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ABSTRACT

The main purpose of this paper is to examine online library resources during the COVID-19 pandemic situation at higher educational institutions in Pakistan. During the current pandemic situations, all the educational activities have been postponed and transformed into online latterly. A cross-sectional study consisting of a sample of 2378 from library patrons of public sector universities in Pakistan. A structured questionnaire has been administered based on different parts using an attitudinal scale of (dis)agreement has been used and pre-tested randomly with the reliability value ranging from .03 to .842. It is pertinent here to mention that during the COVID-19 pandemic, all the educational activities were shifted to online mode and it was not possible to collect information physically. Hence, an online method was opted and the questionnaire was shared through emails and WhatsApp numbers of public sector university library users. The study findings reveal that COVID-19 outbreak, fear of infection, and social distancing have favorable effects on online library information resources. Similarly, the results also support the argument that accessibility of manuscripts, accessibility of periodicals, and accessibility of books have favorable effects on online library resources. The study suggested that similar nature of the study may be conducted using mixed-method research and a different set of variables in the future.

Keywords: COVID-19 Outbreak, Social Distancing, Accessibility of Manuscript, Accessibility of Periodicals, Accessibility of Books, Online Library Resources

INTRODUCTION

This paper focuses to evaluate online library resources during the COVID-19 pandemic situation at higher educational institutions in Pakistan (Force & Wiles, 2021; Paudel, 2021). It is important to mention here that the health catastrophe that began at the end of 2019 is the world's greatest concern since World War II and the declared worldwide medical emergency, which is called Corona Virus Disease 2019 (Shoaib & Abdullah, 2020, 2021). It harmed the entire world (Shoaib, Rasool, & Anwar, 2021). Similarly, the COVID-19 pandemic is responsible for not just health difficulties, but also creates crises in multiple aspects of life including educational activities (Dube, 2021; Xie, Siau, & Nah, 2020). The catastrophe brought life to a halt (Weeks, Houk, Nugent, Corn, & Lackey, 2020). It directly or indirectly affects all sectors of society right from health to economy, politics, religion, family, and education (Shoaib, Abdullah, & Ali, 2021; Shoaib, Ali, Anwar, Rasool, et al., 2021; Shoaib, Ali, Anwar, & Shaukat, 2021; Shoaib, Ali, & Naseer, 2021). Since the outbreak of the COVID-19 pandemic, government officials have taken steps to reduce the coronavirus's spread in their various countries (Adedoyin & Soykan, 2020; Bao, 2020; Habiba & Ahmed, 2020). Universities swiftly responded, and eclectic provision has become the new standard in educational institutions generally and higher educational institutions particularly (Adams, 2020; Force & Wiles, 2021; Habiba & Ahmed, 2020). As a result of the university libraries that were closing their doors, a new purpose for digital literacy was introduced (Rafiq, Batool, Ali, & Ullah, 2021; Santos, 2020). Further, the disease outbreak has an important impact on students, faculty, and other linked staff including library administration (Nuere & de Miguel, 2020; Pattanshetti & Pattanshetti, 2020). The academic activities of higher educational institutions have been switched to online lectures, closing libraries, changing communications networks, novel assessment techniques, and varying multithreaded applications and skill levels resulted in the provision of online library resources for the smooth running of academic activities (Baloran, 2020; Dhawan, 2020; Hassounah, Raheel, & Alhefzi, 2020; Nassr, Aborujilah, Aldossary, & Aldossary, 2020).

The COVID-19 pandemic has spawned an uncertain environment for many institutions of higher education around the world as online education and hybrid requirements (online and/or physical mode of learning) has quickly become the current educational truth, based on the expectation that fewer students were available on-campus (Hassounah et al., 2020; Karalis & Raikou, 2020; Mishra, Gupta, & Shree, 2020). Further, conferences were canceled and universities were also closed (Odriozola-González, Planchuelo-Gómez, Irurtia, & de Luis-García, 2020). Libraries across the world were faced with unusual conditions and tough

decisions about which services to give and how to provide them, ranging from slight restrictions to complete shutdown (Goddard, 2020). This epidemic introduces innovative and unconventional teaching and learning techniques and technology in higher educational institutions at public sector libraries (Alqahtani & Rajkhan, 2020; Bao, 2020; Bergström et al., 2017). Hence, this study attempts to examine online library resources during the COVID-19 pandemic situation at higher educational institutions in Pakistan.

