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Discover the Impact of Internet Usage on the Academic Performance of Library and Information Science Students

Ghazala Anjum, Muhammad Asad Akram Bhatti*

Minhaj University Lahore, Pakistan
*Correspondence: E-mail: asad.crd@mul.edu.pk

ABSTRACT

The internet is an incredibly powerful tool that has transformed the way we communicate and is now an essential component of modern education. Recently, a research study was conducted to investigate the impact of internet usage on academic performance among students in the IM/LIS field. The study revealed that while participants used the internet for a variety of purposes, such as email, social networking, chatting, and leisure activities, they also faced significant obstacles, such as cybercrime and slow internet speeds. Despite these challenges, the study's results provide valuable insights into potential areas for improvement. By acknowledging the barriers and difficulties that students encounter when using the internet, educators and policymakers can act to enhance internet skills and increase overall accessibility. Together, we can strive to create a more secure and efficient online environment that empowers students to excel in their academic pursuits.

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1. INTRODUCTION

The world today is heavily reliant on Information Technology (IT) in every aspect of life (Javed *et al*., 2022; Dwivedi *et al*., 2020; Ullah & Lai, 2013). One of the most crucial components of IT is the Internet, which connects billions of computers and devices, enabling us to receive and share information seamlessly (Li *et al*., 2017; Alvi *et al*., 2015; Naughton, 2016). The Internet has transformed the world into a global village, with other studies defining it as a large computer network made up of thousands of interconnected networks that offer a vast array of services such as file transfers, database access, and many others (Hura, 1998; Campbell-Kelly & Garcia-Swartz, 2013).

The Internet is a fundamental element of the digital revolution and plays a vital role in resource sharing and service delivery worldwide (Golwala, 2024). According to James (2005), it is not just a worldwide broadcasting capability, but also a means of information dissemination and a medium for collaboration and interaction between individuals and their computers, regardless of their geographic location. In recent decades, the public has heavily utilized Internet technology for education, communication, information retrieval, and entertainment.

The use of the Internet in Pakistan was started when the Internet was commercially obtainable globally. The "DG Com Company" was started first-time email services in "Islamabad", "Lahore", "Karachi", "Faisalabad", and "Peshawar". Email services and online conversation became popular particularly in the young population of Pakistan after the revolutionary changes in 1995 (Manzoor *et al*., 2021). The Pakistan Government also paid great attention to the spreading of Internet facilities in the country. The use of Internet services rapidly increased when Micro-net Broadband launched the DSL services in Pakistan in 2001. Pakistan Telecommunication Limited (PTCL) and Naya Tel started and offered fiber into the broadband sectors for home services after the "PTCL" upgraded it to "EVO-3G" in the year 2009 (Jamil, 2021; Nashit *et al*., 2018).

However, the number of broadband users was not high because the technology was available only in big cities of Pakistan. The launch of new technologies including 3G and 4G set a new trend in Pakistan. As a result of this advancement, there is an increased mobile bandwidth requirement (Akram, 2014). Nowadays, the "Higher Education Commission" (HEC) of Pakistan provides services to "National Digital Library" (NDL). The NDL of HEC is facilitating the researchers to access globally high-quality peer-reviewed journals and databases of different fields. These services are being provided by HEC through the use of the Internet. The NDL of HEC also provides access to online books, and reference databases (Fatima Warraich & Ameen, 2010).

2. LITERATURE REVIEW

A review of the literature is an essential part of any investigation. It strengthens the investigator to understand the current topic and present the past knowledge regarding the selected topic. The past knowledge enables the researcher to establish the research gaps. Past studies also play a key role in understanding the selected topic. The name of the department that is under investigation has been changed from Library & Information Science (LIS) to Information Management (IM) in 2014. The literature is discussed according to the objectives of the study which topic is "Effects of Internet Use on Academic Performance of IM/LIS Students of the University of the Punjab".

The study undertaken by Chisenga (1999) aimed to investigate the utilization of the Internet for professional development among a sample of 47 librarians in Sub-Saharan Africa.

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The results indicated that although the Internet plays a crucial role in enhancing professional growth, there was a restricted availability of online resources. The lack of ICT competencies, computer shortages, and unavailability of Internet services resulted in limited access to online journals, discussion groups, and other web facilities. Nevertheless, the research demonstrated that librarians acknowledged the capacity of the Internet to enable professional networking and the exchange of information and resources. These findings emphasize the significance of allocating resources towards ICT infrastructure and training to empower librarians to fully utilize the Internet for their professional growth.

