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RESEARCH ARTICLE :

Operational and technical constraints faced by agricultural research scholars while using internet of agriculture science in MPUAT, Udaipur (Rajasthan)

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SUMMARY : The present study was purposively being conducted in Rajasthan College of Agriculture, Udaipur due to the reason that this college is the oldest agricultural college in Rajasthan state and enjoys more and adequate facilities of internet surfing for agricultural students, especially for research scholars at central library as well as in their respective departments and hostels as compared to other agricultural colleges in Rajasthan. Considering the importance of the internet utilization the present investigation attitude and utilization pattern of internet among the research scholars of agriculture science was conducted in MPUAT, Udaipur Rajasthan. Majority of the male and female agricultural research scholars perceived the constraints about "high cost of maintenance of computer, WIFI etc.", "Inadequate availability of computer and internet facilities", and "lack of adequate knowledge about the hardware, software and internet explorer". In case of male agricultural research scholars the "Slow speed for internet access", "Due to internet there is a decrease in frequency of reading printed materials" and "Due to internet, there is decrease in live time discussion with friends" were also perceived as the most severe constraint, whereas in female agricultural research scholars the problem like "Computer is frequently infected with viruses", "Lack of free time to use internet" and "Due to internet there is a decrease in frequency of visit to library" were perceived also as most severe constraints.

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BACKGROUND AND OBJECTIVES

Internet is one of the tools of communication. Internet has changed life as a few things have done. It has added a new dimension to our existence by placing within easy reach, mind boggling range of information. It gives each of us the option to be as publisher of our information and views, and as the number of people on internet multiplies and commerce transforms the internet, the opportunities are getting larger. In the era of networked information, internet, the largest worldwide network of networks,

has emerged as the most powerful tool for an instant access to information. Information is now just a 'finger touch' distance away from the user and it would not be inappropriate to say that the internet has become the biggest global digital information library which provides the fastest access to the right kind of information in nano-seconds of time to end-user at any time and at any place in the world. The internet has become the most extensively used information source that empowers the average person to get in roaming with the latest information. Today's users can no longer depend on conventional information sources to cope with the latest developments in their respective fields.

RESOURCES AND METHODS

The study was purposively conducted in Rajasthan College of Agriculture, Udaipur due to the reason that this college is the oldest agricultural college in Rajasthan state and enjoys more and adequate facilities of internet surfing for agricultural students, especially for research scholars at central library as well as in their respective departments and hostels as compared to other agricultural colleges in Rajasthan. From the RCA, Udaipur, a list of all the PG and Ph.D. research scholars was prepared from the student section of the college. There was 150 PG and 110 Ph.D. research scholars, *i.e.* a total of 260 research scholars registered in second semester during the session 2011-12. Since the whole population was not too big, hence, the whole population as such of 260 research scholars (150 PG and 110 Ph. D. research scholars) was treated as the respondents for the purpose of the study. The total size of the sample taken was 117 respondents (90 male and 27 female).

OBSERVATIONS AND ANALYSIS

The results obtained from the present study as well as discussions have been summarized under following heads:

Operational constraints faced by agricultural research scholars while using internet :

The data presented in Table 1 indicated that among the different operational constraints the "lack of adequate knowledge about the hardware, software and internet explorer" was perceived as the most severe constraint at top priority by both the male (MS 2.37) and female (MS 2.74) agricultural research scholars and was accorded first rank as it was perceived upto high extent by 53.33 per cent male and 74.07 per cent female agricultural research scholars and upto medium extent by 30.00 per cent of male and 25.93 per cent female agricultural research scholars. The constraint "lack of knowledge about paid and unpaid sites" was perceived as the second most severe constraint by both the male (MS 2.12) and female (MS 2.26) agricultural research scholars and was accorded it second rank.

