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Examining E-readiness In Libraries of Public Sector Universities Khyber Pakhtunkhwa-Pakistan

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Examining E-readiness In Libraries of Public Sector Universities Khyber Pakhtunkhwa-Pakistan

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Abstract

This research has investigated the level of e-readiness in public sector university libraries located in Khyber Pakhtunkhwa-Pakistan. The study aimed to assess the presence of human resources, electronic infrastructure, network services, and programs in these libraries. The target population consisted of twenty-seven public sector university libraries in the region. The research utilized a quantitative approach and employed a questionnaire-based survey to gather data from the librarians or individuals in charge of these libraries. The collected data were analyzed using Statistical Package for Social Sciences version 22 (SPSS). The findings revealed that the respondents' satisfaction regarding their knowledge of libraries was low or moderate, as indicated by mean scores below 3. Similarly, the satisfaction levels concerning electronic infrastructure, network services, and programs, as well as the role of libraries in the digital world, were rated as average or below. Based on the results, the study recommended significant transformations in various aspects of public-sector university libraries. To achieve this, the government should allocate necessary resources and provide facilities to meet the informational and recreational needs of the population. Improvements are required in the Information Communication Technology (ICT) infrastructure of these libraries, including the availability of computer equipment, databases, network servers, multimedia projectors, digital cameras, uninterruptible power supply, scanners, and backup devices such as hard discs and Digital Video Disc/compact Disc

Keywords: ICT-Libraries; E-readiness-Libraries; e-readiness-University libraries, e-readiness-Pakistan

1- Introduction

In the latter part of the 1990s, the concept of e-readiness emerged as a response to the need for a standardized framework to assess the extent of the digital divide between developed and developing nations [1]. The initial effort to define e-readiness came from the Computer System

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Policy Project (CSPP) in 1998 when they produced the "Readiness Guide for Living in the Networked World," which served as the first evaluation tool for measuring e-readiness. CSPP defined e-readiness as a community's ability to have fast access to and effectively utilize Information Communication Technologies (ICTs) in various sectors such as education, businesses, healthcare, government, and public services. It encompassed aspects like connectivity, privacy, security, and policies that promote communication and network utilization [2]. The increasing global adoption of the Internet and advancements in ICT have contributed to the notion of e-readiness [3].

Rao (2003) further emphasizes the "eight ingredients (8Cs) of electronic readiness" - connectivity, content, comparability, community, commerce, capacity, cultural cooperation, and comparability. These factors determine the relative importance of community development in achieving the most critical aspects of ICT adoption and utilization, providing a comprehensive framework for a cooperative community [4]. E-readiness assessments also help identify and classify significant ICT-based growth opportunities. For instance, a nation needs to be "electronic-ready" in terms of communication infrastructure, public access to ICT, and the impact of legislative and regulatory structures on ICT usage. It involves measuring progress, fostering partnerships, and establishing a vision, strategy, and objectives [5]. E-readiness is a measure of society's preparedness to adopt E-technology based on the level of access to and utilization of ICT [6]. Electronic government, e-commerce, and e-growth all depend on e-readiness [7].

The term "electronic readiness" refers to the capacity of university libraries to accept, implement, and utilize ICT facilities within their premises. It also entails possessing the necessary capabilities to explore possibilities presented by ICT. The level of electronic readiness is determined by the extent to which these capabilities are utilized and leveraged, as well as the establishment of conducive conditions for harnessing the potential of these technologies [8]. This topic is crucial because a sufficient level of e-readiness in university libraries ensures their sustainability while also transforming them into efficient organizations within today's information and knowledge-based society. Assessing the e-readiness of university libraries is important because e-education is considered a fundamental element of the information community, and educational institutions are increasingly embracing this form

of education due to its numerous benefits. Additionally, some programs and services are now available online through these institutions. University libraries need to have a sufficient degree of e-readiness to provide optimal support to their users and align with academic, research, and cultural objectives, given their crucial role in education and research.

The "assessment model of e-readiness for Iranian academic libraries" is a localized model developed by [9]. This model was created by drawing inspiration from existing e-readiness assessment methods to design a comprehensive model specifically tailored to evaluate the e-readiness of academic libraries in Iran. The model comprises four essential components: "human resources," "electronic infrastructure," "network services and programs," and "enhancers of the networked world." The "human resources" component includes indicators such as knowledge, skills, and attitude. The "electronic infrastructure" component includes indicators related to hardware, communication facilities, software, and IT penetration. The "network services and programs" component includes indicators related to service provision infrastructure, infrastructure quality, information services, and dissemination. Finally, the "enhancers of the networked world" component focuses on security [10].

