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CHALLENGES IN USING ELECTRONIC RESOURCES AMONG RESEARCH SCHOLARS OF UNIVERSITY OF KARACHI

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ABSTRACT

Electronic resources have become essential for researchers in the current age of technology and information. Electronic resources are a great method of gaining access to an incredible volume of information from multiple sources, such as articles, books, and databases. However, in spite of the advantages, there are a number of challenges for the researcher scholars when using electronic resources (e-resources). This research study aims to explore these challenges that research scholars at the Research Institute of the University of Karachi encounter while utilizing e-resources. The quantitative research design using the survey method is applied in this study. The structured questionnaire has been employed to gather data. Research scholars in the research institutes of the University of Karachi have been the source of data to be collected. Statistics analysis was performed by using SPSS statistical software package after data collection. The study identified that research scholars have many issues while using electronic resources, including a lack of awareness about available electronic resources, poor internet connectivity, high costs of accessing resources, and insufficient internet access points. To address these challenges, the study recommends that institutes and libraries provide training and guidance to improve scholars' awareness of available resources, improve internet connectivity and power backup, and subscribe to more relevant databases. The results of the research can lead to a possibly higher access to electronic resources and higher research output among scholars.

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Introduction

Universities serve as the central hub of the academic world. Universities are vibrant, cutting-edge institutions of high-level study and research. Libraries in University research institutions have a key role in the creation, dissemination, and application of new information. Oyelude (2004)

asserted that a sound research library should contain appropriate materials, suitable storage and access to the collection via proper arrangements of resources.

Libraries traditionally preserve and retrieve information in the form of books, manuscripts, journals, other forms of documented and recorded knowledge. Technological advancements are enabling libraries to switch to electronic resources. The large collection of material that people may access electronically is referred to as a "digital library" or "virtual library".

The growth of information technology (IT) made it possible to produce information resources in various forms other than print. Using a computer or other electronic device, you may get access to them and retrieve the information they contain. E-books, electronic databases, and electronic journals are all examples of popular types of e-resources.

According to Makri et al. (2011) an electronic information resource may be any website, system, or application that helps people locate, understand, and use the information found in digital form. According to Swain and Panda (2009) the evolution of information and communications technology (ICT) tools, the rapid growth of electronic databases, and the emergence of cutting-edge electronic books technologies have combined to transform the informatics field completely.

Due to the emergence of information communication and technology (ICT), information is growing rapidly; it becomes more challenging for researchers to acquire their relevant and reliable information from various electronic resources and the responsibility also on libraries to make available the right information at the right time. Therefore, this study intends to explore the challenges of researchers in accessing electronic resources in research institutes at the University of Karachi to provide suggestions for the research institutes' libraries to manage their library material better to compete in a worldwide higher education environment.

Objectives of the Study

1. To identify the reasons for using electronic resources by researchers.
2. To explore the challenges of researchers while using electronic resources at research institutes.
3. To provide recommendations to libraries of research institutions to improve electronic resources management at research institutes.

Scope and Limitations

The research concerned itself with the challenges that researchers experience in accessing electronic resources. The study involves research scholars. The study focused on exploring the challenges that researchers experience in utilizing electronic resources. The study comprises research scholars who are doing M.Phil. and Ph.D. in different research institutes of the University of Karachi with a sample size of 270 out of the total population. The research institutes that included in the study were 17 having internal degree program that served as the sampling frame in data collection.

Although there are some limitations to the study, it has provided a lot of insight into the difficulties that researchers face when utilizing electronic resources; the study has also recommended ways to alleviate those difficulties. Future studies can utilize these findings to further investigate other stakeholders' views (librarians, university administration, etc.) and use data to provide more detailed information about how research scholars experience electronic resources.

Methodology

Data was collected for this study via a survey method, utilizing a quantitative approach with a survey instrument (questionnaire). The survey comprised open-ended and close-ended questions. A stratified random sample of research scholars from the university's research institutes were randomly selected for participation in the study. All statistical analyses utilized the SPSS version for data analysis. The data was collected by making personal visits to the research scholars and all participants provided informed consent before completing the questionnaire.

