



## Exploring the E-Reading Landscape among University Students in Lahore: A Quantitative Investigation

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### Abstract

*The digital revolution has transformed the world into a global village, affecting all aspects of life, including reading habits. Traditionally, readers exhibited a preference for and demonstrated greater comfort with printed materials. However, with the advent of Information and Communication Technology (ICT), reading preferences have undergone a significant shift in the digital era. ICT has played a crucial role in this transition, necessitating libraries and information centers to adapt their services to meet the evolving information needs of users. Consequently, these institutions now provide advanced electronic book readers and digital resources. This article examines the evolving reading preferences of university students. A quantitative research design, utilizing an adopted questionnaire, was employed for the study. The sample comprised undergraduate students from private universities in Lahore, with data collected through convenience sampling. A total of 306 participants were included in the study. The collected data were analyzed using SPSS. The results revealed that the majority of students preferred electronic formats for academic purposes. Additionally, the study found that students utilized both print and electronic formats for everyday knowledge acquisition and leisure reading. The findings suggest a shift in students' preferred reading format from print to electronic. The study also identified several challenges associated with electronic reading, including eye fatigue, disruptive hyperlinks, and concerns regarding costs. Moreover, the research highlighted key motivational factors for electronic reading, such as the ability to easily extract, duplicate, and insert the most recent information.*

### Keywords

Information Communication Technologies; Electronic Resources; Reading Behavior; Electronic Reading Behavior; Book Reading Format

### Introduction

The proliferation of digital technologies has substantially altered the reading practices of university students, heralding an era of electronic reading. This transformation has prompted researchers to investigate the adoption, preferences, and implications of e-reading among this demographic. Studies

have examined various aspects, including the types of devices utilized for e-reading, the perceived advantages and disadvantages in comparison to traditional print materials, and the impact on comprehension and retention of information. Factors influencing e-reading adoption, such as convenience, accessibility and cost-effectiveness have been explored alongside potential drawbacks like visual fatigue and diminished concentration. Understanding these dynamics is crucial for educators and institutions as they adapt their pedagogical methodologies and resource provision to meet the evolving needs of digital-native students. Furthermore, this research area holds implications for publishers and technology developers in refining e-reading platforms and digital content to enhance the academic reading experience.

E-reading has become increasingly prevalent among university students, with digital content and e-books replacing traditional printed materials in many academic settings. Studies have shown that e-reading offers both advantages and challenges for students. On one hand, e-books provide sustainable digital learning resources, contributing to environmental preservation (Mulhim & Zaky, 2023). On the other hand, screen reading is inherently distracting, primarily due to multitasking tendencies (Liu, 2021).

Research has revealed contradictory findings regarding the impact of e-reading on academic performance. While some studies suggest no significant differences between electronic and printed textbooks in terms of academic procrastination (Mulhim & Zaky, 2023), others highlight the potential of e-book systems for early prediction of academic achievement based on students' online reading behaviors (Chen et al., 2021). Furthermore, the quality of e-learning, including e-reading materials, has been found to significantly influence students' perceived academic performance, mediated by their satisfaction with e-learning (Keržič et al., 2021). The e-reading landscape among university students is complex and multifaceted. While e-books offer sustainability benefits and potential for personalized learning analytics, they also present challenges related to digital distraction and multitasking. To optimize the e-reading experience, universities should consider implementing strategies to mitigate distractions, such as redesigning library spaces to accommodate digital learning needs (Li et al., 2018) and providing support for underprepared readers through targeted reading skills courses (Cox et al., 2003). Additionally, leveraging e-book systems to identify at-risk students and encourage effective online reading behaviors could enhance academic outcomes in the digital age. Electronic reading behavior among university students is complex and influenced by various factors. Studies indicate that while students increasingly engage with digital texts, print formats still hold significant value for academic reading. Research shows that the majority of university students worldwide prefer print formats for academic course materials, citing better focus and retention of information (Mizrachi et al., 2018). However, electronic reading environments can provide valuable support for students with reading difficulties, offering resources that aid in studying and learning content-area materials (Anderson-Inman, 1999). The modality of reading formats (electronic vs. print) impacts reading literacy, with students generally exhibiting better reading literacy in print environments (Wu & Peng, 2016).

