, information seeking behavior and risk orientation with their usage behavior of internet had positive and significant correlation at 0.05 level of probability.

Key words: Agricultural students, Internet, Usage behavior

Strengthening of agricultural infrastructure should be given utmost priority including input delivery, credit, minimizing post-harvest losses, cold storage chains, marketing and agricultural education. Indian Council of Agricultural Research (ICAR) and State Agricultural Universities (SAUs) play critical role in creating manpower for serving millions of farmers across the country (Ponnusamy and Pachaiyappan 2018). But, the crumbling educational system is a cause of concern (National Education Policy 2019).

Internet, the base of Information and Communication Technology (ICT), overcomes some of the most challenging issues related to educational system especially access, equality and quality. The internet is an information resource which offers a wide range of materials from around the world to the user. The availability of numerous online information resources from computer files, library catalogues, databases, organizations, newsgroups, industrial, and commercial sources, as well as from individuals, makes the internet an indispensable tool for academia and research (Buabeng *et al.* 2016). In promoting the use of ICT in higher institutions, the role of the internet cannot be over looked. ICT increases the flexibility of delivery of education so that learners can

access knowledge anytime and from anywhere (Moges 2014). It can influence the way students are taught and how they learn as now the processes are learner driven and not the teachers driven. This in turn would better prepare the learners for lifelong learning as well as to improve the quality of learning. The real challenge of the information era is not producing information or storing information, but rather getting people to use the information (Annor-Frempong and Edumadze 2009). Therefore, educational systems have a great deal to offer in pointing the way for increasing the use of knowledge and information in the future through the internet.

Keeping in view the above facts and importance, the study was conducted with the objective to assess the internet usage behavior among agricultural students of CCS Haryana Agricultural University, Hisar.

MATERIALS AND METHODS

The study was carried out among three constituent colleges of CCS Haryana Agricultural University, Hisar, Haryana, i.e. College of Agriculture, College of Agricultural Engineering & Technology and Indira Chakravarty College of Home Sciences. In this research, Under-Graduate (Pre-final and Final year) and Post-Graduate (MSc and Ph D) students of the colleges registered during the session of 2017-18 were selected as the sample of the study. There were 994 students registered in U G (162 Pre-final year and

*Corresponding author e mail: malikanil100@gmail.com

178 final year) and PG programme (363 MSc and 291 PhD) from these three colleges. Out of them, 200 students were selected through proportionate random sampling. The data were collected through personal interview technique with the help of well-structured and pre-tested interview schedule. Empirical data were tabulated and analyzed with the help of appropriate statistical tools using Statistical Package for Social Sciences (SPSS). The responses of students' were obtained on three-point continuum scale in case of usage behaviour (frequently, occasionally and never) and scores were given as 2, 1 and 0, respectively. After that frequency was multiplied with the score (2, 1 or 0) and total weighted score was obtained and total weighted score was divided by total respondents (200) for obtaining weighted mean score (WMS) and rank order were assigned accordingly. Moreover, utilization index was calculated by dividing total obtained utilization score with maximum possible obtained utilization score.

RESULTS AND DISCUSSION

Results of the study are presented and discussed under broad headings as frequency and extent of time spent on internet, place of using internet, frequently visited sites, usage behavior of internet and relationship between respondent's personality traits with their usage behavior of internet.

Frequency and extent of time spent on internet

The present study revealed that more than two-third of the total respondents (71.00%) used the internet 'daily' for various purposes, followed by '3-4 days in a week' (14.50%), '1-2 days in a week' (13.00%) and 'rarely' (01.50%). When further analyzed regarding extent of time spent, majority of the respondents (71.42%) spent 'more than 2 h per day' on internet, followed by 'more than 1-2 h per day' (33.50%), '31 min-1 h per day' (23.50%) and 'up to 30 min per day' (13.50 %). 'Daily' use of internet by students may be associated to the fact that now-a-days internet has become a central arena of activity for students for information needs, interpersonal communication, entertainment needs and social needs. However, enhanced use of ICT by the agri-professional will facilitate especially youth and women in the field of IPR, IT and computer science with emphasis on areas such as bio-technology, nano-technology, post-harvest technology, agro-meteorology, environmental science, etc. (Haryana State Agriculture Policy 2014). Similarly, Singh and Pant (2013) reported that the use of the internet has become an important component in the academic institutions as it plays a pivotal role in gathering information and communication needs of institutions and individuals.

