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Examining Usability of the Internet by the Teaching Staff of the Peshawar Medical College

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Abstract

Purpose: *This study aims to examine the access and purpose of internet use by the teaching staff of Peshawar Medical College, Peshawar.*

Method(s)/Materials: *Data were collected through a tested questionnaire from 115 teaching staff members of two major groups' basic sciences and clinical sciences with a response rate (57.39%) of 66 members positively. Teaching faculty comprising 71.40% Male faculty members and 28.60% female took part in the study. Data were analyzed and tabulated using the SPSS tool.*

Research Limitation(s): *This study was limited to the teaching faculty of basic and clinical science departments of Peshawar Medical College Peshawar.*

Key Finding(s): *Key findings of this study revealed that majority of the respondents use the internet for teaching, research, career development and sports. Low internet speed, power failure, lack of modern trainings and finance are the major barriers to the smooth operation of internet in Peshawar Medical College.*

Practical Implication(s): *The findings of the study revealed that the internet as an educational tool of the day. There were different areas indicated by respondents that need to be improved for more beneficial use of the internet. Hence, this study can attract the policymakers for the development of the information technology programs in medical institutions.*

Contribution to Knowledge: *This study has contributed new portrait to the knowledge of the internet usage in medical teaching profession.*

Keyword(s): Internet Use, Electronic Resources, Databases, Teaching Staff, Peshawar Medical College

Introduction

The development of internet and its use has brought revolutionary change in human life with a major impact on their ideas and behavior. It has influenced every single part of humankind. This stunning innovation has now become the regular aspect of our life and has changed each field of world daily practice. With internet, one can acquire any sort of information without the restrictions of time and physical boundaries. Certainly, it has acquired emotional increment the progression of learning and instruction particularly advanced education.

Bashir, S., Mahmood, K., & Shafique, F. (2008) reported that in Pakistan, the vast majority of the advanced education organizations have obtained this high data transfer capacity innovation for the advancement of training and exploration. Bhatti, R. (2010) stated that teaching staff will undoubtedly depend on this developing innovation, not just for self-learning, planning of talks, improvement of examination yet in addition for new showing techniques and styles. Web use among the teachers of Islamia University Bahawalpur was significantly more than anticipated.

Khan, S., & Dominic, J. (2012) argued on the importance of internet. They were of the view that internet is an efficient tool for providing required information to its users very quickly. Singh, V. (2013) conducted a study about the usage of electronic resources by the teaching staff

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and researchers of Jamia Millia University. The major findings revealed that online journals and data bases are the more regularly used electronic resources.

Bashir, S., Mahmood, K., & Shafique, F. (2008) stated that the facility of internet was emerged in 1995 by Digicom in Karachi, Pakistan. In 1996, Pakistan Telecommunication Limited (PTCL) upgraded the global internet service of PakNet data Network from 64 kbps to 512 kbps. The internet facility was available in 1898 cities in Pakistan (Pakistan Telecommunication Company, 2007). Now the internet service is available almost in every city of the Pakistan with high speed facility.

Arif, M., Ameen, K., & Rafiq, M. (2017) reported the statistics of Internet Service Providers of Pakistan. According to the report there are 15 million mobile internet users, 25 million internet users and 1.7 million Broadband internet connections in the Pakistan. Ismail, M., & Subhpoto, N. A. (2015) investigated the use of internet by the Faculty Members of Public Sector Universities in Peshawar. The study revealed that internet is the best source for study and teaching at university level.

Jan, S. U. (2015) assessed internet utilization by teaching faculty at Bacha Khan University Charsadda. Author suggested that the arrangement of elective force gracefully for smooth working of the internet.

Al-Shawi, A., & Al-Wabil, A. (2013) a study was conducted on the use of internet for the academic and research purpose and its utilization by teachers in higher education institutions at Saudi Arabia. During the last one and half decade, internet got the attention of faculty members of different universities for academic purpose in Pakistan.

Literature Review

Literature review is a vital part in scholarly article which explore the landscape of previous related published work. A literature review should be well organized, structured and related to the topic of the current study. It also should be a described and brief summary of topic to help the readers. Furthermore, literature review should discover the different aspect of the topic which may need further research. This part covers the related relevant work from the year 2003 up to 2020.

Adika, G (2003) explored the need of information managers, library professionals expertise to train the library users especially teaching faculty in different sessions for the optimize use of large number of academic and research resource available on internet.