In Pakistan, the digital revolution has significantly influenced various life aspects, including the reading behavior of readers and students. Library and Information Science professionals and scholars are examining how digital advancements have changed reading habits. Researchers across disciplines have assessed the reading behavior of different societal groups, such as adults, children, and university students. Reading behavior has emerged as a distinct research area (Nicholas et al., 2008). This study is the first to investigate the reading habits of university students in Lahore, contributing to existing literature and the library profession. The research aimed to examine students' preferred reading formats, purposes for reading, challenges with electronic materials, motivational factors, and information literacy skills, focusing on undergraduate students in Lahore's private universities.

### **Research Questions**

- What is the changing pattern of reading behavior of university students?
- What are the preferred sources of reading for university students?
- What are the issues/challenges in using electronic resources for reading purposes?
- What are the motivational factors regarding the use of e-resources for reading purposes?
- What is the level of skills of the university students to evaluate the electronic resources?

### **Literature Review**

This study primarily focuses on electronic reading behavior, the preferred format for the reading, the format for reading based on the purpose, issues/challenges encountered while using electronic resources, motivating factors for using electronic resources, and the role of information centers in promotion of electronic reading behavior. Reading habit is a fundamental necessity for effective learning and the academic productivity of students. Reading habits enable students to develop analytical skills and obtain them from various information resources. Reading is a method of knowledge transfer and a beneficial academic activity that enhances analytical skills in reading strategies. It has been observed that digital media has altered reading habits. Individuals are less inclined towards in-depth study since the introduction of digital libraries and electronic resources (Levy, 1997).

Information and Communication Technology (ICT) has influenced reading habits and format selection, including print and electronic formats, according to academic needs and everyday knowledge acquisition. Changes in reading behavior have led to numerous developments in accessing information both online and offline. Ross (2003) suggested that there is a need for exploration into readers' reading behavior and their methods of accessing reading material, as well as the reasons for their format preferences. Additionally, it is important to assess the level of satisfaction with print and electronic formats. The study indicated that the internet is the primary preferred source of information (Estelle & Woodward, 2010). Experts observed changes in reading habits in the digital age concerning format preference. These changes include the preference of reading format according to purpose, issues and challenges in the use of electronic reading content, motivation for using electronic reading content, and the role of libraries and information centers in providing reading material to students.

The convenience of mobile devices has changed news reading habits among students, leading to more frequent, shorter reading sessions in various locations (Yu et al., 2021). Electronic reading is becoming increasingly prevalent, print formats still play a crucial role in academic reading. Students' preferences and behaviors are shaped by factors such as task demands, academic rank, and the availability of supportive resources in electronic environments. As digital academic reading tools continue to evolve, their perceived ease of use, usefulness, and integration into academic settings will likely influence students' attitudes and intentions to use them (Lin & Yu, 2023).

Soroya and Ameen (2020) conducted a study interacting with digital content. The study examined the information literacy skills of the students to understand the level of interaction with digital content. The responses were collected through the questionnaire from the respondents. The study showed the information literacy skills of the students and the use of different methods with online reading. Okolo and Ivwighreghweta (2020) investigated the reading habits among undergraduate students. The study was based on descriptive research methods. The data were collected through the questionnaire from the participants. The findings showed that most participants spent (2-4) hours for reading purposes. Poor lighting, library environment, personal busy schedule, and socioeconomic factors affect the reading culture.

Researchers Shabani, Naderikharaji, and Abedi (2012) examined how higher education students at Iran's Isfahan University read in the digital age. The participants' information was gathered via a questionnaire. Seven faculties from Isfahan University in Iran made up the study's population. In the study, various facets of reading behavior were covered. According to the report, engineering students use electronic resources more frequently than other students. In addition, the faculty of engineering uses printouts of electronic resources to the fullest extent possible. Graduate students preferred to scan rather than read electronic resources.

The advancements in the digital age and the overarching growth of digital documents have brought about a significant change in the reading behavior of individuals. Consequently, libraries have begun acquiring digital material and digitizing existing printed collections. This has presented a substantial challenge to libraries in various aspects, such as providing resources, services, and skilled staff. Libraries have also assumed the responsibility of training users to utilize digital devices to achieve their goals. In the current digital era, the concept of e-reading has been transformed by integrating electronic media into libraries. Therefore, these changes have altered the reading behavior of students in acquiring knowledge (Liew et al., 2000).

