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Shehzad Ahmad Dr

Edwards College Peshawar, Pakistan

Sajjad Ahmad Dr

University of Peshawar, Pakistan, sajjad_lis74@yahoo.com

Muhammad Rafiq Dr

University of the Punjab, Pakistan, dr.rafiqm@gmail.com

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**A Path to an Understanding of the Internet Use and Its Impact on the
Academic Achievement of Social Science Students**

By

Dr. Shehzad Ahmad

Assistant Professor, Edwards College Peshawar, Khyber Pakhtunkhwa

E-mail: shehzad_ecp@yahoo.com

Dr. Sajjad Ahmad

Assistant Professor, Department of Library and Information Science

University of Peshawar, Khyber Pakhtunkhwa

E-mail: sajjad_lis74@yahoo.com (Corresponding Author)

and

Dr. Muhammad Rafiq

Associate Professor, Department of Information Management

University of the Punjab, Lahore

E-mail: dr.rafiqm@gmail.com

Abstract

The purpose of this study is to assess the use and impacts of internet on academic success of Social Science student studying in the public sector Universities of Khyber Pakhtunkhwa (KP), Pakistan.

Survey research method using a questionnaire was employed for data collection from a sample of 303 Social Science students spread over five public sector universities of KP. The response rate was 66% and the data was analyzed through SPSS 20.0 using descriptive and inferential statistics.

The key findings show that male respondents reported being more experienced in internet use than female and about 84% of the students agreed with the importance of getting the internet use training. University graduates mainly used internet for Social Networking Sites (SNSs), e-mail and academic purposes and were highly satisfied with e-reference material, SNSs and audio/visual resources. Similarly, watching sports online and using shopping and trading websites online correlates with students' lower Cumulative Grade Point Average (CGPA). Furthermore, frequent use of indexes and abstracts, technical reports and presentations available on slide share correlates with graduates' higher CGPA. Besides these the students reported that, the slow speed of internet, electricity shortage and restrictions on students from their parents to use internet due to the availability of immoral sites on internet were the problems in their internet use.

This is the first study in KP, Pakistan that dealt with this important topic by covering a large number of social science students from large number of universities.

Keywords: *University Students, Internet use, Impact of internet, Academic Success, Social Science Students, Academic Use of Internet*

1.1 Background of the Study

The internet as the heart of the digital revolution gained significant recognition worldwide for retrieval and dissemination of information among different communities particularly, the student community. The Internet has an unavoidable role in the economic and social development of the world. This modern technology over the last few decades has been excessively used by the public worldwide for a variety of purposes. Thanuskodi (2011a) defined the internet as a network of billions of small networks that provides access to unlimited sources of information. It is a world-wide broadcasting tool, a source for information dissemination, collaboration, and interaction (Leiner, et al., 2015). Tella (2007) has given the reason for its immense popularity i.e; it inexpensively connects geographically dispersed users.

Internet technologies have significantly affected the students' learning process. Watson (2005) has truly stated that the internet has transformed the processes of learning. However, he is also of the opinion that this technology has had both positive as well as negative impacts on economic, social and educational spheres. Brown and Adler (2008) have stated that the internet's features, precision, comprehensiveness, and time-saving have positively affected the quality of education. Youssef and Dahmani (2011) portrayed the relationship between the internet and higher education that learning through the internet means more freedom to access a wide variety of opportunities for improving one's academic growth. Similarly, Malik and Mahmood (2009) have stated that the provision of a large variety of learning opportunities through the internet has expanded the educational process beyond the traditional classroom teachings for students. In a nutshell, the internet undoubtedly, in the contemporary world is considered as a pre-requisite to learning and for students to achieve brilliance in higher studies without its use is impossible (Schonfeld and Guthrie, 2007).

Internet growth and access to online information resources in higher education in Pakistani universities have made it a necessary information source for students. It has entirely changed the learning processes of students, researchers, and scholars in the country (Khan, Khan and Bhatti, 2011). Therefore, Malik and Mahmood (2009) emphasized the need to encourage and train students and teachers to maximize the use of online information resources for achieving academic excellence. The Higher Education Commission (HEC) of Pakistan, established in 2002 with a purpose to improve the quality of higher education in the country, is also credited for furthering internet technologies in higher education. Higher Education Commission through its Pakistan Educational and Research Network Projects (PERN-I and PERN-II) supplied high-speed internet and intranet facilities to the research institutions connected to it (Higher Education Commission, 2012a). Currently, more than 250 universities/institutes throughout the country are connected to PERN-II that is a state of the art advanced network primarily built around Gigabyte Metro Ethernet and Dense Wavelength Division Multiplexing (DWDM) based technologies. The PERN-II Metro Ethernet of Peshawar, Islamabad, Rawalpindi, Lahore, Multan, Quetta, and Karachi regions are fully operational. PERN-II is also connected with other global Research and Education Networks (RENs) namely Internet2, GEANT2, and TEIN3 through an International Private Leased Circuit" (Pakistan Education and Research Network, 2015, p.1). PERN-II provides the following services; Internet services, National Digital Library, Video/VoIP, Local Content Hosting (Cloud Services), Unified Communication Services and Eduroam (Federated Wi-Fi network authentication) services.