Literature Review

Literature is one that is used to find and evaluate the most important publications that pertain to a certain field of study. The evaluation of the relevant published material ensures that all subjects and aspects that are related to the study theme and that have the potential to have an effect on the issue are taken into consideration. The consideration of the relevant prior research must be exhaustive in order to illustrate how the current study relates to earlier studies.

Khan and Tyagi (2025) studied the use of electronic resources and associated digital services by the research scholars and faculties of central Indian University Libraries. Utilizing a descriptive survey method to explore the types of e-resources accessed, frequency and purposes of use, level of awareness, and barriers faced (slowness of internet connectivity or lack of training and others). They identified that although e-journals and databases were the most used, there was poor awareness about some digital services and advanced skills. The above-mentioned work points out the importance of better infrastructure, specific training and user awareness programs to optimize the efficient use of e-resources in academic library.

Wagay and Dutta (2024) carried out a research on awareness and utilization of the electronic resources among the research scholars at Karnatak University. Using a questionnaire sent to 100 participants with an 84% response rate, the research sought to evaluate awareness level, purposes of use, frequency, difficulties and benefits of e-resources. Findings demonstrated that most of the scholars were well aware of different electronic resources and recognized the positive impact of these resources on the academic activities. The study emphasized on continuous education and training programs for users to improve their effective usage. The study provides valuable comprehensions to libraries on how to better access and use e-resources.

Andrew and Ibraheem (2022) explore the availability and access to electronic information resources in federal college of education libraries in Northern Nigeria. The mixed research method

was used and data were collected from 378 users and 9 college librarians through interviews and questionnaires. The study recommends that libraries need to obtain resources relevant to all users, enable unrestricted remote access, and improve network infrastructure. To help users to find and utilize resources, information literacy skills programs should be arranged. Finally, to promote library usage, college and library administration should limit power failure, denial of access and network failure.

Armah and Cobblah (2021) assessed the challenges faced by students while using electronic resources at a Public University Library, Ghana. A descriptive survey design was used and 558 students from the four colleges of the University of Cape Coast in Ghana were randomly given structured questionnaires. The findings showed that there were significant gender, academic level, and college affiliation differences in how students experienced the six key challenges of accessing electronic information resources: difficulty of information downloading, unstable internet connection, and restricted access to the university portal along with insufficient computers in the library, insufficient lighting, and other minimal services such as on the spot printing facilities.

Apuke and Iyendo (2018) investigated the usage of internet resources for research and learning by undergraduate students of three universities in North-Eastern Nigeria. This study explores the significance of the Internet in the academic research and learning of 250 undergraduate students using both qualitative and quantitative research approaches. Students thought that the lack of digital willingness among their staff and institution, the absence of an electronic library for easy and quick access to scientific databases, and the inefficiency of cyber cafe and internet facilities within the university, the main cause of reducing the use of the internet.

Akporhonor and Akpojotor (2016) examined the challenges in the use of electronic resources faced among postgraduate students of library and information science in Southern Nigeria. This research used a descriptive survey approach. It is identified that postgraduate students of LIS face several barriers regarding the utilization of electronic information resources, including a lack of strong internet connection, power failure, information overload, delay in downloading, and access issues with some websites. The research concluded that improvements should be made to the reliability of the electrical grid, the quality of internet service, and the affordability of electronic information resources.

Newmon and Sengar (2016) studied the digital library and e-resources uses and challenges in the engineering college of Rajasthan. The aim of this research focused on examining the use of and problems with e-resources as well as their availability and level of awareness. They determined that electronic resources are widely used among academics and students relying on them for research purposes. However, investments in e-resources that were maintained to meet specific needs are not being used to their full potential. It has been observed that the university has almost enough electronic resources to cover all present academic fields, but that the requisite technological infrastructure is lacking.