An assessment of the level of information and communication technology (ICT) literacy among librarians in Delta State, Nigeria was also undertaken. The study unveiled that while a majority of librarians know diverse communication technology, including cell phones, emails, and fax, the majority of libraries lacked computerization. Significantly, while the majority of librarians possessed proficiency in utilizing the internet, they were not effectively utilizing it for official responsibilities, resulting in a lack of drive to enhance their ICT skills. As a result, the study suggests that librarians should participate in ICT training programs to improve their ICT skills (Ugboma, 2006).

A study was undertaken in 2007 assessed the ICT-level abilities of librarians working in libraries located in the city of Chandigarh. The objective of the study was to examine the utilization of information and communication technologies (ICTs) by librarians, ascertain the challenges encountered in their ICT usage, and ascertain their requirements for training. The results indicated a deficiency in information and communication technology (ICT) skills among librarians, as well as a dearth of comprehensive ICT training initiatives inside the examined university libraries. Consequently, the study suggested that libraries should implement comprehensive ICT training programs that specifically target the observed deficiencies and difficulties to improve the ICT skills of librarians (Ali *et al*., 2024; Onohwakpor, 2022).

In 2003, a study was undertaken to examine the influence of high-speed internet on the academic achievement of students attending public colleges situated in the Southeastern areas. A random sample of 364 pupils was chosen from a population of around 5000 students for the study. The data was gathered using a focus group methodology during the investigation. According to the findings of the study, the overutilization of instant messaging might detrimentally affect a student's capacity to focus on their academic tasks due to the presence of numerous internet distractions. The findings of the study indicate a modestly favorable impression of internet usage among academics, which was notably linked to an internal locus of control about academic endeavors (Matthews & Schrum, 2003). Based on the aforementioned findings, the researchers propose the adoption of suitable techniques aimed at assisting undergraduate students in effectively managing their use of high-speed internet to attain their academic objectives.

At the National University of Science and Technology (NUST), Islamabad, Akhter (2013) conducted a study to examine the correlation between Internet addiction and academic achievement among undergraduate students. The researchers employed the convenience sampling technique to choose the participants. He employed a questionnaire as a means of gathering data. The survey was disseminated to a total of 400 students, however, only 259 students provided comments. The researcher observed a substantial correlation between Internet addiction and the academic performance of the students. The utilization of the Internet had a detrimental impact on the academic achievement of undergraduate students at universities. The survey also revealed that male participants exhibited a higher prevalence of Internet addiction in comparison to their female counterparts. Ultimately, he determined that Internet addiction is not a significant issue, but rather a gradual escalation among pupils.

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The individual proposed that the scope of this study be restricted to a single institution, to assess the extent of Internet addiction among students.

3. METHODS

The main objective of the study was to examine the impact of Internet usage on the academic performance of students majoring in IM/LIS. To accomplish this aim, the study was formulated with four primary objectives: to analyze the utilization patterns of the Internet among IM/LIS students, ascertain the favorable and unfavorable effects it has on their academic achievements, assess the Internet-related proficiencies of IM/LIS students, and investigate the obstacles they encounter when utilizing the Internet. The research employed a quantitative methodology to collect data and achieve the stated objectives.

A cohort of 112 students, who were registered in DOIM at the University of Punjab, was surveyed to collect data. The data-gathering process utilized a survey instrument consisting of 66 items distributed across five sections. This instrument underwent a comprehensive evaluation by three esteemed experts in the respective subject. Among the participants, 38 identified as male, whereas 74 identified as female. The data analysis involved the utilization of an independent t-test through the SPSS software. The findings were thereafter displayed in both tabular and graphical versions.

4. RESULTS AND DISCUSSION

4.1. Demographic information

The results revealed that a majority of the participants, specifically 99 individuals (88.4%), were registered in the MLIS program, whereas M.Phil 07 individuals (6.3%) and Ph.D. 06 individuals (5.4%) were not. The further results revealed that a majority of the participants, specifically 58 individuals (51.8%), were registered for the initial semester. Out of the total responders, 41 individuals (36.6%) were registered for the third semester, whereas 13 individuals (11.6%) were registered for the second semester.

The results indicated that a majority of the participants, specifically 74 individuals (66.1%), were female, while 38 individuals (33.9%) were male. Most of the participants fell within the age range of 21-25, as indicated by the findings. Out of the total responses, 38 individuals (33.9%) fell into the age range of up to 20, while 6 individuals (5.4%) belonged to the age group of 26-30 and above 31 years.