LITERATURE REVIEW

Several studies have been conducted to highlight the issues of academic libraries during the COVID-19 pandemic (Rafiq et al., 2021; Zalite & Zvirbule, 2020). As academic libraries were also pressed to come up with adaptations and strategies to assist services because they are so important to the institution (Nuere & de Miguel, 2020). It has been found that visualizing libraries as educational settings, developing Standard Operating Procedures (SOPs) and protocols for people who work from home, or offering services from the library at higher educational institutions (Shoaib & Abdullah, 2020, 2021). The capacity and accessibility of technological access to students, among other things, we're all influenced by the current pandemic situations (Shoaib, Ali, & Naseer, 2021; Shoaib, Rasool, et al., 2021). It had been revealed that libraries are at the heart of academic institutions and it was critical to understand library employees involved in developing policies and concerning overall education institutional SOPs (Shoaib & Abdullah, 2020). It has been revealed that the emerging technological realities of academia had already signaled a similar digital transition for the library that was essential for higher educational institutions in modern times (Shoaib, Rasool, et al., 2021). However, the study findings pointed out that academic libraries have always been at the forefront of introducing the availability of versatile web-based services, services, and training, allowing librarians to assist students in developing information and digital skills through different online courses, workshops, training, online seminar, and e-consultations (Elmer, Mepham, & Stadtfeld, 2020; Hassounah et al., 2020; Nassr et al., 2020). Further, access to library records, books, and researches, and digital material grew only moderately during the COVID-19 pandemic (Karalis & Raikou, 2020; Mishra et al., 2020). It has been found that research institutions and universities all over the world especially in the developed world are working on the online mode that supported students (Bao, 2020; Crawford et al., 2020; Tejedor, Cervi, Pérez-Escoda, & Jumbo, 2020).

The study also asserts that the suspension of in-person services and the inaccessibility to physical collections at the universities' libraries, students, teachers, and library professionals are considering using technology as the only option to weather the storm (Bao, 2020;

Hoogland, 2021; Xie et al., 2020). The study findings show that during the lockout, library staff displayed their abilities, sensitivity, and flexibility in responding to the rapid transforming scenario after the outbreak (Harlow & Hill, 2020; Rapanta, Botturi, Goodyear, Guàrdia, & Koole, 2020). In this situation, online accessibility becomes a critical and evolving medium for communicating with and servicing targeted users (Aduba & Mayowa-Adebara, 2021). However, technology alone will not be sufficient. In this unusual and urgent circumstance, university libraries, particularly those from leading technical universities, play a critical role in informing their users about both the facilities and services available to them (Adedoyin & Soykan, 2020). Academic libraries in developing countries are confronted with several impediments on one side and prospects on the other side in the explaining online education setting during COVID-19, as they are called to telecommute that provide the sole online access to the library resources, and teach the entire audience online through different sources (Bao, 2020; Elmer et al., 2020; Goddard, 2020). Because many academic librarians' jobs include overall network and information skills assistance, understanding of technological factors for connectivity and structure for online education, as well as the hurdles to accessibility experienced by students and staff, has been a priority (Crawford et al., 2020; Nassr et al., 2020; Santos, 2020).

The study findings also pointed out that online resources of public sector libraries of higher educational institutions during the COVID-19 pandemic were providing required data, information education (Rashid & Yadav, 2020), online collaboration (Shoaib, Abdullah, et al., 2021) and communication with the larger group, digital literacy (Shoaib, Ahmad, Ali, & Abdullah, 2021) and wellbeing, problem-posing situation, rational and analytical thinking, producing online content and safety, and creativity with electronic tools and technology (Shoaib & Abdullah, 2020, 2021; Shoaib, Ali, & Naseer, 2021; Shoaib, Rasool, et al., 2021). However, digital competencies including not only communication, online information, and digital skills, but also construct attitudes and opinions in the online sharing environment, such as accountable, moral, reliable information use and propagate, as well as constructing dynamic and imaginative methods using digital technology (Shoaib, Ahmad, et al., 2021; Shoaib, Ali, Anwar, Rasool, et al., 2021). Further, several studies has been conducted using qualitative and quantitative technique in their studies (Anwar, Shoaib, & Javed, 2013; Shoaib, Latif, & Usmani, 2013; Shoaib & Ullah, 2019, 2021a, 2021b). Hence, this study has been designed to evaluate online library resources during the COVID-19 pandemic situation at higher educational institutions in Pakistan.

