Internet Use Among University Students: A Survey in University of the Punjab, Lahore

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Abstract

The paper presents the results of a survey of the undergraduate, graduate and post graduate students of the University of the Punjab, Lahore, Pakistan. The objective of the study was to explore the Internet use behavior of students. The results show that most of the students use this technology for course related reading and research needs. They are new users of the Internet. They use it at the University Library's Digital Lab Unit as well as their departments and homes. A large number of them have learnt to use the Internet tools by themselves, or relying on assistance from friends without attending any formal training programs. Ease of work and time saving are the reasons of Internet use among university students. Google as a search engine and Yahoo as an email service are the most popular among students. The paper recommends that the university authorities should arrange training programs for the students' Internet use.

Keyword: Internet; Students; User studies; University of the Punjab.

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https://doi.org/10.47657%2F20089811

Background of the Study

Internet use is spreading rapidly into daily life, and directly affecting people's ideas and behavior. Internet has an impact in many areas including the higher education system. Internet heralded the development and implementation of new and innovative teaching strategies in higher education institutions. Educators who advocate technology integration in the learning process believe it will improve learning and prepare students to effectively participate in the 21st century workplace. Internet use has become a way of life for the majority of higher education students all around the world. For most college students the Internet is a functional tool, one that has greatly changed the way they interact with others and with information as they go about their studies. They use computers to accomplish a wide range of academic tasks. Many students prepare course assignments, make study notes, tutor themselves with specialized multimedia, and process data for research projects. Most exchange emails with faculty, peers, and remote experts. They keep up to-date in their fields on the Internet, accessing newsgroups, bulletin boards, listservs, and web sites posted by professional organizations. Most access library catalogs, bibliographic databases, and other academic resources in text, graphics, and imagery on the World Wide Web (Asan & Koca, 2006). Usun (2003) mentioned that Internet is appealing to higher education for a number of reasons: it reduces the time lag between the production and utilization of knowledge; it promotes international co-operation and exchange of opinions; it furthers the sharing of information; and it promotes multidisciplinary research.

In Pakistan, the Internet came for the first time in 1995 when Digicom launched an Internet service in Karachi. This service was connected to the global Internet by a 64 Kbps line. In 1996, the PakNet data network, operated by Pakistan Telecommunication Company Limited (PTCL), was upgraded to provide Internet services as well. PakNet was connected to the global Internet via a total of 512 Kbps. By mid-1997, nine ISPs were operational, offering services in five cities to approximately 25,000 subscribers. PTCL also offered Internet service in 10 cities

https://doi.org/10.47657%2F20089811

to approximately 8,500 subscribers. A multitude of Internet service providers emerged quickly following the introduction of Internet service in 1995 (Wolcott & Goodman, 2000).

During recent years, a dramatic growth in the use of Internet has been witnessed in Pakistan. The prices of Personal Computers (PCs) have decreased substantially and now more people have PCs at their homes. Therefore, cheaply available Internet cards are used by the people to connect to the Internet at their residences, etc. Internet cards are available as low as Rs. 2.5 per hour. There were 12 million Internet users (7.2% of the population) by the end of 2006. By early 2006 Internet penetration remained low. But the numbers are growing. Broadband access is now available in the major cities (Internet World Stats, 2007). Also wireless broadband Internet has been introduced by the WLL (Wireless Local Loop) Networks in many major cities. In January 2007, Pakistan Telecommunication Authority reported over 12 million internet users, however the low bandwidth is a concern for most. Most Pakistani companies, and government departments maintain web sites which have further increased the demand for internet (Wikipedia, 2007). The Internet facility is available in 1898 cities in Pakistan, of which 1166 cities are in Punjab Province, 202 in Sindh Province, 420 in NWFP, while 110 are in Baluchistan Province. PTCL has now launched Universal Internet Number, the Internet Service Providers (ISPs) can, therefore, subscribe this highly effective service and send to their customers a strong message of care and service excellence (Pakistan Telecommunication Company, 2007).