Due to the above-mentioned PERN services, students can freely use the internet in nearly all public sector universities for enhancing their academic output (Rafiq and Ameen, 2012). Furthermore, the objective of the current Prime Minister Laptop Scheme is to provide free Laptops to students through the Higher Education Commission of Pakistan in an attempt to promote the scope of accessibility and usability of information in education and research (Higher Education Commission, 2012a). Similarly, different multinational telecom companies such as WorldCall, Wateen, and Wi-Tribe offer a variety of internet packages at minimal charges to students and on the other hand the prices of computers are also

decreasing in Pakistan (Sheikh, 2013). Niaz (2012) opined that the mobile youth market in Pakistan was getting saturated. He further put forth that the younger generation was mainly using the mobile internet facility for using Facebook, chatting online and accessing e-mail services. Yousaf (2012) also stated that the youngsters of the country were the most passionate chatters on the internet, communicating with friends and family members around the globe.

The above discussion shows that due to the technological applications in the country, internet accessibility has become a possibility for most of the people in Pakistan. Furthermore, due to the proactive role of the government since the late 1990s and initiation of many e-government projects like e-banking, e-commerce and e-education and e-health service the use of the internet has become very common especially among the student community. They can access and use the internet not only in their educational institutions but also on their mobiles at home. The use of the internet has made students dependent on the internet as a medium for sharing ideas, building communication networks as well for information search and retrieval. Internet is being used as a key channel for the entire information flow. However, it has been noted by some previous researchers including Kirkup (1995); Ford and Miller (1996); Shashaani (1997); Brosnan and Lee (1998); Saghir, Ashfaq and Noreen (2009); Asdaque, Khan, and Rizvi (2010); Ani (2010); Khan, Bhatti, and Khan (2011); Khan, Khan, and Bhatti (2011), and Yousaf (2012), that there was evidence on gender disparity, cultural and social constraints, and physical as well as psychological issues in the use of the internet that affected the academic and social activities of the students. Furthermore, Youssef and Dahmani (2008) have also revealed that the relationship between internet use and students' performance was not clear and that there were contradictory results in the literature. Besides, a local research study by Malik and Mahmood (2009) illustrated that since the internet advancements are happening regularly, it is, therefore, necessary to investigate the internet usage of educational professionals and learners from time to time in different settings to get an appraisal of the overall academic environment.

The government of Pakistan, since its inception has been trying hard to provide a wide range of educational opportunities to the young inhabitants of the Khyber Pakhtunkhwa (KP) province by establishing new universities in different parts of the province. Currently, there are a total of fifteen public sector general universities in KP. These universities are providing higher education to both male and female students in a variety of disciplines. These universities offer campus-wide high-speed internet connectivity along with other facilities required for users in higher education institutions. The KP universities in possession of the PERN connectivity offer high-speed campus-wide online access to thousands of scholarly journals via the HEC National Digital Library to their students and researchers. Also, the federal and provincial governments and HEC have spent millions of rupees to develop the IT infrastructure of these universities.

The study of local literature has affirmed that the government's efforts in providing internet facilities to the university students are commendable but, many studies (Ameen and Gorman, 2009; Ansari and Zuberi 2010; Arif and Kanwal 2009; Bhatti, 2010; Khan and Ahmed, 2013; Ullah, 2007; Warriach and Ameen 2010; and Warriach and Tahira, 2009) have reported low usage of online educational resources. Similarly, many studies (Anasi, 2006; Omotayo, 2006; Anunobi and Mbagwu, 2009; Pee, 2009; Dange, 2010; Shen and Khalifa, 2010; Coniglio, et al., 2012; Abedalaziz, Jamaluddin and Leng, 2013; and Adekunmisi, Ajala, and Iyoro, 2013; Ayub, Hamid and Nawawi, 2014) have been conducted around the globe on the use of the internet by students. Coniglio, et al, (2012) investigated the Italian university students' internet usage and found that majority of the students used internet for e-mail, chatting and communication with friends on daily basis. Abedalaziz, Jamaluddin, and Leng (2013) found in their study that variables like age, gender, ethnicity, and field of study affect students' behavior towards the use of the internet. Purushothaman (2013) discovered barriers in using internet technology by females in developing countries. These included lack of awareness and expertise to use the internet, technophobia, internet self-efficacy, and lack of motivation. Adekunmisi, Ajala, and Iyoro (2013) revealed that a majority (91.5%) of

the Nigerian students being internet literate, used the internet for educational purposes but, due to inadequate internet facilities on campus they were forced to visit internet cafes run by private owners for economic gains outside the campus. Ayub, Hamid and Nawawi (2014) found that for social science students in Malaysian institutions of higher learning, a weak but significant positive correlation existed between the overall time spent online and the time spent on the Internet for academic purposes. Renuka and Gurunathan (2017) concluded in their study that undergraduate students have sufficient knowledge regarding compute and the internet usage; however, they used the internet more for personal use than academic purposes. In addition to that several other studies (Helton, 2011; Wanakak, 2011; Al-Rahimi and Othman, 2013; Saisan, et. al., 2013; and Usman, Alavi and Shafiq, 2014) have also explored the relationship of internet and academic performance of students. However, the survey of local literature showed a scarcity of research conducted locally to explore this topic. In Pakistan, the studies conducted on the use of the internet by students are that of Bashir (2006); Saghir, Ashfaq and Noreen (2009); Asdaque, Khan and Rizvi (2010); Khan, Bhatti and Khan (2011); Khan, Khan and Bhatti (2011); Yousaf (2012); and Sheikh, Ismail, Khan and Khan (2013). Bashir, Mahmood, and Shafique (2008) surveyed internet use of university students and discovered that students used the internet mainly for academic purposes such as preparing class assignments, research projects, and preparing for examinations, as well as for non-academic purposes such as entertainment, reading news, and purchases. Asdaque, Khan and Rizvi (2010) found that internet use has greatly affected the academic achievements of the students. The researchers' efforts of finding any such study that has investigated the impacts of the internet on the academic success of university students in Khyber Pakhtunkhwa, Pakistan were unfruitful. Furthermore, the local literature also showed scarcity regarding such empirical studies. Therefore, a need was felt to conduct this study not only to examine the Social Science students' internet usage patterns and barriers they faced in the use of the internet but also to assess their level of internet use skills and the overall impact of internet use on their academic success.