Huang, H. M., & Liaw, S.S. (2005) revealed in the study that teachers of the hour should use the computers and internet technology in academic and learning process. Uzunboylyu, H., & Ozdamli, F. (2006) wrote that internet and information communication technology bring a new avenue to faculty members for acquiring of information according to their need with efficient and effective ways. Alshankity, Z., & Alshawi, A. (2008) did not found the significant gender difference in the Faculty members of universities in the use of internet.

Idrees, H., & ur Rehman, A. (2010) concluded that trainings on internet and online resources are high need of the time that can enhance research productivity and academic processes. Rubina Bhatti (2010) pointed out the shortage of computer systems, low speed of internet and unavailability of access out of universities premises are major barriers facing by faculty in use of internet for teaching purpose.

Thanuskodi, S., & Ravi, S. (2011) discussed that the internet technology now is the need for research and educational improvement. They also stressed on provision of internet accessibility to academic databases, information literacy trainings for university faculty and students.

Nisha, F., & PM, N. A. (2011) suggested that the academic library should have the high bandwidth internet and access to educational websites. Well trained library professional should also be appointed to help and train the students and faculty for effective searching and retrieval of the authentic information.

Naz, F., Malik, K. I., Zaman, R., Younis, S., & Malik, M. (2011) Stated that medical students especially undergraduates should have the logical access to different electronic sources through internet. They also recommended that the classes on Internet Technology should be included in medical curriculum for the first year students. Medical teachers should facilitate the use of internet as an important tool of learning.

Shaikh, Z. A., & Khoja, S. A. (2013) reported that the use of Information Communication Technology (ICT) tools and applications in the Higher Education Institutions of Pakistan is sufficient in develop cities only. However over all in Pakistan is not satisfactory. They concluded that university information managers should have well skill in ICT.

Ameen, K., & Ullah, M. (2016) explored the rapid emerging of ICT as a need of library and information services and also important for students. The development of internet learning resources compels its users for information literacy skills program. Effective information literacy program can make the users of online resources independent in optimize searching and retrieving of information.

Chandio, S., Hussaini, N. N., HussainAbro, A., Solangi, Z. A., & Ahmed, A. (2019) Conducted a review study and revealed the ICT integration is unavoidable in higher education. They also urged that proper use of internet communication technology, online educational resources and well ICT infrastructure can help in quality education. Findings highlighted in their study that budget of Higher Education of Pakistan in this regard are much less.

Nand, S., Pitafi, A. H., Kanwal, S., Pitafi, A., & Rasheed, M. I. (2020) have recommended on the basis of findings of their study that universities of Pakistan should provide free WIFI facility on campuses to students so that they can benefit from their Mobile phone in academic and research activities. But they also suggested that authorities should take the Information Technology experts on board to control the inappropriate sites.

Rahim, S., Qutoshi, S. B., Abida, S., Muhammad, F., & Hussain, I. (2020) reported that female students of Hunza and Nagar of Gilgit-Baltistan, Pakistan using mobile phone for productive academic and knowledge sharing purposes. Further outcome of the study shows that women of rural area Gilgit-Baltistan's feel more satisfied to having a smart phone as it helping them in positive purposes.

Objective of the Study

This study aims to examine the access and purpose of internet use by the teaching staff of Peshawar Medical College, Peshawar. However some specific objectives are following:

1. To analyze the purpose of internet use by the teaching Faculty of Peshawar Medical College.
2. To examine the Rating of the internet for academic pursuit by the teaching faculty of PMC.
3. To find out the satisfaction level with the Internet-based resources.
4. To explore various barriers in the smooth usage of the internet by the teaching community.

Materials and Methods

This study conducted in Peshawar Medical College Peshawar, a well reputed private sector medical college in the capital city of Khyber Pakhtunkhwa. A tested questionnaire with minor modifications was used for data collection. Prior permission has been taken from the developer of the questionnaire and he is also the co-author of this study. The target population of this study was the teaching staff (Professor, Associate Professor, Assistant Professor and Senior

Registrar) of the Peshawar Medical College, Peshawar. The population of the study was not too large, so census base procedure was adopted. The survey form was administered to the all 115 faculty staff. The main theme of the questionnaire was to obtain data about the usage of internet and their relevant parameters from the population under study. The collected data were scrutinized, filtered and edited. The final filtered data was analyzed through Software Package for Social Science (SPSS). The Discussions and conclusion were made on the basis of results and findings.