On the other hand the constraint "Lack of internet oriented education and training" was perceived as the

Table 1 : Operational constraints faced by agricultural research scholars while using internet **(n=117)**

Sr. No.	Operational constraint	Male agricultural research scholars (n=90)					Female agricultural research scholars (n=27)				
		Upto high extent	Upto medium extent	Upto low extent	MS	Rank	Upto high extent	Upto medium extent	Upto low extent	MS	Rank
1.	Lack of adequate knowledge about software	48 (53.33)	27 (30.00)	15 (16.67)	2.37	I	20 (74.07)	7 (25.93)	0 (0.00)	2.74	I
2.	Difficulties in finding out relevant information.	21 (23.33)	47 (52.22)	22 (24.44)	1.99	V	4 (14.81)	18 (66.67)	5 (18.52)	1.96	III
3.	Lack of knowledge about paid and unpaid site	30 (33.33)	37 (41.11)	23 (25.67)	2.12	II	12 (44.44)	10 (37.04)	5 (18.52)	2.26	II
4.	lack of internet oriented training	32 (35.56)	42 (46.67)	16 (17.78)	2.10	III	4 (14.81)	18 (66.67)	5 (18.52)	1.96	IV
5.	Overload of information	33 (36.67)	30 (33.33)	27 (30.00)	2.07	IV	3 (11.11)	9 (33.33)	15 (55.56)	1.56	V
6.	Use of foreign language	22 (24.44)	35 (38.89)	33 (36.67)	1.88	VI	5 (18.52)	4 (14.81)	18 (66.67)	1.52	VI
	Overall				2.09					2.00	

Rank correlation co-efficient (r_s) = 0.83* t= 2.98 (Significant at 0.05 level of probability)
Tabulated value of t at 0.05 level of probability with 4 degrees of freedom = 2.78

third most severe operational constraint by male agricultural research scholars (MS 2.10), whereas it was perceived as the fourth most severe constraint by the female agricultural research scholars (MS 1.96). The "Overload of information" was ranked as fourth most severe constraint by male agricultural research scholars (MS 2.07) whereas it was perceived as the fifth most severe constraint by female agricultural research scholars (MS 1.56). The "difficulties in finding out relevant information" was ranked as fifth most important constraint by male agricultural scholars (MS 1.99) whereas it was ranked third by female agricultural research scholars (MS 1.96). The constraint "Use of foreign language in internet is a problem" was ranked sixth and was considered the least severe constraint by both male agricultural research scholars (MS 1.88) and female agricultural research scholars (MS 1.52)

The value of rank order correlation (r_s) was found to be 0.83 for which the calculated value of 't'(2.98) was higher than its tabulated value at 5 per cent level of significance. Hence the Null hypothesis ($H_{04.3}$) was rejected and alternate hypothesis was accepted. This leads to the conclusion that there is a significant correlation between the male and female agricultural research scholars with regard to their operational constraints faced them while using internet. The reason behind this might be due to the lack of training to the personnel handling the internet facilities in the college, due to which they might not be able to help the agricultural research scholars for handling the internet (Bashir *et al.*, 2007; Garhwal, 2010 and Kumar and Kaur, 2006).

Technical constraints faced by agricultural research scholars while using internet :

The data presented in Table 2 indicated that among the different technical constraints the "Slow speed internet access" was perceived as the most severe constraint at top priority by the male agricultural research scholars (MS 2.42), as it was perceived upto high extent by 54.44 per cent and to medium extent by 33.33 per cent of male agricultural research scholars, whereas "Computer is frequently infected with viruses" was perceived as the most severe and top technical constraint by female agricultural research scholars (MS 2.56) and was ranked first position as it was perceived upto high extent by 62.96 per cent and to medium extent by 25.92 per cent of female agricultural research scholars. In case of male agricultural research scholars "Computer is frequently infected with viruses" (MS 2.35) was perceived as the second most severe constraint, followed by the constraint

Table 2 : Technical constraints faced by agricultural research scholars while using internet **(n=117)**