1.2 Methodology

A quantitative research design was chosen by adopting a survey method to address the objective of the study. A survey is a positive way to study the characteristic of a large and dispersed population without its listing and relatively at low cost (Busha and Harter, 1980; Koh and Owen, 2000; Powell and Connaway, 2004). Another reason for choosing this method was that it has been used successfully in previous studies of the same nature (Omotayo, 2006; Anunobi and Mbagwu, 2009; Rosen, Stefanone and Lackaff, 2010; Khan, Khan and Bhatti, 2011; and Adekunmisi, Ajala, and Iyoro, 2013) thus, the survey methodology was used in this study.

1.2.1 Population

The population of the study was comprised of all the Social Science University students studying in the final year/semester in the academic year 2016-2017 in the fifteen public sector universities in KP. The students studying in their final years/semester were selected for two main reasons, one that in most of the disciplines of social sciences 'research thesis' is compulsory at this stage and secondly free Lap Tops under Prime Minister Schemes are also distributed among the students in the final year. Moreover, five universities (the University of Peshawar, University of Malakand, University of Mansehra, Gomal University, D. I. Khan and Abdul Wali Khan University, Mardan) were selected based on facts that these were oldest among fifteen universities, accessible to researcher and have the disciplines of social sciences (Statistics, Economics, Law, Political science, and English literature), from which the researchers wanted to collect data.

(Insert Table 1 here)

The sample size for the study was determined by using a 95% confidence level and a 5% margin of error. The sample 'n' was calculated through an online sample size calculator for the 1435 dispersed population (Creative Research System, 2012). The calculated sample size was 303 out of 1435 students. Thus the researcher distributed survey instruments among 303 students in the selected universities.

1.2.2 Sampling Technique

In this study proportionate stratified sampling technique was used to determine the proportion of sample out of the total sample size $N=1435$ in each selected university (considered as a stratum). To determine the number of elements in each stratum the researcher applied the formula $n_i = n \times N_i/N$ (<http://stattrek.com>). This sampling technique was adopted as there were different numbers of M.A students in the faculties of Social Sciences. Furthermore the same stratified sampling technique was also used in the previous similar studies (Dange (2010); Alabi, (2013) and Ayub, Hamid and Nawawi (2014).

(Insert Table 2 here)

1.2.3 Development of Survey Instrument

A questionnaire was self-designed to gather data needed to answer the research questions. It has four sections: (1) demographic information of the respondents including their Grade Point Average; (2) Internet use patterns including, purposes of internet use, the use frequency of internet resources and activities, and respondents' satisfaction from the internet resources; (3) Internet usage skills and experience; and (4) barriers faced by the university students in the use of the internet.

Expert Review and Pilot Testing: The draft instrument was reviewed by a panel of five Library and Information Science experts for content validity and review. The instrument was then revised with minor changes in response to the feedback received from experts. The revised version was examined and used for the pilot study by forty M.A./M.Sc students, fifteen males, and fifteen females students, selected non-randomly for the pilot study. They were requested to provide comments and suggestions regarding the questionnaire. Only minor changes were suggested which were incorporated to finalize the questionnaire.

1.3 Research Questions

This study was a part of extensive research carried out in the completion of the Ph.D. degree of the 1st author. The following research questions were addressed in this study:

1. What are the internet use patterns of Social Science University students in KP?
2. What are university students' internet usage skills?
3. What correlation internet use has with academic success/CGPA of Social Science students in KP universities?
4. What barriers do students face in the use of the internet?

1.4 Findings

The findings of this study, according to the targeted objective, are presented below:

1.4.1 Response Rate

A total of 303 questionnaires were distributed personally and by post among Social Sciences graduate students in the five selected universities of KP. Out of 303 instruments a total of 200 instruments were received back that gives a response rate of 66%.

1.4.2 Demographics of the Respondents

The data in Table 3 shows that the male ratio of 68.5% was more than the double of female ratio 31.5% in the following universities of KP. The largest group of the students 91(45.5%) belong to the age group 21-23 years while, the second largest group was 64(32%) having age between 24-26 Years. There were fewer students i.e. 14 (7%) having 27+ years of age.

It was encouraging that majority of the students 147(73.5%) had CGPA in between 2.50 to 3.50. There were only 23 (11.5%) students who had CGPA less than 2.51. Similarly, the data outlined that majority of the students 134(67%) possessed personal computers but, it was a matter of serious concern that about 66(33%) of the students did not have personal computers in- spite of the low prices of

computers in the country and Prime-minister free lap-top scheme in the public sector universities. Moreover, the majority (72.5%) of the graduate Social Science students had three or more than three years of internet-use experience. There were only 17 (8.5%) respondents with one year of internet-use experience.