Jiawook (2021) conducted a study on the effectiveness of digital reading for motivating student reading and vocabulary development. The vocabulary plays an important role in the communication process. The main purpose of this study is the use of technology for facilitating and motivation the reading and vocabulary building in English. Due to the technological innovations, the students and adults have adopted the many ways in writing and reading, so access to digital tools have become everyday part of life. This study was conducted in Sweden. The Swedish National Agency for Education highlighted the importance of digital tools the competence that is needed for teachers so that the students will be able to pass the examination.

Shakoor, Fakharand and Abbas (2021) conducted a study impact of smartphones on the reading behavior and academic performance of students. The data were collected from 150 students who were studying in the different departments of Islamabad. All students use smartphones in their daily lives for academic content and lectures. The results showed a positive correlation and impact of smartphones on academic performance.

Mirza, Pathan, and Khatoon and Hassan (2021) conducted a study on the digital era and the reading habit of the students of Pakistani Engineering students. The study intends to investigate how technology is used and how Pakistani students use social networking sites. The study's methodology was a blend of methods. The first-year undergraduate students of Jamshoro, Sindh's Mehran University of Science and Technology were the ones who provided the data. The study's conclusions revealed that rather than having access to computers; the majority of students had access to Android smart phones. Maja and Motseke (2022) investigated the role of libraries in the promotion of reading culture among the school students. The purpose of the conducted research, how libraries provided access to reading materials to intermediate phase students. The observation and semi structure interviews techniques were used to gather the data. The nine English teachers participated in this study. The researchers visited the different classrooms for the data collection. The researcher observed that how the school libraries affected the learners. The results of the study found that the availability of reading materials in the class rooms increased the reading interest among the students. The study concluded that access to the reading materials plays a vital role in improving the academic achievements of rural school students. It is also recommended that the teacher motivated and supported to establish classroom libraries.

Naz, Iqbal, Khan and Shakeel (2022) conducted a study that the factors affected reading behavior of the students at the university level. The study was based on the quantitative and the students were semi-structured interview for the study. The data of the study were analyzed through the thematic analysis. The results showed that the lack of access to the libraries, internet, the use of electronic media for the entertainment, lack of resources to buy the books, busy schedule are the leading factors for that influence the reading behavior of the students.

The findings showed that the majority of students read the both fiction and nonfiction literature. The less number of students read the reading material for passing the exam. The researcher discussed that the faculty should encourage the students to reading the reading material. The administration of the institutions should provide the reading material to the students and the teachers should encourage the students to learn.

Miranda, Hermansyah, and Mortini (2023) studied reading habits among students in the digital age. The purpose of the study was to examine the study of reading habits in the digital age. The data was collected from the respondents. In the survey, 13 % fully agreed, and 50% agreed with the reading habits and use of technology for reading habits. The results showed that the students have reading behavior using technology. The students used laptops and headphones for reading purposes. Borah, Bhuvanewari and Hussain (2023) conducted the study on the reading habits among the engineering students in the digital age. The reading habits of the readers have changed due to the development of technology. The on line reading or screen reading is the most popular format of reading. The faculty and students face many difficulties during the online reading. The 109 students from the engineering universities were participated in this study. The results of the study showed that the engineering students faced a lot of issues for the reading preferences and habits of the students. Also, discussed how these factors affected the critical thinking of the students. The researcher suggested encouraging reading habits among the engineering students in this digital era.

Sudan (2023) conducted a study on the role of libraries in promoting reading culture among students. The reading is a health exercise for our mental health. The reading culture is becoming

unpopular among the students. The current information is called the information era. There is overloaded information in the society. For this purpose, the libraries should provide the knowledge and information to the students in an organized way. The proper utilization of the library funds, role of libraries and parents, involvement of community are mandatory for the promotion of reading habits.