THE DATA AND METHODS

This paper is based on a quantitative study design in nature. A cross-sectional study has been conducted to draw a sample of 2378 from library patrons of public sector universities in Pakistan. A structured questionnaire is administered and prepare google form to collect information from the dispersed students, teachers, and library users of public sector universities in Pakistan. The tool of data collection is based on different parts including socio-demographic characteristics, COVID-19 outbreak, fear of infection, social distancing, accessibility of manuscript, accessibility of periodicals, accessibility of books, and online library resources. An attitudinal scale of (dis)agreement has been used to measure the response of library patrons. This scale was pre-tested randomly and the reliability value of each variable has been ranging from .03 to .842. However, the overall value of all the items has been calculated as .869. It is pertinent here to mention that during the COVID-19 pandemic, all the educational activities were shifted to online mode and it was not possible to collect information physically. Hene, an online method opted and questionnaire was shared through emails and WhatsApp numbers of public sector university library users. Further, the target of the said sample has been achieved through the support of teachers. The data was computerized and statistical analysis was done to show the trend of data. Descriptive statistics, correlation, and regression analysis have been employed to conclude.

RESULTS AND DISCUSSION

This section is divided into three sub-sections including descriptive statistics, Pearson correlation test, and regression analysis on the data. The detail of interpretation of data and discussion are as follows;

Descriptive Statistics

Table 1 reveals the descriptive statistics of the data on the subject under discussion. Analysis asserts that the fathers' level of education of the library users was ranging from illiterate to master & above level of education. The mean of this educational level is 773, 4.587 standard deviation, and 21.042 variances. Similarly, family size has also been ranging from three family members to 11 family members. Further, all the library users belong to different socio-economic groups including business, farming, government job, private job, labor, unemployed, and daily wagers. However, they have a maximum of six to eight brothers and sisters as siblings in their families. On the other side, the scale of the COVID-19 outbreak has also been reported in the table as the minimum value 8 and 20 maximum value along with 15.04 mean 2.342 standard deviations, and 5.487 variances. Similarly, the fear of infection variable has 7 minimum and 20 maximum values along with 17.63 means, 2.294 standard deviation, and

5.262 variances. Further, social distancing, accessibility of manuscripts, accessibility of periodicals, accessibility of books, and online library resources have also been provided in Table 1.

Table 1

Descriptive Statistics (n=2378)

Variables	Mini.	Maxi.	Mean	Std. Devi.	Vari.
Fathers' Education	0	17	7.73	4.587	21.042
Brothers (No.)	0	6	1.96	1.183	1.400
Sisters (No.)	0	8	2.66	1.432	2.049
COVID-19 Outbreak	8	20	15.04	2.342	5.487
Fear of Infection	7	20	17.63	2.294	5.262
Social Distancing	10	24	20.85	3.136	9.832
Accessibility of Manuscript	5	20	16.06	3.619	13.095
Accessibility of Periodicals	8	20	17.57	2.371	5.623
Accessibility of Books	7	16	14.27	1.813	3.287
Online Library Resources	11	20	17.78	2.244	5.037

Pearson Correlation

Table 2

Pearson Correlation Statistical Test (n=2378)

Var.	COVI	FEAR	SOCI	MANU	PERI	BOOK	ONLI
COVI	1	.266[**]	.302[**]	.131[**]	.268[**]	.158[**]	.251[**]
FEAR		1	.586[**]	.248[**]	.562[**]	.237[**]	.438[**]
SOCI			1	.322[**]	.512[**]	.314[**]	.451[**]
MANU				1	.499[**]	.090[**]	.309[**]
PERI					1	.214[**]	.467[**]
BOOK						1	.426[**]
ONLI							1
**. Correlation is significant at the 0.01 level (2-tailed).							