(Insert Table 3 here)

1.4.3 Internet Use Purposes of Social Science Students

The participants were asked to specify the level of their agreement with each purpose for which they used the internet. The Mean scores and standard deviations derived for each purpose of internet usage are presented in Table 4. It shows that social science graduates used the internet mainly for email (Mean= 4.05), for accessing Social Networking Sites (SNS), which are online platform for user interaction like Twitter, Facebook etc, and to complete assignments and research projects with nearly the same Mean scores of 4.04. They also reported to use the internet for a chat with friends and family members (Mean= 3.95), watching movies/dramas/shows/photographs with a Mean score of 3.92. Students also confirmed the use of the internet for 'searching admissions and scholarships and read e-newspapers and general magazines with a Mean score of 3.68.

They also agreed to use the internet for downloading software (Mean= 3.83) followed by watching sports (Mean= 3.61). Students did not give any opinion in positive or negative regarding the rest of internet use purposes.

(Insert Table 4 here)

1.4.4 The Respondents Use Frequency of Internet Resources and Activities

The use frequencies of different internet resources and activities (Table 5) revealed that electronic encyclopedia, dictionaries, and other reference material were on the top (Mean= 4.26); followed by search engines (Mean= 4.12) and e-mail (Mean= 4.08) that were used very frequently as compared to all other

sources. Among other internet resources online chat (Mean= 3.86); SNS (Mean= 3.86); HEC Digital library databases (Mean= 3.83); Photographs and images (Mean= 3.80); audio-visual resources (Mean= 3.78); speeches and lectures available on YouTube (Mean= 3.63); and online music (Mean= 3.63) were used frequently. The frequent use of these resources shows that these were the major type of internet resources that social science students used for fulfilling their information needs. This might be because the students were advised by their teachers and supervisors to use them.

Students reported use of a number of online resources and activities such as research papers delivered in seminars, conferences and workshops (Mean= 3.38); electronic newspapers and magazines (Mean= 3.33); presentations available on Slide-share (Mean= 3.32); electronic theses and dissertations (Mean= 3.12); online movies/dramas/shows (Mean= 3.10); and indexes and abstracts (Mean= 3.02) were occasionally used. It was very surprising that students did not give much importance to the use of blogs, wikis, RSS and Tumblrs (Mean= 2.99); free online databases (Mean= 2.98); free software (Mean= 2.94); free e-books (Mean= 2.82); technical reports (Mean= 2.43); and Google Drive, One Drive) (Mean= 2.29). Therefore, students used these resources rarely.

(Insert Table 5 here)

1.4.5 Students' level of satisfaction obtained from the use of internet resources and activities

The data in Table 6 confirmed that respondents were very satisfied with the information received from electronic encyclopedias, dictionaries and other electronic reference material with highest Mean score of 4.54 and SNS (Facebook, Twitter...etc.) with a Mean of 4.05. However, they were satisfied with audio-visual resources (Mean= 3.94); electronic newspapers and magazines and electronic thesis and dissertations; speeches and lectures available on YouTube with a Mean score of 3.90. E-mailing got a Mean score of 3.89 and respondents were satisfied with it. Similarly, students were satisfied with the online movies/dramas/shows and free software with a Mean score of 3.89 followed by search engines and

HEC digital library having a Mean score of 3.86. These sources received the highest ranking with almost the same levels for the frequency of use (Table 5).

Satisfaction with the online chat (Mean= 3.81) was higher than free books (Mean= 3.77); and research papers delivered in seminars, conferences and workshops (Mean= 3.76); photographs and images and presentations available on Slide-share (Mean= 3.73) and sports (Mean= 3.72). They were also satisfied with online music and free online databases (Mean= 63) and technical reports (Mean= 3.54). Surprisingly, students were silent regarding the satisfaction of these resources; indexes and abstracts (Mean= 2.19); online cloud storage (Mean= 2.86) and blogs, wikis, RSS and Tumblrs (Mean= 2.84). This situation needs to be investigated further.

(Insert Table 6 here)

1.4.6 Students' Level of Internet Use Skills

The students' level of internet use skills (Table 7) were measured on a Likert type scale. The data showed that respondents reported high confidence in skills with respect to using, HEC databases (Mean= 3.86); SNS (Mean= 3.85) and playing online games (Mean= 3.84); using e-mail (Mean= 78); search engines (Mean= 3.74) and online chatting (Mean= 58). Students also have reported moderate level skills regarding uploading and downloading information (Mean= 3.45); using free online line databases (Mean= 2.77) and using online directories (Mean= 2.76). The mean scores for the rest of the internet use skills showed that students reported low expertise in those areas. These findings are similar to the results of Muniandy (2010). Students' skills regarding internet use, which were found to be moderate or low, are also important as the concerned authorities could focus more on offering training programs intended to develop and enhance those skills in the students. To better guide the concerned authorities' in this regard future research is suggested to assess the students' actual levels of internet skills by using any appropriate internet skills scale.

(Insert Table 7 here)

1.4.7 Correlation between respondent's internet use purposes and CGPA

The Spearman's Correlation statistics regarding the internet use purposes and students CGPA (Table 8) showed a significant but negative correlation between the CGPA and two internet use purposes i.e. on-line shopping and trading websites ($r=-.134$) and watching sports ($r=-.141$) having P-value < 0.05 . The more students used the internet for these two purposes, the more the reported reduction in their CGPA. Besides these, no association was observed between the students' CGPA and the rest of the internet use purposes.