Nazir (2015) assessed research scholars (M.Phil./Ph.D.) and postgraduate students with regard to the use and satisfaction level of electronic resources at the University of Kashmir. The results show

that the main reason for the limited utilization of e-resources is a lack of information about various kinds of e-resources and a lack of library support.

Bajpai (2014) examined to explore and evaluate how academics and research scholars make use of the electronic resources at the library of the Indian Institute of Technology in Kanpur. This study investigates user problems, library patrons' levels of satisfaction, and the characteristics of library patrons who use electronic resources. It is concluded in the study that all users are familiar with the utilization of e-resources. The library has to improve its services and encourage patrons to spend time there to use their e-resources collection.

Ahmed (2013) studied the use of electronic resources by faculty members in eight public sector Universities in Bangladesh. The findings revealed that academics are dissatisfied with the subscription of electronic resources available to them at their institution. The key limitations they found were the small number of titles available, the inability to access back issues, the difficulty in locating information, no remote access to resources, the lack of computers and the slow download speed. However, these limitations are mainly due to an insufficient information technology infrastructure and restricted access to electronic resources.

Madhusudhan (2010) studied the use of e-resources by research scholars at Kurukshetra University, India. The primary goal is to identify how and why people use electronic resources (e-resources). Additionally, the study intends to bring attention to the challenges of research scholars when they try to get access to e-resources, as well as their views on the features of e-resources and the usefulness of e-resources compared to traditional sources. It is identified that scholars rely heavily on electronic resources because their access is quick, so additional computer terminals are placed to enable further quick access to e-resources.

Okello-Obura (2010) analyzed the information-seeking behavior of postgraduate LIS students at Makerere University, Uganda. The research focused primarily on the challenges faced by LIS graduate students while accessing online resources. Data was gathered using the survey method with structured questionnaires. Respondents hold a positive disposition towards using the e-resources and highlight the problems and suggested solutions. Slow Internet, insufficiently networked computers, a shortage of inexpensive printers at the library, the need to use complex searching techniques for most databases, and a general lack of familiarity with most e-resources are all issues that have been observed.

Despite the extensive research on the issues that research scholars face when attempting to use electronic resources, few studies have examined strategies or mechanisms for improving the provision of electronic resources for research scholars. Thus, this paper aims to contribute to filling the research gap by exploring research gap by discussing the challenges research scholars experience with gaining availability and use of electronic resources at the University of Karachi, and by providing recommendations that will improve their access to these resources.

Results

Table 1 Demographic Data Analysis N=270

Gender	No. of Scholars	Percentage
Male	123	45.55 %
Female	147	54.44 %

Table 1 specified that the majority of the respondents are females. The data presented in Table 1 illustrates that approximately 147 (54.44 %) of respondents are female and 123 (45.55 %) are male.

Table 2 use of e-resources N=270

Options	No. of Scholars	Percentage
Users	270	100 %
Non-users	0	0 %

The data in table 2 indicated the utilization of e-resources among research scholars. It is found that all the research scholars (100 %) use electronic resources.

Table 3 Types of E-resources Used

Types of e-resources	No. of respondents N=270	percentage
E-Journals	226	83.70
E-Books	172	63.70
Bibliographic databases	153	56.66
Dissertations	114	42.22
CD-ROM Databases	24	8.88

Table 3 shows the type of electronic resources used by researchers for fulfilling their information needs. The majority of respondents reported using e-journals 226 (83.70%), followed by e-books 172 (63.70%) and bibliographic databases 153 (56.66%). Dissertations were used by 114 (42.22%) of respondents, while CD-ROM databases were the least commonly used 24 (8.88%). The data shows that e-journals are the most popular type of electronic resource among research scholars, possibly because they provide easy access to the latest research in their field of study. E-books and bibliographic databases are also commonly used, likely due to their convenience and extensive coverage of academic literature.