The findings in **Table 1** indicated that a majority of the participants, specifically 52 individuals (46.4%), utilized cell phones for Internet access, whereas 35 individuals (31.3%) relied on computers. Out of the respondents, 66 individuals (58.9%) utilized the Internet at home, whereas 27 individuals (24.1%) used it in the library. The findings indicated that a significant proportion of the participants, specifically 82 individuals (73.2%), had not engaged in any form of Internet usage training. The majority of the participants, specifically 56 individuals (50.0%), said that they had been utilizing the Internet for 1-5 years. Conversely, 32 respondents (28.6%) reported using it for 6-10 years. The findings indicated that 32 respondents (37.5%) had a CGPA ranging from 3.01 to 3.50, while 34 respondents (30.4%) had a CGPA ranging from 3.5 to 4.00.

4.2. Purposes of internet use

The results in **Table 2** indicated that two assertions had a mean value greater than 4.00, whereas 11 statements had a mean value greater than 3.00. The results indicated that a majority of the participants reported utilizing the Internet for purposes such as "Email"

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(mean=4.14) and "Social networking sites" (mean = 4.12). A substantial cohort of participants utilized the Internet for various purposes, including engaging in conversations with friends and family members (mean = 3.96), engaging in leisure activities (mean = 3.81), exchanging academic information with educational professionals, supervisors, and colleagues (mean=3.80), and doing job searches (mean = 3.79). The results indicated that the words "see weather report" and "to do the online job" had respective mean scores of 3.32 and 3.16, which were the lowest among the other statements.

Table 1. Demographic (N = 112).

Variables	Levels	Frequency	Percentage
Devices used to access the Internet	Smart Phone	52	46.4
	Laptop	35	31.3
	All	13	11.6
	PC	12	10.7
Where do you usually use the Internet?	Home	66	58.9
	Library	27	24.1
	All	18	16.1
	Internet Cafe	1	0.9
Have you received any training regarding the usage of the Internet?	No	82	73.2
	Yes	30	26.8
For how long have you been using the Internet?	1-5	56	50.0
	6-10	32	28.6
	11-15	13	11.6
	Above 15	11	9.8
CGPA	3.01-3.50	42	37.5
	3.51-4.00	34	30.4
	2.51-3.00	28	25.0
	2.00-2.50	8	7.1

Table 2. Pupose of internet use (N = 112).

Sr.#	Statements	Mean	SD	Rank
a	E-mails	4.14	0.91	1
b	Use social netrorking sites (Facebook, What's App, Instagram, and Twitter etc.)	4.12	0.99	2
c	Chat with friends and family members	3.96	1.11	3
d	Spend leisure time (movie, sports, games, music, etc.)	3.81	1.15	4
e	Chatting to communicate academic information with teachers, supercisors, colleagues	3.80	1.03	5
f	Search for jobs	3.79	1.08	6
g	Download software	3.75	1.02	7
h	Search for admissions and scholarships	3.71	1.04	8
i	Complete assignments/research	3.67	1.24	9
j	Use online shopping and trading websites	3.34	1.11	10
k	Read e-newspapers and general magazines or online jobs	3.33	1.08	11

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Table 2 (continue). Pupose of internet use (N = 112).

Sr.#	Statements	Mean	SD	Rank
l	See weather reports	3.32	1.14	12
m	To do online jobs	3.16	1.27	13

4.3. Time spent on the internet

The results presented in Table 3 indicate that seven assertions obtained a mean score greater than 2.00, whereas the remaining statements obtained a mean score less than 2.00. The statistical analysis using SPSS reveals that a majority of the participants reported spending 1-3 or 4-6 hours per week on the Internet for various purposes. These purposes include engaging with social networking sites (mean = 2.48), communicating with friends and family members (mean = 2.34), spending leisure time (mean = 2.33), accessing weather reports (mean = 2.11), and communicating academic information with teachers, supervisors, and colleagues (mean = 2.06). In general, the claims exhibited the lowest mean values, indicating that the respondents allocated their most recent weekly time to Internet usage.

Table 3. Time spent on the internet (N = 112).