(Insert Table 8 here)

1.4.8 Correlation between students' use frequency of internet resources and activities and CGPA

Results of the Spearman's test for correlation values between the CGPA and the use frequency of the internet resources and activities in Table 9 show, that the CGPA had a positive correlation with the use of the internet for indexes and abstracts ($r=.137$) and technical reports ($r=.205$). This indicates that the participants with high CGPA had high use frequency of these resources, while a significant but negative association was found between the students CGPA and the use frequency of electronic encyclopedias, dictionaries and other reference material ($r=-.62$), as it had P-values < 0.05 , meaning that students with high CGPA had low use frequency of electronic encyclopedias, dictionaries, and other reference material. The use frequency of the remaining internet resources and activities had no association with the students' CGPA.

(Insert Table 9 here)

1.4.9 Correlation between students' satisfaction obtained from the use of internet resources and activities and CGPA

To investigate the nature of the association between the social science graduate students' academic success and level of satisfaction they obtained from the use of various internet resources and activities, Spearman's-rho test was applied. The results are displayed in Table 10. The data shows that there were only four significant correlations. Among these there was only one negative association between the CGPA and the level of satisfaction with, e-mailing ($r=-.141$). The remaining three internet resources; free software ($r=.023$), HEC Digital Library ($r=.124$) and electronic thesis and dissertations ($r=.029$) have a positive correlation with CGPA as all of these had P-values of less than .05.

(Insert Table 10 here)

1.4.10 Correlation between students' internet use skills and CGPA

To determine any positive or negative correlation among the listed internet use skills and CGPA, Spearman's Correlation test was run that showed several significant correlations.

A positive ($r=.273$) correlation was found between CGPA and using online directories, as its P-value $< .05$. It means that higher CGPA was associated with a higher level of skill of using online directories. Few negative correlations were also noted between CGPA and uploading and downloading of information ($r=-.148$); using HEC Digital Library databases to download e-books, journals ($r=-.156$). It means that students with high CGPA had a low level of uploading and downloading of information and using HEC databases. The rest of the internet use skills mentioned in (Table 11) did not reveal any significant correlations with students' CGPA as they had P-values > 0.05 . It means these skills neither positively nor negatively affected the students' CGPA.

(Insert Table 11 here)

1.4.11 Barriers Students Face in the Use of the Internet

The graduate students of social science were given a list of possible barriers that they generally face in the use of the internet. Students were asked to indicate the level of their agreement regarding those barriers on a five-point Likert type scale.

The participants' opinions on these barriers are presented in Table 12. The data showed that slow speed of internet (connectivity) (Mean= 3.89), students have less encouragement and restrictions from parents to use internet due to the availability of immoral sites on it, electricity shortage problem (Mean= 3.77), and inadequate knowledge about online e-resources (Mean= 3.72) was the highest-ranked barrier by the respondents. The lack of support from staff working in computer labs and library (M=3.66); difficulty in using the internet due to distance between students and internet stations (M=3.65); the negative attitude of society towards the internet usage (M=3.63); insufficient time available to me to use the internet because of my domestic responsibilities (M=3.48); lack of (workstation) in computer labs/libraries to access the internet (M=3.47); and the problem of too much information to deal with (M=3.44) were also considered as the key barriers in internet use.

The problems about which the respondents' showed a neutral opinion were the cost of the internet; lack of information searching skills; confidentiality and security issues in the use of the internet; language barrier in the use of the internet; anxiety in the use of the internet; computer anxiety; and sexual harassment issues in the use of the internet.

(Insert Table12 here)

1.5 Conclusions and Recommendations

The results concluded that 77.5% of students' age was between 21-26 years. Similarly, male 76% possessing personal computers were higher in number than female 33% accessing personal computers. As for as the CGPA of the students was concerned, a large majority (73.5%) had CGPA in between 2.50-3.50 whereas, only 23(11.5%) students secured CGPA below 2.50. The internet use experience shows that

about 145(72.5%) students had three or more than three years of experience and 84% of students stated that internet use training is very important.

The result regarding students' internet use patterns shows that social science graduates used the internet mainly for e-mailing, SNSs and completing assignments and research projects. However, they also used it for chatting with friends and family members and for entertainment purposes. However, their use of the internet for searching jobs, spending leisure time, shopping and trading, and seeing weather reports was less.

Social Science university students very frequently used electronic encyclopedia, dictionaries, and other reference material, search engines and e-mail followed by the frequently used sources, online chat, SNS, HEC Digital library databases, photographs and images, audio-visual resources, speeches and lectures available on YouTube, and online music. The reason for using these resources frequently was students' satisfaction they had from these resources. They were less satisfied with indexes and abstracts, online cloud storage (Sky Drive, Google Drive, One Drive), and blogs, wikis, RSS and Tumblrs. However, there are some important online educational resources that students used occasionally or rarely such as, research papers delivered in seminars, conferences and workshops, electronic presentations available on Slide-share, electronic theses and dissertations, indexes and abstracts, free e-books, and technical reports.

The research findings further show that respondents report high confidence in using HEC databases, SNS, playing online games, using e-mail, search engines and online chatting. Therefore, they were highly satisfied with and used it frequently. On the other hand they have a moderate level of confidence in uploading and downloading information, using free online databases, online directories, and solving computer-related problems, and organizing and managing files through Google Drive, Sky Drive, and One Drive.

