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Behavioral Pattern of Internet Use among University Students of Pakistan

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ABSTRACT

This study uses a survey to analyze the behavioral pattern of Internet usage of university students. The results show that most students used Internet as a support tool for their academic and research work. The students accessed Internet mostly from their personal computers and had multiple years of experience using Internet. Ease of work and time saving were the most cited reasons for Internet use. The findings of the study provide significant implications for the academicians, practitioners, and government policy makers.

Keywords

Internet, Students, User studies, Pakistan

1. INTRODUCTION

The rapidly increasing use of Internet in our daily lives is producing direct impact on people behavior. Internet has affected almost every area of our daily lives including system of higher education. The advances in internet related technologies have given rise to new and innovative teaching strategies using technology integration in the process of learning. Internet use has become an integral element of the daily lives of higher education students across the globe. For these students, internet is great functional tool that has significantly altered the way they interact with their peers and information in academia. Internet technologies, such as news groups bulletin boards, social networking sites etc., are now commonly used by students to stay in touch with their peers, prepare assignments, make notes, term projects and exchange of emails [1] [2][3][4]. According to [5] there exists various reasons for such widespread use of internet among higher education institutions some of the reasons include ease of idea sharing with others enhanced information sharing ability to perform multidisciplinary research and less time required to produce & utilize knowledge.

In Pakistan, first Internet connection and first broadband connection were given in 1995 and 2002 respectively. According to Pakistan Telecommunication Authority (PTA), the broadband subscribers in Pakistan were projected to surpass 0.64 million by 2009. Pakistan

Telecommunication Authority, since its inception, followed various deregulation policies. PTA issued broadband licenses to many private companies in 2004. In the after math of this deregulation policy, two types of players dominated the broadband Internet market in Pakistan. The first type consisted of players that competed on same access technology. The second type consisted of players that dominated in a particular type of access technology. Fixed line penetration remained a significant issue in Pakistan. The fixed line penetration was expected to drop from 3.5% in 2009 to 2.8% in 2011. The Pakistan telecom industry, especially the mobile telecom sector, saw sustained growth in the last years. By 2007, mobile phone subscribers in Pakistan reached 77 million. The broadband Internet market also witnessed great technological and strategic transformation and competition intensified. Many new players entered into the market such as Qubee (a wireless broadband Internet service provider). PTA further opted for issuing soft licenses and relaxed terms of conditions for service providers. This approach, aimed at facilitating access to a wide range of broadband, was successful and many service providers introduced latest technologies such as DSL, WiMAX, FTTH, EvDO, HFC, VDSL2 in the broadband Internet market [6].

In Pakistani Universities, access to the internet is generally provided at various access points in the Universities such as Cafeteria and Campus Library Members of the University community can access internet either using there access points or from their departments, with increased availability of Internet access, significant increase in demand of internet access has been witnessed. Many Universities have laid down their own fiber optic cable network and significantly increased the number of modern computers available for student community use. Internet bandwidths have been significantly enhanced with recent achievement of four Mbps bandwidth for every broadband user of PTCL.

2. LITERATURE REVIEW

Many studies on Internet use have found internet use most prevalent among young highly educated people [7] [8] [9]. Investigating the internet use among students in an ethnic context [10] reported that availability of computer at home accelerated the use of internet. In another study of internet use among university students [11] reported that 40.2% respondents accessed internet daily while 38% accessed it weekly only 10% respondents seldom or never accessed internet 83% students and faculty accessed the internet to search academic information. Investigating internet use among Australian students [12] reported that 88% students accessed internet to search course related information A significant majority of students accessed the Internet either from their homes or university computer labs

most students learnt to use the internet themselves ore through their families and friends in an study of internet UK among male & female students of a large US Universities [13] reported that while the gender gap in internet use was minimal there existed differences in the ways male and female students used internet. According to [14], students wed internet for general or recreational purposes and did not realize the potential support provided by internet for their academic activities. According to [15] internet played an important role in their education and significantly affected their college lives. [16] supported this finding by reporting that most student used internet at home for information search and regards internet as a credible easy to understand beneficial source of information [1]. [17] found that a significant majority of students had positive attitude about internet & regarded the internet as a universal fast gateway to knowledge that provides ease in life. [18] and [19] found that most students used internet for academic purposes and perceived it as sources of latest knowledge.

There exist very few studies on internet use by Pakistani students. Existing studies include [20] [21] [22]. Analyzing Internet use among Pakistani teens and adults [21] found that majority of users used Internet for academic purposes. Users perceived Internet as a source of information for public. Studying the impact of excessive Internet use on undergraduate students, [16] found that a majority of students experienced positive impacts of Internet use and they used Internet to enhance their academic skills.[22]found that most students used Internet for course related activities and research. Ease of work and time saving were the most cited reasons for using Internet.