**Material and Methods**

The quantitative research method was used to achieve the objectives of the study. Based on the study's context, expert opinion, and existing literature, the questionnaire was adopted. The undergraduate students of private sector universities of Lahore were the population of the study. The random sampling technique was used to collect the data from the population. The questionnaire consisted of five parts. These are the questionnaire parts i.e., Demographic Profile of the Respondents, the preferred format for reading, the preferred format for reading according to the purpose, issues, and challenges in using of electronic resources for the reading purpose, motivational factors of using electronic resources, the skills level of university students on using electronic resources for reading meaning and one open-ended question the role of libraries in providing electronic reading material to the students. The reliability and validity of the questionnaire were tested through the SPSS and by the expert of the study. The data was collected through the online Google Form and printed questionnaire.

306 respondents participated in this study, representing an 80% response rate. Of the 306 respondents, 184 (60%) were male, and 122 (40%) were female. The respondents were queried about their age group. A clear majority of the respondents, 116 (38%), belonged to the age group of 18-20 years; 85 (28%) of the respondents were from the age group 21-22, 61 (20%) belonged to the age group 23-24, and 44 respondents belonged to the age group above 24. The majority of the population fell within the age group of 18-20 years because the study population comprised undergraduate students from the universities. The respondents were asked about their semesters. A significant number of participants, 96 (31%), were from the second semester, 64 (21%) participants from the 8th semester, 51 (17%) respondents from the fourth semester, 26 (9%) participants from the sixth semester, and 25 respondents from the 5th semester. A significant number of participants, 120 (40%), were from the Faculty of Science and Engineering. A substantial number of respondents, 87 (28.4), were included from the Faculty of the Humanities and Social Sciences. The 51 (16.7) participants belonged to the Management Sciences Faculty. The participants were 48 (15.7%) from the Faculty of Law.

**Table 1: Preferred Format for reading**

<b>Format</b>	<b>M</b>	<b>SD</b>
On Paper	4.12	.89
On Screen	3.54	.89
Paper/Screen	3.49	.94

Note=Always=5, Often=4, Sometime=3, Rarely=2, Never=1

The above table shows the preferred format of reading of participants. The majority of participants (M=4.12; SD=.89) often preferred the paper reading. The other participants showed that sometimes (M=3.49; SD=.94) preferred electronic and print formats.

**Table 2: The Preferred Format for Reading According to Purpose**

<b>Statements</b>	<b>M</b>	<b>SD</b>
Academic i.e. class preparation, readings, articles, electronic books	2.50	.79
Pleasure/ Leisure i.e. entertainment, history, showbiz, literature	2.36	.73
Everyday knowledge i.e. cooking, health, current affairs	2.35	.78

The mean score in the table (M=2.50; SD=.79) explains that the undergraduate university students chose the electronic and print design for the academic purpose, i.e., assignments preparation for class, journal articles, and electronic books. The participants (M=2.36; SD=.73) used the electronic format for pleasure, enjoyment, history, and everyday knowledge.

**Table 3: Issues/Challenges in Using E-Resources for Reading Purposes**

<b>Statement</b>	<b>M</b>	<b>SD</b>
Using a screen causes eye tiredness	4.06	.905
During screen reading, different links create disturbance	3.92	1.030
Slow speed of internet/ Wi-Fi.	3.63	1.103
Cost concerns	3.43	1.205
It doesn't seem easy to keep track of the location of electronic document	3.41	1.185

My parents discourage me from reading on screen	3.32	1.291
I don't like reading through the screen	3.17	1.172
I often lose access of reading material.	3.06	1.189
I am unable to find my required book/material when it is needed	3.02	1.227
I feel difficulty in searching/surfing electronic document.	3.01	1.213
Screen reading is wastage of time	2.74	1.117
I don't have required skills to search the relevant book material.	2.63	1.211

Note: Strongly Agree=5, Agree=4, Neutral=3, Disagree=2, Strongly Disagree=1

Table 3 reveals that the issues i.e., eye tiredness (M=4.06; SD=.90), distraction during screen reading (M=3.92; SD=1.30), slow speed of internet/Wi-Fi (M=3.63; SD=1.10) are the central issue/challenges in using electronic resources among the university students. The other issues and challenges of electronic reading, i.e. cost concern (M=3.43; SD=1.20) to track the location of the electronic document (M=3.41; SD=1.18) among the university students. The other issues/challenges i.e. demotivation of parents, and loose access to the reading material.