Results and Findings

A total of 115 teaching faculty at Peshawar Medical College were population of the study. Questionnaires were distributed among all the faculty members. Personal visits to the offices of these respondents were made. Some of the respondents were requested telephonically for providing required information. Short Messages Services (SMS) Alert system was also used as follow up tool. A total of 66 complete questionnaires were received with a response rate of 57.39%. The gender wise response from male and female was 57.6% and 42.4% respectively. A study conducted by Kumar, A., & Kalia, R. (2016) revealed the response rate for male and female as 28.60 % and 71.4% respectively.

Table 1; Place of Internet Use

It was observed from the present study that Library is the more frequently used place for internet. Department, Mobile (Smart) Phone followed by the home are reported as the venues where internet is used. Naz, F.,et.al (2010) was of the opinion that home is the mostly common place for using internet. More studies also reported the same venue (home) for internet use by the respondents.

S. No	Place of Internet Use	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
		Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
1	Department	66	1.00	2.00	1.23	.422	1.332	.295	-.234	.582
2	Library	66	1.00	2.00	1.83	.376	-1.831	.295	1.393	.582
3	Cyber Cafe	66	2.00	2.00	2.00	.000
4	Home	66	1.00	2.00	1.42	.498	.314	.295	-1.962	.582
5	Mobile Phone	66	1.00	2.00	1.58	.498	-.314	.295	-1.962	.582

As per Table 1, the pattern of Internet Cafe for internet usage is now gradually decreasing. Chhachhar, A. et.al (2013) also reported the same result by describing that only 01% of university students are using internet at the Cafe. Islam, M. A., & Hossain, M. J. (2016) pointed that mostly internet users are using university Net Cafe.

Table 2; Frequency of Internet Use

Frequency of internet Use	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
2-3Times a Day	66	1.00	2.00	1.24	.432	1.230	.295	-.503	.582
Once in a Day	66	1.00	2.00	1.7879	.41194	-1.441	.295	.079	.582
Once in a Week	66	1.00	2.00	1.9848	.12309	-8.124	.295	66.000	.582
Once in a Month	66	2.00	2.00	2.0000	.00000
Rarely	66	1.00	2.00	1.9848	.12309	-8.124	.295	66.000	.582

From the above Table 2; it is evident that majority of the respondents has once in a week usage of the internet. The same ratio of the respondents has recorded once in a day usage of internet. A small proportion of the Faculty members have also claimed rarely usage of internet.

Table 3; Internet Facilities Satisfaction

S.No	Level of Satisfaction	N	Minimum	Maximum	Mean	Std. Deviation	Variance
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1	Fully Satisfied	66	1.00	2.00	1.70	.463	.214
2	Partially Satisfied	66	1.00	2.00	1.5909	.49543	.245
3	Least Satisfied	66	1.00	2.00	1.7879	.41194	.170
4	No Comments	66	1.00	2.00	1.9242	.26664	.071

An effort was made to ask about satisfaction level of internet users. It was responded that majority of the faculty members of Peshawar Medical College (PMC) Peshawar satisfied to some extent with facility of internet provided by the college (Mean=1.5909 & S.D= 0.49543). A sensible number of the faculty is completely satisfied with the provided internet facility in Peshawar Medical College Peshawar.

Purpose of Internet Use

Obviously the internet is a multi-facet tool for the retrieving of a variety of information. People use this tool for acquiring information of their own taste and flavor. A question was devised to inquire from the respondents regarding the purpose of internet usage. Academic and teaching, research, professional career development, emails, sports, social networking, news and recreation were the given choices for response. The responses received were filtered, edited and scrutinized.

It is clear from the mean, standard deviation of Table 4 that majority of teaching staff were using internet for *Teaching and Research* (Mean=1.0909 & S.D= .28968) followed by *Sport* (Mean= 1,9394 & S.D= .24043). Hong, K. S., Ridzuan, A. A., & Kuek, M. K. (2003) highlighted that internet is used for getting information related to recent research by a good number of respondents at University. A good number of respondents use internet for searching jobs (career development) (Mean=1.7879 & S.D= .41194). Recreation and News is also an area of interest of a reasonable number of internet users (Mean= 1.7273 & S.D= .44877). Social Networking (1.3788 & S.D= .46309) and Email (Mean=1.3788 & S.D= .48880) are usually used by the some of the target internet users.