Table 4 purpose of using e-resources

Purpose	No. of respondents N=270	percentage
For research	238	88.14
For Academic assignments	198	73.33

To develop a subject knowledge	176	65.18

Table 4 shows the purposes for which research scholars use electronic resources. A total of 270 respondents participated in the study. Most of respondents 238 (88.14 %) reported using electronic resources for research purposes, while 198 (73.33 %) reported using them for academic assignments. 176 (65.18 %) respondents used electronic resources to develop their subject knowledge. The data shows that research scholars rely heavily on electronic resources to conduct their research and complete their academic assignments.

Table 5 Challenges in accessing electronic resources

	No. of respondents N=270	percentage
Lack of proper guidance from the Institute/Library	183	67.77
Limited subscribed titles or databases	174	64.44
High cost of accessing e-resources	167	61.85
Poor internet network	154	57.03
Insufficient internet access points	152	56.29
Electric power failure	115	42.59
Lack of electronic resources awareness	48	17.77
Lack of searching and retrieval skills	40	14.81

There are various challenges in using electronic resources by research scholars. The majority of the researchers' 183 (67.77 %) stated that the lack of proper guidance from the library affects the use of electronic resources. Most of the respondents 174 (64.44 %) also believed that due to limited subscriptions of e-resources or databases, the scholars were unable to use resources. Research scholars' eagerness to use e-resources is restricted due to the high cost of accessing e-resources, 167 (61.85 %) of the respondents agreed. Poor internet network is indicated by 154 (57.03 %) respondents as a problem. 152 (56.29 %) respondents said that scholars may be able to utilize e-resources effectively if the institute has sufficient internet access points. 115 (42.59 %) were concerned that they may not be able to utilize e-resources because of electric power failure. Some of the scholars 48 (17.77 %) believed that due to a Lack of electronic resources awareness, they become reluctant to use e-resources. A few respondents 40 (14.81 %) considered a lack of searching and retrieval skills as a reason for the small use of e-resources.

Table 6 Recommendations to improve the use of electronic resources

	No. of respondents N=270	percentage
Robust internet connection	208	77.03
Increase in Subscription of e-resources	193	71.48
Proper guidance tools from the Institute/Library	187	69.25
More access to computers with internet	181	67.03

Training session for effective use of electronic resources	118	43.70

Table 6 indicated the recommendations or ways to improve the use of electronic resources. Scholars 208 (77.03 %) agreed that a robust internet connection would increase the use of electronic resources. 193 (71.48 %) respondents believed that an increase in the subscription of e-resources has a significant impact on use. 187 (69.25 %) respondents stated that if the library provides the proper guiding tools for using library resources, then researchers would be able to use resources effectively. 181 (67.03 %) researchers agreed that more access to computers with the internet positively impacts the use of e-resources. Training sessions for library users that how to use electronic resources effectively may have a good impact on use, according to 118 (43.70 %) researchers.

Discussion:

Research scholars experience several obstacles while using electronic resources. They experience challenges such as a lack of electronic resources awareness, poor Internet networks, electric power failures, and high costs associated with accessing e-resources, limited internet access points, lack of searching and retrieving electronic resources skills, lack of library/institute guidance, and limited electronic resources database titles/databases.

Research scholars experienced difficulty accessing electronic resources due to the absence of adequate guidance from their institutions/libraries. There has been evidence that many research scholars lack adequate guidance from their institution or library on how to locate and effectively utilize electronic resources (Siddiqui, 2018; Kashtwari, 2018), thus limiting the potential to exploit all available electronic resources. Similar to earlier studies, this study also found the lack of proper guidance.

Second, there were problems in accessing electronic resources with insufficient subscribed titles/databases on the part of the research scholars. Limited electronic resources software subscribed to by libraries/institutions means that the research scholar has to select from the limited number of resources that are available as electronic resources (Khan & Ahmed, 2020; Malapela & De Jager, 2017; Siddiqui, 2018). The findings of this research also coincide with these studies.