Findings related to correlation between students' internet use and their academic success show that the internet is correlated with CGPA impact, just as, when students used the internet for online shopping and trading websites and watching sports their reported CGPA was lowered. Besides, if they frequently use indexes and abstracts and technical reports their reported CGPA was higher but, it was found that students with high CGPA had less frequent use of electronic encyclopedias, dictionaries and other electronic material. Similarly, respondents' satisfaction with HEC digital library databases, free software and electronic thesis and dissertations' is correlated with higher reported CGPA but, it is important to note that students with high CGPA were less satisfied with e-mailing. As for as the impacts of internet use skills were concerned, the spearman-roh test of relationship shows that students reporting higher CGPA had a low level of using, uploading and downloading information, using online directories, and using HEC databases to download e-books, journals articles, reports. Moreover, overcoming the slow speed of internet, restrictions from parents to use internet due to immoral sites on the internet, electricity problem, inadequate knowledge of online e-resources, lack of support of staff working in computer and labs and library, distance problem, negative attitude of society towards internet usage were identified as the main problem in the use of the internet.

In the light of findings and conclusions drawn, the following recommendations are made to improve the CGPA of social science university students in KP. The students should be facilitated to have their computers either by continuing the Prime-Minister free laptops scheme or by giving easy loans to purchase personal computers. It will also allow students in getting more experience of using computers and the internet and will minimize their computer and internet anxiety. Furthermore, teachers should adopt such teaching pedagogies that influence students to use the internet more for educational purposes rather than entrainment. Teachers' should counsel students not to use the internet for online shopping and watching sports but, use it frequently for consulting technical reports, indexes and abstracts that could enhance their CGPA. As suggested by Usman, Alavi and Shafeq (2014) that the university authorities should conduct seminars, workshops and other similar campaigns for the awareness of the students by

enabling them to make constructive use of the internet that has a good impact on their academic achievements. Mishra, et. al. (2014) recommended re-evaluating the total infrastructure related to the internet facilities (suggesting the use of softwares that monitor internet use or blocks unwanted sites) and formulating rules and policies to train them accordingly in order to engage students more positively in their use of the internet for academic pursuits.

It is also recommended that students should be trained with a focus on skills related to uploading and downloading information, using online directories and HEC databases to download e-books, journal articles, and reports. Training will also enhance the respondent's level of satisfaction with HEC digital library databases, free software, and electronic theses and dissertations and e-mailing. Here, researchers further recommend that the authorities should solve the problem of the slow speed of internet connectivity and electricity problems on a priority basis and make policies and provisions to ban access to immoral sites. As a result, parents will be convinced to allow and encourage their children to use the internet. Moreover, proper marketing strategies will familiarize students with available online educational resources. The training of staff working in computer labs and libraries will enable them to assist the students in the use of academic resources that is relevant to their fields of studies enabling them to grab high CGPA like, HEC digital library databases, electronic thesis and dissertations, free software and so on. Internet facilities should be improved more by providing wireless internet facilities on university campuses that will solve students' distance problems in accessing internet facilities. Media can play a crucial and active role in changing the negative attitude of the society towards the use of the internet by students through different programs and advertisements. Parents can have a key role by advising children to use the internet for academics more than entertainment. Implementing these recommendations will positively impact students' academics in terms of CGPA in the universities of KP. These recommendations can be used by the policymakers, university authorities, faculty/teachers and curriculum developers for improving higher education in the country. Future research is required to find out what accounts for the gender differences in computer possession and internet use, and to investigate that why

the government sponsored provision of laptops have not boosted the internet use of students at these universities.

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Table 1, Population in Five Social Sciences Disciplines in the Selected Universities

University of Peshawar	University of Malakand	University of Mansehra	Gomal University, D.I. Khan	AWKU Mardan	Total
336	329	240	270	260	1435

Table 2, Sample Size of Each University

	University of Peshawar	University of Malakand	University of Mansehra	Gomal University, D.I. Khan	AWKU Mardan	Total
Total Population	336	329	240	270	260	1435
Sample calculated	71	70	51	57	54	303

Table 3, Frequency wise Distribution of Gender, Ownership of PCs, Age, CGPA, Internet use experience and Importance of internet use experience (N=200)

Group	Frequency	Percentage
Gender		
Male	137	68.5%
Female	63	31.5%
Ownership of PCs		
Yes	134	67%
No	66	33%
Age		
Up to 20 years	31	15.5%
21-23 Years	91	45.5%
24-26 Years	64	32%
27+ Years	14	7%
CGPA		
2.0-2.50	23	11.5%
2.51-3.0	60	30%

3.01-3.50	87	43.5%
3.51-4.0	30	15%
Internet use Experience		
1 Years	17	8.5%
2 Years	38	19%
3 Years	58	29%
4 Years	67	33.5%
4 + Years	20	10%
Importance of internet use training	168	84%