Place of using internet

The extent of usage of internet by the students is influenced by the area/place where they preferred to use internet. Therefore, it is appropriate to have an understanding of area/place that influences the extent of usage of internet by the students for various purposes.

It was observed that most of the students used internet at 'hostel' ranked 1st with highest weighted mean score (WMS) 1.76, followed by at 'institute', 'home', 'cyber café' and 'other places (field tour and travelling, etc.)' ranked 2nd, 3rd, 4th, 5th and 6th with WMS 1.36, 1.27, 0.86 and 0.67, respectively. The possible reason behind this trend may be due to the free of cost internet connection provided in the hostels through Wi-Fi (wireless fidelity), internet connection in the central library as well as in all the colleges by LAN (Local Area Network). Easy access to internet enabled students to perform research ahead of time, tackle multiple home-works, widens the scope of reading and learning, promotes self-learning, encourages and enhances peer learning as well as ameliorates student's examination preparation (Apuke and Iyendo 2018).

Frequently visited sites

It was revealed that a great majority of the respondents used Google for searching information ranked 1st with highest weighted mean score (WMS) 1.76, followed by Facebook, Others (YouTube, WhatsApp, Snapchat, etc.), Yahoo, ICAR, Webdunia, Khoj, Indiatimes, Rediff and Altavista ranked 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th and 10th with WMS 1.69, 1.01, 0.76, 0.66, 0.60, 0.41, 0.36, 0.20 and 0.09, respectively. Frequent use of 'Google' search engine for searching information on various topics may be attributed due to its large size of database and link-based relevance ranking, simplicity, user-friendly and informative nature. A recent study by Almarabeh *et al.* (2016) revealed that the Google was more widely used search engine, as it provides access to various e-resources, i.e. Scopus, Elsevier, Consortium for e-Resources in Agriculture (CeRa), Online Public Access Catalogs (OPACs), etc. which are used by the university students to retrieve information regarding research, publishing papers, assignments, presentations, seminars and to update their knowledge.

Usage behavior of internet

Data in Table 1 showed that majority of the students used internet for entertainment purpose ranked 1st with highest weighted mean score (WMS) 1.65. This was followed by Google maps, research purpose, job search, e-mail, agricultural information, academic purpose, downloading, news update, online shopping and for other purposes (online ticket booking) ranked 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th and 11th with WMS 1.31, 1.21, 1.07, 0.92, 0.66, 0.55, 0.53, 0.52, 0.35 and 0.13, respectively. It reflected that most of the students used the internet for communication and social networking purposes as compared to agricultural and academic purposes. However, students who use internet heavily for social purposes have the potential to affect their academic performances, as they tend to spend long hours on the internet which makes feel them tired and miss their class the next day (Kubey *et al.* 2011). Authorities at the institute need to strive to create awareness among students about positive and negative impact of internet through organizing trainings, seminars, exhibitions, conferences, etc. Moreover,

Table 1 Usage behaviour of internet (n=200)