Table 2 depicts the Pearson correlation statistical test as bivariate analysis. The data in the table illustrate that fear of infection has a week positive correlation (r=.266) with the COVID-19 outbreak. Similarly, social distancing (r=.302), accessibility of manuscript (r=.131),

accessibility of periodicals (r=.268), accessibility of books (r=.158), and online library resources (r=.251) has also week positive correlation with the COVID-19 outbreak. However, analysis reports that fear of infection has a moderate positive significant correlation with social distancing (r=.586), accessibility of periodicals (r=.562), and online library resources (r=.438). opposite to it, fear of infection has a weak positive significant correlation with the accessibility of manuscript (r=.248) and accessibility of books (r=.237). It has been important to mention here that all the variables in Table 2 have significant weak and moderate positive correlations with each other.

Regression Analysis

Table 3

An OLS Multiple Regression Analysis Predicting Online Library Resources (Standard Errors and Parameter Estimates)

Predictors	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
COVID-19 Outbreak	.061	.016	.064	3.727	.000
Fear of Infection	.144	.021	.147	6.769	.000
Social Distancing	.088	.015	.123	5.704	.000
Accessibility of Manuscript	.064	.012	.104	5.508	.000
Accessibility of Periodicals	.180	.021	.190	8.456	.000
Accessibility of Books	.362	.021	.292	17.067	.000
(Constant)	3.143	.401		7.835	.000
Adjusted R Square = .379, R Square = .381, R = .617[a]			F = 243.030, df = 6, Sig = .000[b]		
Number of Observations = 2378					

Table 3 provides the results of OLS multiple regression analysis predicting online library information resources. It is important to mention here that this study has been conducted in terms of COVID-19 pandemic situations and all the educational institutions were closed to minimize the risk of an outbreak. Hence, all the educational activities have been shifted to online mode. At the same time, public sector university libraries provided all the resources to the users to facilitate during lockdowns situations. The results of this study indicate that COVID-19 outbreak, fear of infection, and social distancing have favorable effects on online

library information resources. Similarly, the results also support the argument that accessibility of manuscripts, accessibility of periodicals, and accessibility of books have favorable effects on online library resources. It has been asserted that during COIVD-19 pandemic situations, all the educational activities have been shifted to online mode and library resources are also improved to facilitate the library patrons.
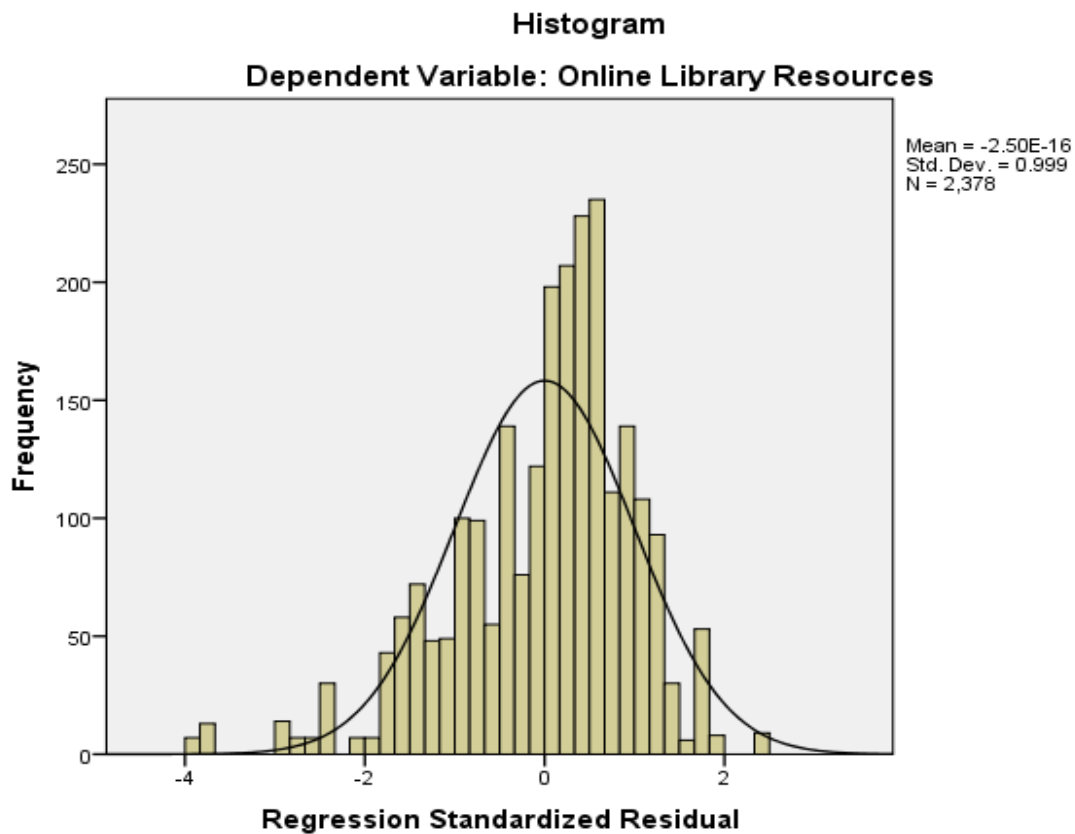