Sr. No.	Technical constraint	Male agricultural research scholars (n=90)					Female agricultural research scholars (n=27)				
		Upto high extent	Upto medium extent	Upto low extent	MS	Rank	Upto high extent	Upto medium extent	Upto low extent	MS	Rank
1.	Slow speed of internet access	49 (54.44)	30 (33.33)	11 (12.22)	2.42	I	11 (40.74)	12 (44.44)	4 (14.81)	2.26	III
2.	Server breakdown creates problem in internet access	37 (41.11)	32 (35.56)	21 (23.33)	2.18	IV	15 (55.56)	8 (29.63)	4 (14.81)	2.41	II
3.	Inability to internet access due to electricity failure	28 (31.11)	47 (52.22)	15 (16.67)	2.17	V	12 (44.44)	9 (33.33)	6 (22.22)	2.22	IV
4.	Online advertisements	20 (22.22)	48 (53.33)	22 (24.44)	1.86	X	5 (18.52)	10 (37.04)	12 (44.44)	1.74	X
5.	Due to security concern internet access is limited	20 (22.22)	43 (47.78)	27 (30.00)	1.92	VII	3 (3.70)	17 (62.96)	7 (25.92)	1.86	VIII
6.	Computer is frequency infected with viruses	37 (41.11)	36 (40.00)	17 (18.89)	2.35	II	17 (62.96)	7 (25.92)	3 (11.11)	2.56	I
7.	Opening pop-up mails	17 (18.89)	46 (51.11)	27 (30.00)	1.89	VIII	7 (25.92)	15 (55.56)	5 (18.52)	2.07	V
8.	Privacy problems	25 (27.28)	36 (40.00)	29 (32.22)	1.96	VI	3 (11.11)	15 (55.56)	9 (33.33)	1.78	XI
9.	Take more time to download/view pages	43 (47.78)	33 (36.67)	14 (15.56)	2.32	III	4 (14.81)	22 (81.48)	1 (3.70)	1.96	VII
10.	Websites are blocked	21 (23.33)	47 (52.22)	22 (24.44)	1.89	IX	7 (25.92)	13 (48.92)	7 (25.92)	2.0	VI
	Overall				2.09					2.09	

Rank correlation co-efficient (r_s) = 0.67 t= 2.55 (Significant at 0.05 level of probability)
Tabulated value of t at 0.05 level of probability with 8 degrees of freedom =2.31

"Take more time to download/view pages" (MS 2.32), "server breakdown creates problem in internet access" (MS 2.18), "Inability access to internet due to electricity failure" (MS 2.17), "Privacy problem" (MS 1.96), "Due to security concerns like hacking, internet access is limited" (MS 1.92), "Opening of pop-up mails" (MS 1.89), "Websites are blocked by internet providers" and "Online advertisement distract attention" (MS 1.86) were ranked as third, fourth, fifth, sixth, seventh, eighth, ninth and tenth, respectively according to their degree of severity. Whereas in case of female agricultural research scholars the constraint "server breakdown creates problem in internet access" (MS 2.41) was ranked second most severe constraint followed by "Slow internet access speed" (MS 2.26), "Inability to access internet due to electricity failure" (MS 2.22), "Opening of pop-up mails" (MS 2.07), "Websites are blocked by internet providers" (MS 2.00), "Takes more times to download/view pages" MS 1.96), "Due to security concerns like hocking, internet access is limited" (MS 1.86), "Privacy problem" (MS 1.78) and "Online advertisement distract attention" MS 1.74) were ranked as third, fourth, fifth, sixth, seventh, eighth, ninth and tenth, respectively according to their degree of severity (Rehman *et al.*, 2010 and Shen and Shakier, 2009).

The value of rank order correlation (r_s) was found to be 0.67 for which the calculated value of 't' (2.55) was higher than its tabulated value at 5 per cent level of significance. Hence the Null hypothesis ($H_{04.4}$) was rejected and alternate hypothesis was accepted. This leads to the conclusion that there is a significant correlation between the male and female agricultural research scholars with regard to their technical constraints faced by them while using internet. The reason behind these findings might be that most of the male and female agricultural research scholars used the same computer either in the library or department, so they might faced similar problems while surfing internet

Conclusion :

Majority of the male and female agricultural research scholars perceived the constraints about "high cost of maintenance of computer, WIFI etc.", "Inadequate availability of computer and internet facilities", and "lack of adequate knowledge about the hardware, software and internet explorer". In case of male agricultural research scholars the "Slow speed for internet access", "Due to internet there is a decrease in frequency of reading printed materials" and "Due to internet, there is decrease in live time discussion with friends" were also perceived as the most severe constraint, whereas in female agricultural research scholars the problem like "Computer is frequently infected with viruses", "Lack of free time to use internet" and "Due to internet there is a decrease in frequency of visit to library" were perceived also as most severe constraints.

The educational constraint was most perceived by the male agricultural research scholars whereas the economic constraint was most perceived by the female agricultural research scholars.

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