University of the Punjab, established in 1982 at Lahore, is the oldest and largest university in Pakistan. It comprises of four campuses, 13 faculties, nine constituent colleges, 64 departments, canters, institutes, and 412 affiliated colleges. It has 623 permanent faculty members involved in teaching and research and over 24000 on campus students. Access to the Internet is provided at various access points in the University, such as the campus libraries and computer laboratories. Members of the university community can access the facility through those points and /or from their departments. As availability of Internet access

and media coverage increases, significant new demands have been placed on libraries to provide training Punjab University was the first public university to lay 6KM fiber Optic Cable Network in 2001. There were only 33 computers in 1999, but today there are over 3800 Pentium III and IV computers. All departments have their computer labs. Bandwidth has been increased from 64KB to 7MB and the network has now grown to over 28 Km, which is the largest amongst the universities of Pakistan. Students and staff of the university, through the Higher Education Commission (HEC) Digital Library, can access to the wide range of journal databases in various academic disciplines. Such access provides full text journal articles, abstracting and indexing services (University of the Punjab, 2007). The University has established a Digital Lab Unit at its Central Library with 66 Internet nodes and about 2900 registered members. The students can use Internet facility provided by this Lab free of cost (Shafiq-ur-Rehman et al., 2006).

Literature on the Internet Use Among Students

Internationally, there are many surveys on the use of the Internet, and nearly all find that Internet use is most prevalent amongst younger, more educated people (Hoffman, Novak & Schlosser, 2000). Korgen, Odell, and Schumacher (2001) investigated Internet use among students, focusing on whether or not there are differences by race/ethnicity. They reported that use is affected by presence or absence of a computer in the home of origin. Bao (1998) surveyed Internet use at Seton Hall University. The findings reported that 40.2% of respondents used the Web on a daily basis, 38.3% weekly, and 10.7% on a monthly basis. About 10% respondents said they seldom or never used the Internet. It was also discovered that students and faculty searched the Internet for information related to both their academic (83.2%) and nonacademic studies (73.8%). Stern's (2002) study was on the information competence of incoming students into universities and how they use the Internet for general and academic research.

A survey of a large Australian university by Foster (2000) revealed that 88% students used Internet for course related research. Eighty percent students used Internet at their homes

followed by computer labs at the campus. Most of the students admitted that they learnt using Internet by themselves or through family and friends. Odell, Korgen, Schumcher and Delucchi (2000) studied Internet use among female and male college students at institutions of higher learning in Georgia, Hawaii, New Jersey, Massachusetts and Rhode Island. They found that while the gap in use of the Internet has nearly closed, there remain differences in how male and female undergraduates use the Internet. Tadasad, Maheswarapp and Alur (2003) studied Internet use at PDA College of Engineering, Gulbarga. Their observation was that Internet use is confined to general or recreational purposes, and that its potential in supporting curricular requirements has not been realized by students. Jones and Madden (2002) examined the Internet's impact on college students' daily lives, and to determine the impact of that use on their academic and social routines. Surveys were randomly distributed to college students at a wide range of two-year and four-year public and private colleges and universities in the continental United States. Many students indicated that the Internet played an important role in their education, with 79% reporting the Internet has had an impact on their college experience. College students describe the Internet as a functional tool that helps them to communicate with professors, do research, and access library materials. Seventy-three percent of college students state that they use the Internet more for information searches than they do a campus library.