Table 4, Student's Internet Use Purposes

Internet use purposes	Mean	Standard
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			Deviation
1	E-mail	4.05	.689
2	Use Social Networking Sites (Facebook, Myspace, Meet me... etc.)	4.04	.811
3	Complete assignments/research projects (download and consult free academic e-resources: e-books/journal's articles/thesis and dissertations/manuscripts/technical reports/ indexes and abstracts etc.)	4.04	.824
4	Chat with friends and family members	3.95	.864
5	Watching movies/dramas/shows/photographs	3.92	.884
6	To search for admissions and scholarships	3.86	.886
7	Read e-newspapers and general magazines	3.86	.855
8	Download software	3.83	.932
9	Watching and listening music (Audio Visual)	3.80	.940
10	Watching sports	3.61	1.155
11	Playing games	3.45	1.129
12	Chatting with the purpose to communicate academic information with teachers/supervisors/colleagues	3.40	1.037
13	Search for jobs	3.21	1.070
14	Spend leisure time	3.15	1.149
15	Use on-line shopping and trading websites	3.03	.995
16	See weather reports	2.80	1.150

Scale: Strongly disagree=1, Disagree=2, No opinion=3, Agree=4, Strongly agree=5

Table 5, Students Use Frequency of Internet Resources and Activities

Information sources and activities available on the internet		Mean	Standard Deviation
1	Electronic encyclopedias, dictionaries and other electronic reference material	4.26	.798
2	Search engines	4.12	.689
3	E-mailing	4.08	.817
4	Online Chat	3.86	.800
5	Social Networking Sites (SNS) (Facebook, Twitter... etc.)	3.85	.804
6	HEC Digital Library databases	3.83	.809
7	Photographs and images	3.80	.897
8	Audio-visual resources	3.78	.882
9	Speeches and lectures available on Youtube	3.63	1.122
10	Online music	3.63	.984
11	Sports	3.43	.980
12	Research papers delivered in seminars, conferences and workshops	3.38	1.056
13	Electronic newspapers & magazines	3.33	1.056
14	Presentations available on Slide-share	3.32	1.083
15	Electronic theses and dissertations	3.13	1.118
16	Online movies/dramas/shows	3.10	1.130
17	Indexes and abstracts	3.02	1.143
18	Using blogs, wikis, RSS and Tumblrs	2.99	1.147
19	Free online databases	2.98	.888
20	Free software	2.94	.753
21	Free e-books	2.82	1.018
22	Technical reports	2.43	1.109
23	Online cloud storage (Sky drive, Google drive, One drive)	2.29	1.080

Scale: Never=1, Rarely=2, Occasionally=3, Frequently=4, Very frequently=5

Table 6, Students Level of Satisfaction Obtained from Internet Resources and Activities available on the Internet

Information resources and activities on the internet		Mean	Standard Deviation
1	Electronic encyclopedias, dictionaries and other electronic reference material	4.54	.542
2	Social Networking Sites (SNS) (Facebook, Twitter... etc.)	4.05	.849
3	Audio-visual resources	3.94	.919
4	Speeches and lectures available on YouTube	3.90	1.020
5	Electronic newspapers & magazines	3.90	.846
6	Electronic theses and dissertations	3.90	.823
7	E-mailing	3.89	.936
8	Online movies/dramas/shows	3.89	.881
9	Free software	3.89	.817
10	Search engines	3.86	.962
11	HEC Digital Library databases	3.86	.750
12	Online Chat	3.81	1.069
13	Free e-books	3.77	.981
14	Research papers delivered in seminars, conferences and workshops	3.76	1.067
15	Photographs and images	3.73	.981
16	Presentations available on Slide-share	3.73	1.054
17	Sports	3.72	1.023
18	Online music	3.63	1.067
19	Free online databases	3.63	.870
20	Technical reports	3.54	1.186
21	Indexes and abstracts	3.19	1.060
22	Online cloud storage (Sky drive, Google drive, One drive)	2.86	1.083
23	Using blogs, wikis, RSS and Tumblr	2.84	1.158

Scale: Very dissatisfied=1, Dissatisfied=2, No opinion=3, Satisfied=4, Very satisfied=5

Table 7, University Students' Level of Internet Use Skills

Internet Use Skills		Mean	Standard Deviation
1	Using HEC databases to download e-books, journals articles, reports	3.86	.954
2	Using the Social Network Sites (Facebook, MySpace, etc.)	3.85	.912
3	Playing online games	3.84	.901
4	Using E-mail	3.78	.809
5	Using Search Engines to find information	3.74	.846
6	Online chatting	3.58	.956
7	Uploading and downloading of information	3.45	1.069
8	Using free online databases	2.77	1.167
9	Using online directories	2.76	1.108
10	Solving computer related problems	2.63	1.118
11	Using RSS, Wikis, Blogs	2.61	1.088
12	Organize and manage files through (Google drive, Sky drive, and One drive)	2.55	1.021
13	Making online shopping and trading	2.54	.929

Scale: Very Low=1, Low=2, Moderate=3, High=4, Very high=5

Table 8 The Correlation between Respondent's Internet Use Purposes and CGPA

Purposes of Internet Use		Spearman's Correlation	P-Value
1	Complete assignments/research projects (download & consult free academic e-resources: e-books/journal's articles/thesis and dissertations/manuscripts/technical reports/indexes and abstracts.)	-.104	.141
2	Download software	-.075	.293
3	E-mail	-.067	.343
4	Chatting with the purpose to communicate academic information with teachers/supervisors/colleagues	.021	.765
5	To search for admissions and scholarships	-.053	.456
6	Use Social Networking Sites (Facebook, Myspace, Meet me... etc.)	-.080	.275
7	Read e-newspapers and general magazines	-.071	.361
8	Chat with friends and family members	-.098	.167
9	See weather reports	.116	.102
10	Spend leisure time	-.009	.897
11	Search for jobs	.074	.295
12	Use on-line shopping and trading websites	-.134	.055*
13	Watching movies/dramas/shows/photographs	.072	.363
14	Watching and listening music (Audio Visual)	-.131	.065
15	Watching sports	-.141	.046*
16	Playing games	-.018	.801

*Correlation is significant at the 0.05 level.