3. METHODOLOGY

The aim of this study was to analyze behavioral pattern of Internet use by Pakistani university students. To achieve this goal, a survey questionnaire was developed. The survey questions were adopted and modified from [23] [24] [25]. The study population consisted of a convenience sample of 300 undergraduates from various universities of Pakistan. The survey responses were analyzed using SPSS Version 20 software. Reliability of the instrument was estimated using Cronbach's coefficient (alpha). The value of Cronbach's coefficient was 0.85 that shows internal consistency of the research instrument used in this study.

4. ANALYSISOFDATA

4.1. General Information about Respondents

Table 1 shows the frequency distribution of respondents' profile information.

Table 1: Respondents Profile

Age	18-25 Years (92 %), 26-30 Years (8%)

Gender	Male (68%), Female (32%)
Field of Study	Management (72 %), Arts (2%), Science (10%), Engineering (14%), Medicine (2%)
Ethnicity	Punjabi (32%), Pakhtoon (14%), Balochi (4%), Urdu Speaking (38%), Sindhi (2%), Other (10%)
Family Structure	Joint Family (46%), Separate Family (54%)
Family Income Level (in PKR)	Less than 20,000 (4%), 20,000-50,000 (34%), 51,000-100,000 (38%), More than 100,000 (24%)

4.2. Experience as Internet User

One questions asked students about the total time they had been using the Internet. The range of years of experience was 1 to 9 years. Table 2 represents frequency distribution of respondents' experience of Internet use.

Table 2: Respondents' Experience as Internet user

Period	Frequency	Percentage
Up to 1 year	33	11
2 years	78	26
3 years	45	15
4 years	49	16.3
5 years or more	95	31.7

Chi-square test statistics	$\chi 2$ (6) = 24.45, p = .000
Phi V	.425, p = .000
Cramer's V	.347, p = .000

4.3. Places of Internet Use

Another questions asked students the primary method they used to access Internet. Table 3 presents frequency distribution of students' response to this question.

Table 3: Method of Internet Access

Method	Frequency	Percentage
Your own computer	240	80 %
Public place (E.g. University Computer)	0	0 %
Mobile Phone	45	15 %
Both Home computer and Mobile Phone	15	5 %

4.4. Frequency of Internet Use

The students were asked to mention how often they used Internet. Table 4 shows frequency distribution of students' responses to this question.

Table 4: Frequency of Internet Use

Internet Use	Frequency	Percentage
Daily	165	55
2-3 days a week	66	22
Fortnightly	38	12.7
Once a month	22	7.3
Rarely	9	3

Chi-square test statistics	$\chi 2$ (6) = 14.32, p = .000
Phi V	.532, p = .000
Cramer's V	.335, p = .000

4.5. Sources of Internet training

The students were asked a question as which sources they used to acquire Internet skills. Table 5 presents frequency distribution of students' responses to this question.

Table 5: Sources Used for Gaining Internet Skills

Source of Skills	Frequency	Percentage
Self-taught	145	48.3
Friend's help	125	41.7
Training courses	75	25
Faculty at university	15	5
Relatives help	25	8.3
Other sources	10	3.3

4.6. Reasons for Internet use

The students were asked to mention the reasons for using Internet. Table 6 shows frequency distribution of the students' responses. Other reasons included online job searching & applications, spending leisure time, chatting, social media networking, reading books, and sports updates.

Table 6: Main Reasons of Using Internet

Reason	Frequency	Percentage

Class assignments/projects preparation	265	88.3
To update knowledge	175	58.3
For communication	245	81.7
For entertainment	225	75
To prepare for examination	215	71.7
To read news	145	48.3
To download software	190	63.3
To purchase items	16	5.3
For other reasons	35	11.7

4.7. Attractive Features of Internet

In an open-ended question, students were asked to mention which features of Internet they found attractive. Table 7 shows frequency distribution of the students' responses to this question.

Table 7: Attractive Features of Internet

Feature	Frequency	Percentage
Ease of working	226	75.3
Timesaving	228	76.0
Search tools	156	52.0
Authenticity of information	67	22.3
Up to date information	189	63.0
Knowledge Enhancement	195	65.0
Entertainment	175	58.3
Wide range of knowledge	165	55.0
Large resource of research information e.g. full text articles	176	58.7
Key word searching facility	190	63.3
E-mail	153	51.0
Social media	224	74.7

4.8. Use of Search Engines

The respondents were asked to mention which search engines they were using to get required information from the Internet. Table 8 shows frequency distribution of the students' responses to this question. Other

search engines include ask.com, Bing, boardreader.com, creative commons, and crunch base.