In a survey of Internet usage of the students of an American agricultural college, Rhoades et al. (2007) found that most of them used Internet at their homes and used a search engine when online. The majority of students tended to indicate seeing the Internet as good, easy to understand, important, beneficial, believable, credible, and accurate. In a study of Omani university students, Asan and Koca (2006) found that majority of the students had positive attitudes and they concentrated on positive and consciousness about Internet. Great percentage of students was thinking that Internet is a universal digital library, provides easy life, and is a fastest way to reach knowledge. A study of the students of a Nigerian university by Anunobi (2006) revealed that 81% used Internet for academic purposes as

compared to 15% who used it for entertainment purposes. A survey of the Indian medical students by Sharma, et al. (2006) revealed that above 80% used Internet to get information or for research work. Most of them preferred Internet because they perceived it a source of latest knowledge. A large majority used Google search engine. In a study, conducted by Hong, Ridzuan and Kuek (2003), Malaysian university students showed a positive attitude toward using the Internet as a teaching and learning tool.

Very few studies have been conducted on this topic in Pakistan. Only two surveys can be reported here. Rajani and Chandio (2004) surveyed a sample taken from Pakistani teens, adults and senior citizens of different professions like teachers, doctors, students, organizers, employed and unemployed both males and females. The results suggest that majority of the users agreed with the potential of the Internet as informative source for general public and realize the effort involved in effectively utilizing this valuable resource. The study also revealed that the students used the Internet for educational purposes. Suhail and Bargees (2006) surveyed the Internet use pattern of 200 undergraduate students studying at the Government College University, Lahore. The purpose of the study was to investigate the positive and negative effects of excessive Internet use on undergraduate students. It was found that that most of the students used Internet for enhancing their academic skills and achievements. Majority of the students reported positive than negative effects of Internet use. The results indicated that a great majority of the students (84%) found the Internet helpful for worldwide communication; 78% reported that Internet use actually helped improving their grades; 74% agreed that their reading, writing and information processing skills had expanded by using the Internet. Another 48% reported that they had become better students by using the Internet.

Objective and Methodology

The objective of this study was to explore the Internet use behavior of students of the University of the Punjab. To achieve

this goal a questionnaire survey was conducted. A data collection instrument was developed based on the review of literature. The population of the study was registered users of the Digital Lab Unit at Punjab University Library, out of which a sample of 300 users was chosen and "Accidental Sampling" technique was employed for distributing the questionnaire. The principal author made various visits to the Digital Lab Unit to collect data. The responses from the sample were analyzed quantitatively with the help of SPSS software package.

Analysis of Data

General information about respondents

According to the collected data, 165 respondents (55%) were female, and 135 (45%) were male. The students were studying in different faculties (Table 1). Seventeen (6%) were studying in arts and humanities, the students of social sciences were 177 (59%) while 106 (35%) were in science and technology.

Table 1. Respondents' faculties

Faculties	Frequency	Percent
Social Sciences	177	59
Science and Technology	106	35
Arts and Humanities	17	6

Table 2. Respondents' programs of study

Programs	Frequency	Percent
Master	244	81
Undergraduate	47	16
MPhil/PhD	9	3

The respondents were studying in different programs (Table 2). The results show that one 244 students (81%) were studying in master programs, 47 (16%) were at undergraduate level and nine (3%) were doing MPhil and PhD.

Experience as Internet user

The students asked about the period, since they had been using Internet. The responses varied between up to one year to nine years (Table 3). The analysis shows that 64 students' (21%) period of Internet use was up to one year. Seventy-three (24%) students had two year experience, while 36 (12%) had three year and 38 (13%) had four year experience of using Internet. Eighty-nine (30%) were using Internet for five or more years.

Table 3. Respondents' experience as Internet user

Period	Frequency	Percent
Up to 1 year	64	21
2 years	73	24
3 years	36	12
4 years	38	13
5 years or more	89	30

Places of Internet use

The respondents were asked to mention the place where they were using Internet. As the sample was selected among the registered users of the Digital Lab Unit o the Punjab University Library, all of the respondents were using Internet at this Lab.