Sr.#	Statements	Mean	SD	Rank
a	Use social networking sites (Facebook, What's App, Instagram, and Twitter, etc.).	2.48	1.29	1
b	Chat with friends and family members	2.34	1.34	2
c	Spend leisure time (movie, sports, games, music, etc.)	2.33	1.29	3
d	See weather reports	2.11	1.31	4
e	Chatting with the purposes to communicate academic information with teachers, supervisors, colleagues	2.06	1.12	5
f	Use online shopping and trading websites	2.06	1.29	6
g	Search for jobs	2.05	1.31	7
h	Complete assignments/research	1.93	1.16	8
i	To do online jobs	1.87	1.21	9
j	Read e-newspapers and general magazines or online jobs	1.73	1.10	10
k	Search for admissions and scholarships	1.66	0.98	11
l	E-mails	1.66	1.08	12
m	Download software	1.57	0.92	13

4.4. Skills for internet use

The findings (**Table 4**) revealed that eleven out of thirteen statements had a mean greater than 3.00, whereas two statements had a mean less than 3.00. The results indicated that a significant proportion of the participants possessed advanced proficiency in various areas, including utilizing social networking sites (mean = 3.72), engaging in information uploading and downloading (mean = 3.66), participating in online chatting (mean=3.64), utilizing search engines for information retrieval (mean = 3.62), utilizing HEC databases for downloading e-books, journals, articles, and reports (mean = 3.25), utilizing email (mean = 3.21), and utilizing online directories and dictionaries (mean = 3.20). The findings revealed that a significant proportion of the participants possess advanced proficiency in utilizing the Internet.

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Table 4. Skills for internet use (N = 112).

Sr.#	Statements	Mean	SD	Rank
a	Use social networking sites (Facebook, What's App, Instagram, and Twitter, etc.).	3.72	1.17	1
b	Uploading and downloading of information	3.66	1.05	2
c	Online chatting	3.64	1.09	3
d	Using search engines to find information	3.62	1.08	4
e	Using HEC databases to download e-books, journals, articles, and reports	3.25	1.24	5
f	Using e-mail	3.21	1.29	6
g	Using online directories and dictionaries	3.20	1.06	7
h	Using free online databases	3.18	1.12	8
i	Organize and manage files through Google Drive, Cloud Drive, and One Drive	3.08	1.15	9
j	Making online shopping and trading	3.08	1.33	10
k	Solving computer-related problems	3.05	1.18	11
l	Using RSS, Wikis, Blogs	2.79	1.19	12
m	Playing online games	2.97	1.31	13

4.5. Barriers to the use of the internet

The results presented in **Table 5** indicate that two assertions obtained a mean score greater than 3.00, whilst sixteen claims obtained a mean score less than 3.00. The results indicated that participants encountered various obstacles, such as "cyber-crime (hacking & privacy) concerns" (mean = 3.06), "sluggish Internet speed" (mean = 3.00), "insufficient parental support and restrictions for Internet usage due to the presence of immoral websites" (mean = 2.94), "language barrier in Internet usage" (mean = 2.92), "confidentiality and security concerns in Internet usage" (mean = 2.86), and "electricity shortage problem" (mean = 2.82).

Table 5. Barrier in the use of the internet (N = 112).

Sr.#	Statements	Mean	SD	Rank
a	Cyber-crime (hacking and privacy) issues	3.06	1.10	1
b	Slow speed of internet (connectivity)	3.00	1.21	2
c	Students have less encouragement and restrictions from parents to use the internet due to the availability of immoral sites on the internet	2.94	1.20	3
d	I face a language barrier in the use of the internet	2.92	1.19	4
e	I face confidentiality and security issues in the use of the internet	2.86	1.12	5
f	Electricity shortage problem	2.82	1.26	6
g	The problem of the negative attitude of society towards internet usage	2.78	1.21	7
h	I feel sexual harassment problems or cyber-crime (hacking and privacy) issues	2.77	1.34	8

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Table 5 (continue). Barrier in the use of the internet (N = 112).

Sr.#	Statements	Mean	SD	Rank
i	Difficulty in using the internet due to distance b/w me and internet stations	2.75	1.17	9
j	I can not use the internet due to insufficient time available to me because of my domestic responsibilities	2.74	1.16	10
k	The problem of too much information to deal with	2.63	1.13	11
l	Lack of (workstation) in computer labs/libraries to access the internet	2.61	1.07	12
m	I feel the computer anxiety (fear in the use of a computer)	2.55	1.12	13
n	Lack of support from staff working in computer labs and library	2.52	1.15	14
o	I can not afford the cost of the internet	2.47	1.09	15
p	I lack adequate knowledge about online e-resources	2.42	1.18	16
q	I feel nervouseness/anxiety in using the internet	2.41	1.07	17
r	I lack information searching skills	2.27	1.07	18

Overall, all the statements got the lowest mean which indicates that the majority of the respondents faced the least problems in the use of the Internet.