Another major reason that impeded the research scholars' access to electronic resources was the price involved in accessing electronic resources. Many electronic resources are available only through subscription, and are very expensive to research scholars, particularly those that are operating in environments where resources are limited (Iqbal et al., 2021 and Bjork, 2021). This can be a profound barrier to accessing and utilizing electronic resources among research scholars and it is similarly align with current study findings.

Poor Internet connection can also work against research scholars' access to electronic resources. Research has shown that slow Internet bandwidth and unreliable network connections can discourage research scholars from using the electronic facilities (Iqbal et al., 2021; Mamabolo &

Durodolu, 2023; Adil et al., 2024). Similarly, the present study also found that slow internet connection restrict scholars to effectively utilize resources.

Access to electronic resources is also one of the factors that can prevent research scholars from using the Internet because of access points being limited (Ahmed, 2013; Adil et al., 2024). Another barrier that can affect the research scholars' utilisation of the electronic resources is electric power failure. Many developing countries have power curtailments that usually deny research scholars access to the electronic resources and facilities (Edem & Egbe, 2016; Okogwu & Mole, 2019). This can be particularly troubling to research scholars who make extensive use of electronic resources to complete their research. Related with these findings, present study also identified that limited access points and power outages reduce the maximum use of e-resources.

Research scholars were also faced with the challenge of access to electronic resources where they lacked awareness on the availability and benefit of electronic resources. Studies have been made which indicates that the research scholars are unaware of the electronic resources available with them (Ahmad & Azam, 2025; Kumar & Maranna, 2024). Consistent with previous studies, current study also explored that limited information on the availability of electronic resources can result in the not using of electronic resources by research scholars. The failure to harness the use of electronic resources will then limit their ability to contribute to quality research.

Another challenge to research scholars is lack of skills associated with searching and retrieving electronic resources. Research has shown that a large number of research scholars are not competent enough to adequately search for and locate electronic resources (Adeyemi, 2018; Olaniyi, 2023; Umar et al., 2022) which can impair their ability to adequately review literature. Similar to prior studies, this study also determined that lack of searching and retrieving skills continues to hinder the effective use.

Therefore, the issues that are faced in accessing electronic resources are multi-faceted and vary with a host of variables such as access to technology, Internet speed, and institutional support. These barriers need to be combined with a multi-dimensional approach to provide better Internet connectivity, offer more inclusive and supportive support to research scholars, and improve the access and availability of electronic resources.

Conclusion:

The researchers encountered potential challenges when it comes to access and use of electronic resources for research such as lack of awareness on the types of electronic resources that is available, poor and unstable internet facility and use of power for research, cost and difficulty in locating information via the Internet, lack of adequate research and retrieval skills of the students, lack of help from the institutions or libraries.

Since of these challenges, there is a need for more electronic resources access and utilization. This might be accomplished by providing higher awareness and training on how to use electronic resources and by providing more Internet access points, and reliability of the Internet itself. Institutions like library offer opportunities of helping research scholars seek and use electronic

sources through proper guidance and assistance. In addition, institutions have the opportunity to expand the amount of availability of electronic resources by subscribing to a larger number of electronic resources to make additional resources available to the research scholars in order to widen the types of materials they will be able to access.

Recommendations:

1. **Increase awareness and training in electronic resources:** Research scholars should be given more awareness and training from the respective institutions and libraries with which they are affiliated on how to find and use electronic resources.

2. **Improve internet access and electricity supply:** The institutions in which the research scholars work must ensure that the research scholars have consistent access to internet and electricity.

3. **Increase the number of access points:** Both the institutions and libraries should establish more access to ensure that the research scholars will be able to find and use the electronic resources easily with greater ease.

4. **Provide proper guidance and support:** Research scholars require proper guidance as to how best they can utilize electronic resources and thus institutions and libraries should give them proper guidance and support.

5. **Increase subscription access to electronic resources:** Libraries and institutions need to increase their subscription access to electronic resources in order for research scholars to have access to more digital materials than previously possible.

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