Table 4. Places of Internet use

Place	Frequency	Percent
Punjab University Library	300	100
Home	171	57
Department	162	54
Internet café	66	22
Friend's / relative's home	31	10
Office	24	8
Any other	23	8

https://doi.org/10.47657%2F20089811

One hundred and seventy one respondents (57%) were using Internet at their homes, 162 respondents (54%) answered that they were using it at their departments, 24 students (8%) were using it at their offices, 31 (10%) responded that they were using it at their friends' and relatives' homes (10.5%), 66 users (22%) were using it at Internet cafés, 23 users (8%) mentioned other places where they were using Internet, i.e. neighborhood, language institution, etc. Frequency distribution is presented in Table 4.

Frequency of Internet use

The students were asked to mention how often they used Internet. The results (Table 5) reveal that daily users were 93 (31%) while 141 users (47%) were using Internet 2-3 days in a week, 16 users (5.5%) were using it fortnightly, 21 users (7%) were using it once a month and 34 (11.5%) were using it rarely.

Table 5. Frequency of Internet use

Internet use	Frequency	Percent
Daily	93	31
2-3 days in week	141	47
Fortnightly	16	5
Once a month	21	7
Rarely	34	11

Sources of Internet training

The students were asked to mention the sources from where they acquired skills to use Internet. One hundred and forty-eight users (49%) mentioned that they learnt skills by themselves. One hundred and sixteen users (39%) revealed that they got training from their friends, 56 users (19%) mentioned that they learnt it through training programs, 40 users (13.5%) mentioned that they learnt it from their teachers, 33 users (11%)) got training from the staff of the Internet Lab, 15 users (5%) mentioned that they learnt it from their relatives, 14 users (4.5%) learnt it from

other sources, i.e., family members, colleagues and through computer books. Frequency distribution is presented in Table 6.

Table 6. Sources of training of users

Sources of training	Frequency	Percent
Self taught	148	49
From friends	116	39
By attending training programs	56	19
From teacher	40	13
Staff of PUL lab	33	11
From relative	15	5
From any other source	14	5

Reasons for Internet use

The students were asked to mention the reasons for using Internet. One hundred and ninety users (63.%) mentioned that they were using Internet for preparing class assignments, 135 users (45%) were using it for assistance in their research projects, 100 users (33%) pointed out that they were using it to update their knowledge, 96 users (32%) were using it for communication purposes, 72 users (24%) mentioned that they were using it for entertainment, 51 users (17%) were using it for the examination preparation, 49 users (16%) were using it for reading news, 36 users (12%) mentioned that they were using it to download software, 31 users (10%) were using it for their specific purposes such as online job searching & application, spending leisure time, chatting, for presentations, projects and notes, communities, poetry reading, career development, to know about latest developments, to know about international political & global affairs, and sports updates, while 13 users(4) were using it for purchasing items. Frequency distribution is presented in table 7.

Table 7. Reasons for Internet use

Reason for Internet use	Frequency	Percent
To prepare class assignment	190	63
For research projects	135	45
To update knowledge	100	33
For communication	96	32
For entertainment	72	24
To prepare for examinations	51	17
To read news	49	16
To download software	36	12
For other reasons	31	10
To purchase items	13	4

Appealing features of Internet

The students were asked to mention the appealing features of the Internet. One hundred and thirty two respondents (44%) mentioned that 'Ease of working' was the most appealing feature of the Internet, 128 (43%) mentioned 'Time saving' as appealing feature, 106 (35) pointed out 'Searching tools', 44 (15%) mentioned 'Authenticity of information', 31 (10%) mentioned 'Internet graphics', 30 users (10%) mentioned other features such as 'up to date information', 'availability of knowledge at any time', 'humorous information', 'improvement of knowledge through it', 'entertainment', 'enormous range of knowledge', 'full text articles', 'magical communication access', 'latest research', 'key word searching facility', and 'e-mail service.' Frequency distribution is shown in Table 8.