4.6. Discussion

The study aimed to investigate the Internet usage patterns of instant messaging (IM) students. The research findings indicate that participants utilized the Internet for various activities such as engaging in email correspondence, participating in social networking platforms, engaging in conversations with acquaintances and relatives, and engaging in recreational pursuits. A significant proportion of the participants are utilizing the Internet primarily for recreational activities rather than for educational endeavors. This is due to a lack of training and guidance regarding the beneficial and bad use of the Internet (Zhang *et al*., 2015; Marchant *et al*., 2017; Rozental *et al*., 2014; Rahman *et al*., 2020; Akaf, 2015). Most of the participants possess the proficiency to utilize the Internet mostly for social networking platforms rather than for scholarly endeavors. There exists a pressing necessity to augment their expertise set (Veletsianos *et al*., 2013; Knobel & Lankshear, 2008; Greenhow & Robelio, 2009; Buhalis & Law, 2008). Library associations should take the lead and initiate training programs for them. The findings indicated that a significant proportion of the participants were allocated a reduced amount of time to online activities for academic pursuits. To foster a genuine interest in using the Internet for academic endeavors, it is imperative for educators and parents to actively promote its usage among students. A significant proportion of the participants indicated that the Internet speed within the departmental library was notably suboptimal. The IM department's administration should optimize the Internet's speed.

5. CONCLUSION

The current study aimed to examine the impact of Internet usage on the academic achievement of students majoring in Information Management and Library Information Science at the University of Punjab. A questionnaire was employed as the survey research

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approach. The data was obtained by the implementation of a convenience sampling methodology. Data collection was conducted using a standardized questionnaire developed by Shehzad Ahmad in 2018. The researcher conducted an on-site visit to the IM/LIS department and gathered data from a total of 112 IM/LIS students. The data was analyzed using the Statistical Package for the Social Sciences (SPSS), organized into tables and figures, and subsequently interpreted.

The research study has revealed that participants utilized the Internet for various purposes, including receiving emails, engaging in social networking activities, communicating with friends and family, spending leisure time, communicating academic information with teachers, supervisors, and colleagues, searching for employment opportunities, and downloading software. The study's results indicated that participants allocated a range of 1-3 or 4-6 hours per week to engage with the Internet for various purposes, including networking, socializing with friends and family, leisure activities, accessing weather updates, and communicating academic information with teachers, supervisors, and colleagues. Nevertheless, their Internet usage was minimal. The research has revealed that participants possess proficient abilities in utilizing social networking platforms, transferring and retrieving data, engaging in online conversations, utilizing search engines for information retrieval, downloading electronic books, scholarly journals, articles, and reports from HEC databases, utilizing email, and accessing online directories and dictionaries. The study has examined the obstacles encountered by respondents in utilizing the Internet, encompassing concerns related to cybercrime (specifically hacking and privacy issues), the sluggish speed of the Internet, limited parental support and restrictions due to the presence of immoral websites, language barriers, as well as concerns regarding confidentiality and security.

The following recommendations are future research based on the results and limitations of this study:

(i) The present study is based on one department of one university; a further investigation can be conducted in other LIS departments of different universities in the country.

(ii) This study used a t-test based on gender differences. A comparison study can be conducted among different IM/LIS departments of different universities to evaluate which department students are using the Internet for their academics.

(iii) This type of study may be conducted in different countries to investigate the effects of Internet use on the academic performance of IM/LIS students.

(iv) Awareness programs may be arranged by DOIM involving M.Phil/Ph.D students in other departments of PU to sensitize faculty/staff. Students can get an advantage from the use of the Internet on the pattern of USA/UK Universities. Studies related to PU students show that the future of Internet use and its academic influence is bright for the students. A future study of the role and its impacts may be extended to other DOIMs of Punjab and later in Pakistan.

(v) In further selected selective models in conceptual context may be designed. The models should be in practical applications of the topics/research skills. The information-seeking behavior of students using social media models provides a valuable approach for planning and developing comprehensive services in their professional work.

(vi) The information-seeking behavior of students using social media models provides a valuable approach for planning and developing comprehensive services and sources of working with their professionals.

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6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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