**Table 4: The Motivational Factors for Using E-Resources**

Statement	M	SD
Easy to cut/Copy data	4.28	.763
Up-to-date/Latest information	4.21	.775
Ability to highlight important text	4.12	.904
Text font could be resized/Zoom in and zoom out	4.10	.796
Easy to use and all the time accessible	4.08	.840
Screen reading is time-saving.	3.69	.987
Portability (Movable)	1.80	.777

Note: Strongly Agree=5, Agree=4, Neutral=3, Disagree=2, Strongly Disagree=1

Table shows the motivational factors for the use of electronic material. The motivational factors, i.e. easy to copy data/ easy to cut (M=4.28; SD=.763), is the leading motivational factor for the use of electronic resources. The mean score (M=4.21; SD=.775) in the table 4 indicates that up-to-date/latest information is the factor for the use of electronic resources among undergraduate university students. The ability to highlight the text (M=4.12; SD=.904) is also the motivational factor for using electronic resources. The mean score (M=4.10; SD=.796) indicates that text font and zoom in and out is the factor of motivation for using electronic resources among university students.

**Table 5: Skills Level of University Students on Using E-Resources for Reading Purposes**

Statement	M	SD
To determine the authenticity of online information	2.21	.995
Using information ethically	2.13	.981
Managing and saving the online searched information	2.07	.892
Easily find needed online information	1.92	.843
Sharing knowledge (i.e., data files, reports, articles with your seniors/colleagues)	1.75	.882

Note: Always=5, Often=4, Sometimes=3, Rarely=2, Never=1

The data findings in Table 5 point out that most university students believed that they maintained the authenticity of information online (M=2.21; SD=.995) while using electronic resources. The data in table also shows that the students can use the information ethically in the use of electronic resources. The mean score (M=1.92; SD=2.07) in table 4.9 describes that the students rarely save and organize the information for future use. The mean score (M=1.92; SD=.843) shows that the participants can find the required data to meet the information needs. At the very least, the mean score (M=1.75; SD=.882) indicates that university undergraduate students can share knowledge. Files, reports, articles electronic books with the other students, peers, and friends.

**Conclusion**

The findings of this study reveal that the majority of respondents utilize both paper and online formats for reading, with many students employing these formats for academic purposes. While some students preferred electronic resources for leisure reading, the overall trend indicates a balanced use of both print and digital media. Moreover, the research identified several challenges associated with electronic reading, including eye fatigue, distractions from hyperlinks, and slow internet or Wi-Fi speeds, which emerged as significant barriers to effective use of electronic resources. Additional concerns such as cost and parental discouragement regarding screen reading were also noted, highlighting the complexities surrounding students' reading habits. The study further underscores that

the slow internet speeds can hinder access to digital materials, complicating the process of locating necessary documents. On a positive note, various motivational factors for utilizing electronic resources were identified, including the ease of cutting, copying, and pasting text, as well as the convenience of highlighting and organizing information. These features were cited as key advantages that enhance the electronic reading experience. Lastly, the research assessed students' skills in managing online information, revealing that they are generally capable of determining the authenticity of sources, using information ethically, and effectively saving and organizing information for future reference. Overall, the study provides valuable insights into the reading preferences and behaviors of university students in the context of evolving digital resources.

### **Recommendation**

The results of this study indicate that the reading format significantly influences students' reading behaviors, highlighting the necessity for faculty, students, and institutions to monitor these changes meticulously. This research establishes a foundation for future investigations into various aspects of electronic reading. For instance, subsequent studies could explore the psychological impact of transitioning from print to electronic formats, examining how this shift affects students' cognitive engagement and comprehension. Additionally, further research could investigate which reading format—print or electronic—has a more substantial impact on students' academic performance, as the choice of format is crucial in shaping educational outcomes. Understanding the relationship between reading formats and academic achievement can assist educators in tailoring their approaches to meet students' needs. Moreover, future studies should assess whether libraries are effectively meeting the demand for electronic reading materials, as the evolution of reading habits increasingly relies on digital resources. By investigating the efficacy of libraries in supporting electronic reading, researchers can provide valuable insights into improving access and resources, ensuring that students are adequately equipped to thrive in a digital learning environment.

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