Search engines

The respondents were asked to mention which search engines they were using to get required information. Two hundred and sixty nine students (90%) mentioned that mostly they were using Google for searching, 133 (44%) were using Yahoo, 67 (22%) were using MSN, 29 (10%) mentioned that they were using Alta Vista for searching information and 10 respondents (3%) revealed that they were using Info-seek. Fifty-four (18%)

mentioned other web sites such as Ask, Maama, Wikipedia, Findfast, Search, Encarta, Sciencedirect, ICQ, Encyclopedia, Freedictionary, Answer, Scopus, Cisco, and Freepatentonline. Frequency distribution is presented in Table 9.

Table 8. Appealing features of Internet

Features	Frequency	Percent
Ease of work	132	44
Time saving	128	43
Searching tools	106	35
Authenticity of information	44	15
Internet graphics	31	10
Other features	30	10

Table 9. Use of search engines

Search Engine	Frequency	Percent
Google	269	90
Yahoo	133	44
MSN	67	22
AltaVista	29	10
Info-seek	10	3
Other search engines	54	18

E-mail service

The students were asked to mention which Internet based e-mail services they were using. Two hundred and thirty users (77%) mentioned 'Yahoo' e-mail service, 180 respondents (60%) were using 'Hotmail', 48 users (16%) were using 'G-mail', while 10 users (3%) mentioned other e-mail services such as orkut.com, etc. Results are shown in Table 10.

https://doi.org/10.47657%2F20089811

Table 10. Internet based e-mail services

E-mail services	Frequency	Percent
Yahoo	230	77
Hotmail	180	60
G-mail	48	16
Other	10	3

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. One hundred and ninety-six users (65%) mentioned that they were using HEC digital library for this purpose.

Discussion and Recommendations

The results of this study resemble those of many studies previously conducted in other countries. Like other developing nations, proliferation of the Internet is a new phenomenon in Pakistan. Its use has become common in academic quarters very recently. Most of the university students have started the use of Internet since last one to two years. In addition to a central Internet lab the students have Internet access in their departments. From these figures, the most significant trend is the large percentage of students who have access to the Internet from home. It shows the ability of university students to purchase computers and Internet accessibility. Internet cafés also have a significant market share but after university and homes. Most of the students of a Pakistani university use Internet two to three times in a week as compared to daily use in advanced countries. The reason may be the unavailability and unfamiliarity of the Internet among Pakistani students. A large number of them have learnt to use the Internet tools by themselves, or relying on assistance from friends. A small number have attended training programs or sought help from staff.

The survey clearly shows that students are making use of the Internet for course related reading and research needs. Only one-fourth students use it for entertainment purpose. This trend is opposite to a general perception of the Internet use in Pakistan which is attributed to entertainment. Ease of work and time saving are the reasons of Internet use among university students. Authenticity of information on the Internet could attract only a small number of students.

The results on the popularity of search engines among Pakistani students correspond to the global ratings (Burns, 2007). Google is the most popular followed by Yahoo and MSN. Among Web-based free email services Yahoo is followed by Hotmail and G-mail. This trend is also in line with the international use statistics (Brownlow, 2007). It is a matter of satisfaction that two-third of university students have used the HEC digital library.

It is worth pointing out that students are less likely to go and seek help from the library staff, support staff, or attend Internet training classes. The universities in Pakistan should arrange training programs to orientate the students and teachers to the hidden potential of this technology. Modules on basic and advanced searching techniques should be included in the curricula of all departments. Teachers and staff can encourage Internet usage among students. The trainers need special attention of the university authorities. Specialized training program should be planned for them. Academic cooperation should also be promoted through the sharing of educational resources among Pakistani universities. The Higher Education Commission will have to do a lot to introduce resources it provides for universities.

As this study has shown, more students are relying on the Internet for their academic needs than in the past; it is recommended that future studies should continue to monitor students' usage and attitudes toward the Internet. It is also important that we study those students who are not using the Internet in spite of efforts made by the university authorities.

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