Figure 1: Histogram

The study findings assert that COVID-19 pandemic situations result in fear of infection, and social distancing was started to minimize the risk of infection and spread of disease. All the educational institutions were closed and shifted to online modes (Shoaib, Rasool, et al., 2021). Public libraries at higher educational institutions were also started to provide online resources to facilitate students and teachers for the accomplishment of their study-oriented assignments (Ali & Gatiti, 2020). It is pertinent to mention here the result supports the argument that online library information resources were improved at all educational institutions generally and higher educational institutions particularly (Alqahtani & Rajkhan, 2020; Asif & Singh, 2020). Similarly, the study also revealed that accessibility of manuscripts, periodicals, and books was

also improved at public sector libraries and online library resources were also strengthen to improve the quality of education overall. Although, internet problems were reported in developing countries as compared to the developed world. But gradually, the situations of online library resources were improved along with the shifting of online educational activities (Mishra et al., 2020; Nassr et al., 2020).

In the academic libraries students and employees working remotely in COVID-19 provide several online services like digital guidebooks, online tutorials, interactive and collaborative live meetings, teaching courses and attending sessions, online support and referencing formats, and data analysis methods (Nuere & de Miguel, 2020; Odili, Adetona, & Eneh, 2020; Odriozola-González et al., 2020). Libraries with a weaker digital platform are being urged to reform themselves and develop a full range of online services as they transition to a new world of digital technology (Rashid & Yadav, 2020; Sahu, 2020). Academic libraries are being asked to critically analyze information and skills, as well as services that can still be remotely presented in light of both the temporary limited and/or no physical access (Asif & Singh, 2020; Nassr et al., 2020; Tejedor et al., 2020). The future needs more comprehensive strategies for such pandemics that cause more uncertainty.

CONCLUSION

The study concluded based on the study findings that public sector libraries at higher educational institutions facilitated at large to their patrons during COVID-19 pandemic situations. The fear of infection and social distancing rule along with other factors minimized the movement of people from one area to another area. Similarly, the lockdown was started at that time and all the educational institutions were closed to minimize the risk of an outbreak. At the same time, all the educational activities were shifted to online modes at all educational levels generally and higher educational level particularly. Additionally, amidst the pandemic, university libraries were actively engaged in offering premium features for the retrieval of online resources refer to the COVID-19 pandemic flare-up to help the students and educational institutions built their comprehension as well as raise the significance of information evaluation as a survival tactic against the COVID-19 "infodemic". Similarly, the COVID-19 epidemic highlighted the critical role of library professionals in assisting students in developing knowledge, virtual, and communications reading comprehension. As a result, they select, avail, and use precise, credible, truthful, and reliable information sources autonomously, for not just their research as well as for their other educational-related activities. The study findings assert that COVID-19 pandemic situations result in improving the online library resources and facilitating to their patrons.

Limitations of the Study

The study has been limited to quantitative study design and public sector university libraries. The study only focussed on the variables including COVID-19 outbreak, fear of infection, social distancing, accessibility of manuscript, accessibility of periodicals, accessibility of books, and online library resources.

Future Implications

Researchers may opt mixed-method research approach including qualitative and quantitative study design to conduct similar nature of studies in the field of library and information science, sociology of education, and other related subjects. Further, different variables e.g., curriculum-based material, databases, library staff facilitation, and library environment, etc. may be used and a higher level of statistical analysis may be employed including neural network, structural equation modeling technique, and other relevant techniques to draw results and conclusions.

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