Table 4; Purpose of Internet Use

S. No	Purpose of Internet Use	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	
		Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
1	Email	66	1.00	2.00	1.3788	.48880	.511	.295
2	Social Networking	66	1.00	2.00	1.6970	.46309	-.877	.295
3	Sports	66	1.00	2.00	1.9394	.24043	-3.769	.295
4	Career Development	66	1.00	2.00	1.7879	.41194	-1.441	.295
5	Research & Teaching	66	1.00	2.00	1.0909	.28968	2.913	.295
6	Recreation and News	66	1.00	2.00	1.7273	.44877	-1.045	.295

Table 5; Rating of Internet for Academic Pursuit

S. No	Rating	Frequency	Percent	Cumulative Percent
1	High	32	48.5	48.5
2	Average	23	34.8	83.3
3	Low	05	7.6	90.9
4	Very Low	05	7.6	98.5
5	Uncertain	01	1.5	100.0
Total		66	100.0	

The faculty members of Peshawar Medical Colleges were asked about the rating of internet for academic search. The data given in the above Table 5; revealed that use of internet

for academic activities is high among the faculty members under study. The response received from a reasonable number of respondents marked the use of internet for academic purposes is average.

Table 6; Resources Used by Teaching Staff

S.No	Internet Resources	N	Minimum	Maximum	Mean	Std. Deviation	Variance
1	Databases	66	1.00	2.00	1.6515	.48014	.231
2	Conference Proceeding	66	1.00	2.00	1.9091	.28968	.084
3	E-Journals	66	1.00	2.00	1.4242	.49801	.248
4	Standards & Patents	66	1.00	2.00	1.9848	.12309	.015
5	Reference Work	66	1.00	2.00	1.3333	.47502	.226
6	E-Books	66	1.00	2.00	1.4848	.50360	.254
7	Technical Reports	66	1.00	2.00	1.8333	.37553	.141
8	Theses & Dissertations	66	1.00	2.00	1.6515	.48014	.231

Teaching faculty of Peshawar Medical College was given a question about the resources on internet. The responses received from the target population revealed that most of the mentioned faculty members conference proceedings (Mean= 1.9091 & S.D=.28968), Technical reports (Mean= 1.833 & S.D= .3755), Standards and Patents (Mean=1.9848 & S.D= .12309). A good number reported that they access databases, e-journals, reference work (Mean=1.333& S.D= .47502) and Theses & Dissertations (S.D=.48014 & Variance= .231).

Singh, V. (2013) wrote about the usage of e-resources by the faculty and research scholars of Jamia Millia University. The major findings revealed that online databases and journals are the most frequently used internet resources.

Table 7; Barriers in the Use of the Internet to Users (N=66)

S.No	Barriers in the Use	True	Uncertain	Untrue
1	Slow Speed	59 (89.39%)	01 (01.52%)	06 (09.09%)
2	Virus on Computers	28 (42.42%)	14 (21.21%)	24 (36.36%)
3	Finance	02 (03.03%)	18 (27.27%)	46 (69.70%)
4	Power Dependencies	15 (22.73%)	10 (15.15%)	41 (62.12%)
5	Lack of Computer Terminals	02 (03.03%)	06 (09.09%)	58 (87.88%)
6	Lack of Proper Training	11 (16.67%)	34 (51.52%)	21 (31.82%)
7	Social and Religious Factors	01 (01.52%)	49 (74.24%)	16 (24.24%)

The respondents were approached to report the obstructions and issues they face while utilizing the internet. Dominant part of the Faculty was expressed *slow speed* as the common issue to the smooth utilization of internet. A reasonable number 28 (42.42%) of faculty members at PMC considered Virus on PCs as main issue for the utilization of the internet. Constant and lengthy outage of power is also considered a major problem by 15 (22.73%) faculty staff. It is Considered by 11 (16.67%) faculty members that for optimize use of internet need skills and literacy. They also noticed the lake of proper training as a barrier.

Table 8; Sources of Information Used by Internet Users (N = 66)

S.No	Sources of Information	True	Uncertain	Untrue
1	Internet Surfing	43 (65.15%)	10 (15.15%)	13 (19.70%)
2	Research Journals	23 (34.85%)	15 (22.73%)	28 (42.42%)
3	Newspapers	06 (09.09%)	26 (39.39%)	34 (51.52%)
4	Books	39 (59.09%)	18 (27.27%)	09 (13.64%)

5	Experts	03 (04.55%)	42 (63.64%)	21 (31.82%)
6	Any Other	01 (01.52%)	13 (19.70%)	52 (78.79%)

The analysis of table 8 revealed that the Internet surfing was marked as top 43 (65.15%) source of information followed by books 39 (59.09%) & research journals 23 (34.85%) respectively by the medical teaching faculty of the Peshawar Medical College.