Table 8: Search Engines Used

Reason	Frequency	Percentage
Google	285	95
Yahoo	132	44
MSN	66	22
Other	15	5

4.9. Use of E-mail

The students were asked to mention which Internet based e-mail services they used. Table 9 shows frequency distribution of the students' responses to this question. Other email services include mail.com, inbox.com, and email.myway.com

Table 9: E-mail Services Used

Reason	Frequency	Percentage
Gmail	231	77
Inbox.com	180	60
Hotmail	48	16
Other	9	3

Chi-square test statistics	$\chi 2$ (6) = 16.19, p = .000
Phi V	.417, p = .000
Cramer's V	.295, p = .000

4.10. Use of HEC Digital Library

The students were asked to mention if they were using HEC (Higher Education Commission) Digital Library to access scholarly journals, articles, and references and with what frequency.

Table 10: Frequency of Digital Library Use

Internet Use	Frequency	Percentage
Daily	55	18.3
2-3 days a week	67	22.3
Fortnightly	57	19.0
Once a month	112	37.3
Rarely	9	3.0

Chi-square test statistics	$\chi 2$ (6) = .619, p = .996.
Phi V	.052, p = .996
Cramer's V	.037, p = .996

5. DISCUSSION

The results of this study provide mixed findings compared with previous studies done on Internet use in other countries. Consistent with the findings of other studies [26] [27] [28], the use of Internet in Pakistan has become part of daily lives of a large number of students. Most university started using the Internet since last five years or more. A significant majority of students have Internet access via their personal computers. It is interesting to note that these students do not utilize the Internet facility available at their universities. These findings show increased ability of students to access and use Internet and related technologies. Similar to the students of developed world, a significant majority of students in Pakistan are found to use Internet daily. It appears that the issue of unavailability and unfamiliarity of the Internet among Pakistani students [22] has now been resolved.

Consistent with the trend found by [22], a very significant majority of students still learn to use the Internet tools by themselves, or relying on assistance from friends. The second significant source of learning was training courses while a very small proportion of students sought assistance from university faculty or relatives to learn Internet use.

Findings indicate a significant use of Internet by students as an academic studies and research support tool. Communication, entertainment, and software downloading were also mentioned as important uses of Internet by students. This finding is consistent with the finding of [29] [30] [31] [32] [33]. Very few students used Internet to purchase items. One possible explanation is that these students do not have enough financial resources at their own to make purchases online.

Consistent with the findings of [22], Pakistani students still regard Internet as a tool that provide ease of work and time savings. One other significant trend emerged from the results is the increased perceived importance of social media as one of the attractive features of the Internet. This finding is consistent with the finding of [26] that found use of Social Networking Sites (SNS) has become part of daily lives students around the globe.

The results about the popularity of the search engines are consistent with the global rating of search engines by [34] that ranked Google as the top search provider followed by Yahoo. The results about the popularity of the free web-based email service are consistent with the global rating of free email

services by [35] that ranked Gmail as the top free email provider followed by Yahoo and Microsoft Outlook.

Supporting the findings of [22], this study found that more than two third majority of the students used the digital library facility provided by HEC.

Statistics shows that no statistically significant association (i.e. insignificant $\chi 2$ statistic) exists between household employment status and Internet access. Statistics show that no significant statistical association (i.e. insignificant $\chi 2$ statistic) exists between students' use of HEC digital library and Internet access. However, statistically significant association (i.e. insignificant $\chi 2$ statistic) exists among students' Internet access and their use of e-mail services, frequency of Internet use, and students experience with Internet.

6. CONCLUSION

It can be concluded that Pakistani students are less likely to go and seek help from the faculty/staff at university to learn using the Internet. However, they are likely to attend the training courses on Internet use. The increased reliance on Internet as an academic studies and support research tool is also a significant trend that needs to be watched and monitored carefully by the academicians, practitioners, and policy makers.

7. IMPLICATIONS OF THE STUDY

This study has significant implications for the academicians, practitioners, and government policy makers. The trends found are significant and there is a need continue monitoring students' usage and attitudes toward the Internet. It is also important that current non-Internet users should be investigated to find out the reasons of non-use in spite of efforts made by the university authorities and government. Students' use of the training courses to learn Internet implies need of further strengthening the curriculum of the training courses better meeting the diverse needs of the students. Training providers can play an important role in this regard.

8. LIMITATIONS AND FUTURE RESEARCH AREAS

Limitations of current study include a relatively small sample of students limited to one country. The results may not be generalizable to students at other universities or other countries. Future research may investigate the reasons for use and non-use of Internet in cross-cultural settings and heterogeneous samples of users with different age groups and settings.

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