Items	Students	Frequently	Occasionally	Never	Total weighted score	Weighted mean score	Utilization in %	Rank order
Research purpose	UG(n=69)	00(00.00)	00(00.00)	69(100.00)	243	1.21	60.75	III
	PG(n=131)	112(85.50)	19(14.50)	00(00.00)				
	OA(n=200)	112(56.00)	19(09.50)	69(34.50)				
Entertainment	UG (n=69)	52(75.37)	09(13.04)	08(11.59)	330	1.65	82.50	I
	PG(n=131)	99(75.58)	19(14.50)	13(09.92)				
	OA(n=200)	151(75.50)	28(14.00)	21(10.50)				
Agricultural information	UG (n=69)	07 (10.14)	11(15.94)	51(04.34)	133	0.66	33.25	VI
	PG(n=131)	33(25.20)	42(32.06)	56(42.74)				
	OA(n=200)	40(20.00)	53(26.50)	107(53.50)				
Academic purpose	UG (n=69)	05(07.24)	12(17.40)	52(75.36)	110	0.55	27.50	VII
	PG(n=131)	26(19.84)	36(27.49)	69(52.67)				
	OA(n=200)	31(15.50)	48(24.00)	121(60.50)				
E-mail	UG(n=69)	10(14.50)	02(02.89)	57(82.60)	184	0.92	46.00	V
	PG(n=131)	67(51.14)	28(21.38)	36(27.48)				
	OA(n=200)	77(38.50)	30(15.00)	93(46.50)				
Downloading	UG (n=69)	04(05.80)	13(18.84)	52(31.88)	107	0.53	26.75	VIII
	PG(n=131)	27(20.61)	32(24.43)	72(14.50)				
	OA(n=200)	31(15.50)	45(22.50)	124(62.00)				
Online shopping	UG (n=69)	05 (07.25)	04(05.79)	60(86.95)	70	0.35	17.50	X
	PG(n=131)	22(16.80)	12(09.16)	97(74.04)				
	OA(n=200)	27(13.50)	16(08.00)	157(78.50)				
Job search	UG (n=69)	13(18.84)	05(07.24)	51(55.07)	214	1.07	53.50	IV
	PG(n=131)	83(63.35)	17(12.98)	31(31.29)				
	OA(n=200)	96(48.00)	22(11.00)	82(41.00)				
News update	UG (n=69)	11(15.94)	11(15.94)	47(68.12)	109	0.52	27.25	IX
	PG(n=131)	28(21.38)	16(12.21)	87(66.41)				
	OA(n=200)	39(19.50)	27(13.50)	134(67.00)				
Google maps	UG (n=69)	36(52.17)	09(13.04)	24(34.79)	268	1.31	67.00	II
	PG(n=131)	73(55.72)	41(31.30)	17(12.98)				
	OA(n=200)	109(54.50)	50(25.00)	41(20.50)				
Others	UG (n=69)	03(04.35)	01(01.45)	65(94.20)	27	0.13	06.75	XI
	PG(n=131)	09(06.87)	02(01.52)	120(91.61)				
	OA(n=200)	12(06.00)	03(01.50)	185(92.50)				

UG= Under-graduate, PG= Post-graduate, OA= Overall, Figures in parentheses indicate percentage.

university should also develop educational contents that can stimulate students' interest for academic purposes.

Relationship between respondent's personality traits with their usage behavior of internet

It is clear from the Table 2 that the 'correlation coefficient' between the student's personality traits like age (0.286), education (0.544), medium of schooling (0.411), schooling (0.263), parental income (0.249), family education (0.176), scientism (0.348), job preference (0.189), annual expenditure (0.316), mass media exposure (0.482), information seeking behavior (0.566) and risk orientation (0.216) exhibited positive and significant correlation at 0.05 level of probability with their usage behavior of internet, while sex (0.013) of the respondent did not show

any significant association. While in case of the 'partial regression coefficient'; age (1.439), education (1.950), medium of schooling (1.045), scientism (0.365), mass media exposure (3.685), information seeking behavior (2.987) and risk orientation (2.705) were found significant (Ponnusamy *et al.* 2016). However, sex (-0.183), schooling (1.778), parental income (1.387), family education (0.995), job preference (0.628) and annual expenditure (0.140) did not significantly contribute with the usage behavior of internet. These findings were partially supported by the report of Murali and Venkatamaiah (2008).

Further, it was also revealed that all the 13 independent variables in the study jointly contributed 64.15% variation in the usage behavior of internet when other factors were kept constant. This means that only 64.15% ($r^2=0.6415$)

Table 2 Relationship between respondents' personality traits with their usage behaviour of internet (n=200)

Personality traits	Correlation coefficient 'r' value	Regression coefficient 'b' value	't' values
Age	0.286*	1.439	2.117*
Sex	0.013 ^{NS}	-0.183	-0.383 ^{NS}
Education	0.544*	1.950	3.631*
Medium of schooling	0.411*	1.045	1.986*
Schooling	0.263*	1.778	1.882 ^{NS}
Parental income	0.249*	1.387	1.861 ^{NS}
Family education	0.176*	0.995	1.179 ^{NS}
Scientism	0.348*	0.365	4.216*
Job preference	0.189*	0.628	0.785 ^{NS}
Annual expenditure	0.316*	0.140	0.173 ^{NS}
Mass media exposure	0.482*	3.685	4.491*
Information seeking behaviour	0.566*	2.987	3.606*
Risk orientation	0.216*	2.705	2.746*

*Significant at $p = 0.05$ level, NS= Non-significant $R^2=0.6415$

of the variation in the dependent variable was due to these independent variables and remaining 35.85% variation was due to other extraneous variables.