Table 9; Suggestion for Barriers Eradicate (N = 66)

S. No	Suggestions	True	Uncertain	Untrue
1	The High Bandwidth rate of Internet Connections	52 (78.79%)	03 (04.55%)	11 (16.67%)
2	Generator /UPS (Uninterruptible Power Supply)	29 (43.94%)	18 (27.27%)	19 (28.79%)
3	Proper/ Periodic Training on Emerging Trends	20 (30.30%)	14 (21.21%)	32 (48.48%)
4	Update Antivirus Packages/Software	28 (42.42%)	23 (34.85%)	15 (22.73%)
5	Reasonable Budget	08 (12.12%)	20 (30.30%)	38 (57.58%)
6	Latest/Up to date Hardware Systems	13 (19.70%)	04 (06.06%)	49 (74.24%)

The teaching faculty was given several options to record their opinion regarding the solution and eradications of barriers faced by them in the uses of the internet. They expressed their responses and tabulated as above. Majority of the Faculty members opted *The High Bandwidth Internet Connections* as a most possible solution to the internet speed. *Uninterruptible Power Supply (UPS)/Generator/Solar system* should also be considered as a possible solution to the problem of power of failure.

Regular training session on modern technologies and updated antivirus packages can also reduces the problems of internet users. Kumar, D. (2010) was of the view that arrangement of faculty training program, installation of upgraded Personal Computers (PCs) and provision of round the clock availability of internet are the possible solutions of problems of internet. A few respondent opt the supply of *reasonable budget* and installation of *up -to- date hardware* as possible solutions for resolving various internet issues.

Discussion

The importance of the internet cannot be ignored and especially in the medical education of the hour. But there are some multi-faced technical and skills required issues that need to investigate and solve for smooth use of this technology in the medical academic institutions. The current study was conducted in view of the importance of Internet and various barriers in its usability and also discussed the same other studies in this portion.

The component to explore the use of internet by male and female teachers and were reported by current study and Kumar, A., & Kalia, R. (2016). It was observed from the present study that Library is the more frequently used place for internet. But Naz, F.,et.al (2010) was reported that the home is the mostly common place for using internet. More studies also reported Chhachhar, A. et.al (2013) the same venue (home) for internet use by the respondents. An effort was made to ask about satisfaction level of internet users.

It was responded that majority of the faculty members of Peshawar Medical College (PMC) Peshawar satisfied to some extent with facility of internet provided by the college (Mean=1.5909 & S.D= 0.49543). People use the internet as a tool for information retrieval according to their need. Majority faculty (Mean=1.0909 & S.D= .28968) of the current study use this tool for academic and teaching, research, professional career development, emails. K. S., Ridzuan, A. A., & Kuek, M. K. (2003) highlighted that internet is used for getting information related to recent research by a good number of respondents at University. Among the different recourses of

internet the use for Conference proceedings (Mean= 1.9091 & S.D=.28968), Technical reports (Mean= 1.833 & S.D= .3755). However, Singh, V. (2013) revealed about the usage of e-resources by the faculty and research scholars of Jamia Millia University. The major findings revealed that online databases and journals are the most frequently used internet resources.

No doubt internet has a vital role in academic requirements and paradigm shift. But there are some barriers that disturb the smooth use of internet. Technical issues for example hardware, specification, virus on computers, low speed, and outage of power. In the present study 42 % faculty Virus on systems as problem for internet use. Computer literacy and skills were also reported as issue of optimize use of internet.

Conclusion

It will not be difficult to conclude that this revolutionary invention (internet) of this modern era brought revolutionary changes in all aspect of mankind. The teaching staff of Peshawar Medical College was involved in positive utilization of the internet. Most of the faculty members were quite satisfied with its use in the institution. A few issues were pinpointed by respondents is included; power outage, lack of computer literacy, virus on systems. Respondents were recommended the standby power backup, periodic trainings and allocation of adequate financial support for the elimination of the internet usage barriers. Most of the respondents use the internet for academic, research, career development and sports purpose as frequent source of information.

The application of internet in the academic activities has resulted into quality and standard education. It assists in broadening the vision and subject command of the teachers which ultimately enhance the level of understanding of students. The positive usage of internet will definitely contribute to national building.

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