Table 9, The Correlation between Student's Use Frequency of Internet Resources and Activities and CGPA

Internet resources and activities		Spearman's Correlation	P-Value
1	Free e-books	-.065	.359
2	Free online databases	.053	.458
3	HEC Digital Library databases	-.079	.264
4	Free software	-.080	.260
5	Electronic theses and dissertations	.037	.607
6	Indexes and abstracts	.137	.054*
7	Electronic encyclopedias, dictionaries and other electronic reference material	-.162	.022*
8	Technical reports	.205	.004*
9	Electronic newspapers & magazines	.105	.146
10	Research papers delivered in seminars, conferences and workshops	.046	.516
11	Presentations available on Slide-share	.135	.056
12	Speeches and lectures available on YouTube	.020	.799
13	E-mailing	-.086	.225
14	Online cloud storage (Sky drive, Google drive, One drive)	.103	.147
15	Online Chat	-.100	.161
16	Social Networking Sites (SNS) (Facebook, Twitter... etc.)	.050	.484
17	Using blogs, wikis, RSS and Tumblrs	-.073	.304
18	Online movies/dramas/shows	.061	.388
19	Online music	.033	.963
20	Sports	-.017	.807
21	Photographs and images	.065	.361
22	Audio-visual resources	-.028	.695
23	Search engines	.093	.192

*Correlation is significant at the 0.05 level.

Table 10, Correlation between Students' Satisfactions Obtained from the Use of Internet Resources and Activities and CGPA

Internet resources and activities		Spearman's Correlation	P-Value
1	Free e-books	.004	.959
2	Free online databases	-.018	.802
3	HEC Digital Library databases	.124	.045*
4	Free software	.161	.023*
5	Electronic theses and dissertations	.154	.029*
6	Indexes and abstracts	.022	.762
7	Electronic encyclopedias, dictionaries and other electronic reference material	.112	.115
8	Technical reports	.037	.602
9	Electronic newspapers & magazines	.041	.568
10	Research papers delivered in seminars, conferences and workshops	-.011	.878
11	Presentations available on Slide-share	-.099	.163
12	Speeches and lectures available on YouTube	-.085	.299
13	E-mailing	-.141	.042*
14	Online cloud storage (Sky drive, Google drive, One drive)	.099	.163
15	Online Chat	.155	.106
16	Social Networking Sites (SNS) (Facebook, Twitter... etc.)	-.092	.195
17	Using blogs, wikis, RSS and Tumblr	.079	.266
18	Online movies/dramas/shows	.198	.155
19	Online music`	.089	.211
20	Sports	.091	.198
21	Photographs and images	.038	.589
22	Audio-visual resources	.951	.180
23	Search engines	.011	.879

*Correlation is significant at the 0.05 level

Table 11 The Correlations between Student's Internet Use Skills and CGPA

Internet use skills	Spearman's correlation	P-value
1 Using E-mail	-.106	.136
2 Using Search Engines to find information	-.043	.543
3 Uploading and downloading of information	-.148	.036*
4 Using the Social Network Sites (Facebook, MySpace, etc.)	-.109	.126
5 Online chatting	-.048	.500
6 Organize and manage files through (Google drive, Sky drive, and One drive)	-.082	.251
7 Solving computer related problems	.103	.145
8 Using RSS, Wikis, Blogs	.070	.327
9 Using online directories	.273	.000*
10 Using Free online databases	-.030	.437
11 Using HEC databases to download e-books, journals articles, reports	-.156	.027*
12 Playing online games	-.039	.580
13 Making online shopping and trading	.128	.072

*Correlation is significant at the 0.05 level

Table12, Barriers Students Faced in the Use of Internet

Barriers	Mean	Standard Deviation
1 Slow speed of internet (connectivity)	3.89	1.067
2 Students have less encouragement and restrictions from parents to use internet due to the availability of immoral sites on the internet	3.77	1.103
3 Electricity shortage problem	3.77	1.151
4 I lack adequate knowledge about online e-resources	3.72	1.261
5 Lack of support from staff working in computer labs and library	3.66	1.213
6 Difficulty in using the internet due to distance between me and internet stations	3.65	1.142
7 The problem of negative attitude of society towards the internet usage	3.63	1.162
8 I can't use internet due to insufficient time available to me because of my domestic responsibilities	3.48	1.219
9 Lack of (workstation) in computer labs/libraries to access internet	3.47	1.169
10 The problem of too much information to deal with	3.44	1.172
11 I can't afford the cost of internet	3.17	1.341
12 I lack information searching skills	3.16	1.289
13 I face confidentiality and security issues in the use of internet	3.14	1.306
14 I face language barrier in the use of internet	3.14	1.252
15 I feel nervousness/anxiety in using internet	3.11	1.374
16 I feel the computer anxiety(fear in the use of computer)	3.10	1.347
17 I feel sexual harassment problems	3.00	1.402

Scale: Strongly disagree=1, Disagree=2, No opinion=3, Agree=4, Strongly agree=5