In current world, internet access and connectivity play critical role in educational system and empower the students by offering a wide range of material from around the world. The availability of numerous online information resources from computer files, library catalogues, databases, organizations, newsgroups, industrial, and commercial sources as well as from individuals, makes the internet an indispensable tool for academia and research. The results of the study indicated that majority of the students used the internet daily for more than 2 h at their hostel. However, most of the students used internet for entertainment purpose compared to academic and professional purpose. Therefore, university should design methods to facilitate the students to enhance their computer and internet skills by infusing instructional strategies for academic and research purpose. Moreover, students should also be made aware about the positive and negative impacts of internet through organizing trainings, seminars, exhibitions, symposium, conferences, etc. University should also develop educational contents that can stimulate students' interest for study purpose. In addition, concerted efforts like; formal education of ICT tools, easy access and usage, cost effectiveness measures, etc. have to be made by the policy makers, administrators and academicians concerned to make necessary improvements in planning and implementing ICTs

strategies, so that students should be motivated through assignments to amplify the use of internet for academic and professional purpose.

ACKNOWLEDGMENTS

Authors wish to acknowledge the Chaudhary Charan Singh Haryana Agricultural University, Hisar and all students who participated in the study and made the study successful.

REFERENCES

- Almarabeh T, Majdalawi Y K and Mohammad H. 2016. Internet usage, challenges and attitudes among university students: case study of the University of Jordan. *Journals of Software Engineering and Applications* 9(4): 577–87.
- Annor-Frempong F and Edumadze J K E. 2009. The use of the internet among agricultural students at University of Cape Coast in Ghana. *Culture, Science and Sustainable Development in Africa*, 10th edn, Vol.2, pp. 377-87. In K. Opuku-Agyemang (Eds). University Press, Cape Coast, Ghana.
- Apuke O D and Iyendo T O. 2018. University students' usage of the internet resources for research and learning: forms of access and perceptions of utility. *Heliyon* 4(12): 1–34.
- Buabeng F, Shorter G, Tubene S and Cotton C. 2016. Student's perception of internet use in agricultural colleges in Ghana: The case of KWADASO agricultural college and University of Cape Coast Kusami campus. *International Journal of Agricultural Extension and Rural Development Studies* 3(4): 38–44.
- Haryana State Agriculture Policy. 2014. Report to the Farmers. Kisan Ayog. Government of Haryana, India.
- Kubey R W, Lavin M J and Barrows J R. 2011. Internet use and collegiate academic performance decrements: Early findings. *Journal of Communication* 51 (4): 366–82.
- Moges B. 2014. The role of Information and Communication Technology in enhancing the quality of the education of Ethiopian Universities: A review of literature. *Journal of Education Research and Behavioral Sciences* 3(8): 246–58.
- Murali G V and Venkataramaiah P. 2008. Relationship between profile characteristics of students with their exposure to agricultural websites. *Indian Psychological Review* 70(2): 91–94.
- National Policy on Education. 2019. Report of the committee for evolution of the new education policy. Ministry of Human Resource Developments, New Delhi, India.
- Ponnusamy K and Pachaiyappan K. 2018. Strengthening extension research in animal husbandry: review of issues and strategies. *Indian Journal of Animal Sciences* 88(2): 137–43.
- Ponnusamy K, Sriram N, Prabhukumar S, Vadivel E, Venkatachalam R and Mohan B. 2016. Effectiveness of cattle and buffalo expert system in knowledge management among the farmers. *Indian Journal of Animal Sciences* 86(5): 604–08.
- Singh G and Pant R. 2013. Use of internet for research and educational activities by research scholars: a study of DSB Campus of Kumaun University, Nainital. *International Journal of Engineering and Management Sciences* 4(2): 193–99.