This study aims to assess the e-readiness of university libraries in the Khyber Pakhtunkhwa region. The research will consider "human resources," "electronic infrastructure," "network services and programs," and "enhancers of the networked world" as key factors in library resources. The topic was chosen because no similar work has been conducted in the province, and it will help bridge the gap in literature and expand the knowledge base of Library and Information Science (LIS). The study is limited to public sector university libraries in Khyber Pakhtunkhwa, excluding seminar libraries, departmental libraries, campus school/college libraries, and institutions not awarding degrees.

Objectives of the study

The current study will meet the following aims and objectives:
- To evaluate the e-readiness of human resources in libraries in the public sector university of Khyber Pakhtunkhwa.
- To find out the electronic readiness of public sector universities library in Khyber Pakhtunkhwa in terms of electronic infrastructure.

- To examine the e–readiness of Khyber Pakhtunkhwa public sector university libraries to implement ICT concerning network services and programs.
- To assess Electronic-readiness in terms of enhancers of the networked world in public sector universities library in Khyber Pakhtunkhwa.

2- Previous studies

The libraries in the study were found to be operated by professionals in Library and Information Science (LIS), although they had limited financial, human, and information resources. The human resources' e-readiness revealed a lack of knowledge and modest skills in ICT and other technological areas. While library software was integrated, the ICT infrastructure was not fully implemented. The lack of e-readiness was influenced by several factors [11]. It was reported that e-readiness had an impact on graduate achievement, e-learning affected graduate performance, and e-books influenced graduate success. The study suggests that the curriculum aligns with learning outcomes, particularly in the execution of the learning process [12]. Improving the preparedness of librarians and libraries to provide information to users requires special attention from leadership. Revised policies and management styles are needed to ensure the continued operation and service of the library [13]. The findings indicate that learners have a decent understanding of e-readiness needs, which can provide useful information for enhancing an institution's e-readiness position [14].

The e-readiness of human resources in terms of ICT and other technological areas was found to be lacking. Technology was used to some extent in service delivery, but several challenges contributed to limited e-readiness [15]. The study found that human resources, electronic infrastructure, network programs and services, and facilitators of the interconnected environment all had a significant impact on e-readiness. Additionally, measuring software, information services, and skills savings had a greater influence in their respective dimensions. The findings highlighted the importance of students' academic commitment and digital preparedness in their perception of e-learning and anticipated achievement.

Other studies revealed positive opinions among library personnel and students regarding access to services via mobile phones. The availability of library services via mobile phones

was found to be influenced by various factors [7]. Organizations that have addressed these challenges by embracing ICT and global networking have been leaders in electronic readiness [17]. In some studies, it was found that librarians have sufficient access to ICT, such as the internet, Online Public Access Catalogue (OPAC), computers, and online databases, but inadequate funding and a focus on user skills were reasons for the underutilization of ICT in libraries. Various tools were used to assess the readiness of nations based on their existing technological capacities and use of information technology [16].

Studies conducted in India, Nigeria, Kenya, and other countries examined the ICT skills and readiness of academic librarians. These studies identified barriers such as a shortage of qualified librarians, varying levels of ICT skills among library staff, insufficient facilities, and financial constraints [19]. The readiness measures often focus on evaluating a country's digital readiness rather than assessing the e-readiness of specific learning institutions, and the data used to develop these measures often come from more advanced countries. The data revealed that majority of the students are of the opinion that in semester system of examination, students can get good grades, high percentage of marks but simultaneously they have expressed deep concern about the possibility of malpractice in terms of awarding unjustified marks to the non-deserving ones [21].There is criticism that e-readiness efforts in developed nations may not align with the context and culture of developing countries [14]. The COVID-19 pandemic has accelerated the adoption of e-learning and highlighted the importance of e-readiness in educational institutions worldwide. Online education has the potential to remove barriers and provide access to education, but it requires a combination of skills and an understanding of the educational implications [17]. It was pinpointed that inadequate funding for library automation, lack of skilled library professionals, lack of user education programs on emerging library technologies, frequent power failure are the major barriers to the implementation of latest technologies in university libraries of the country[18].

In conclusion, numerous international studies have investigated e-readiness in different countries. However, there is a lack of research on e-readiness in the specific geographic area of this study. Therefore, this research aims to assess the electronic readiness of library practitioners in Pakistan, filling a gap in the existing literature.
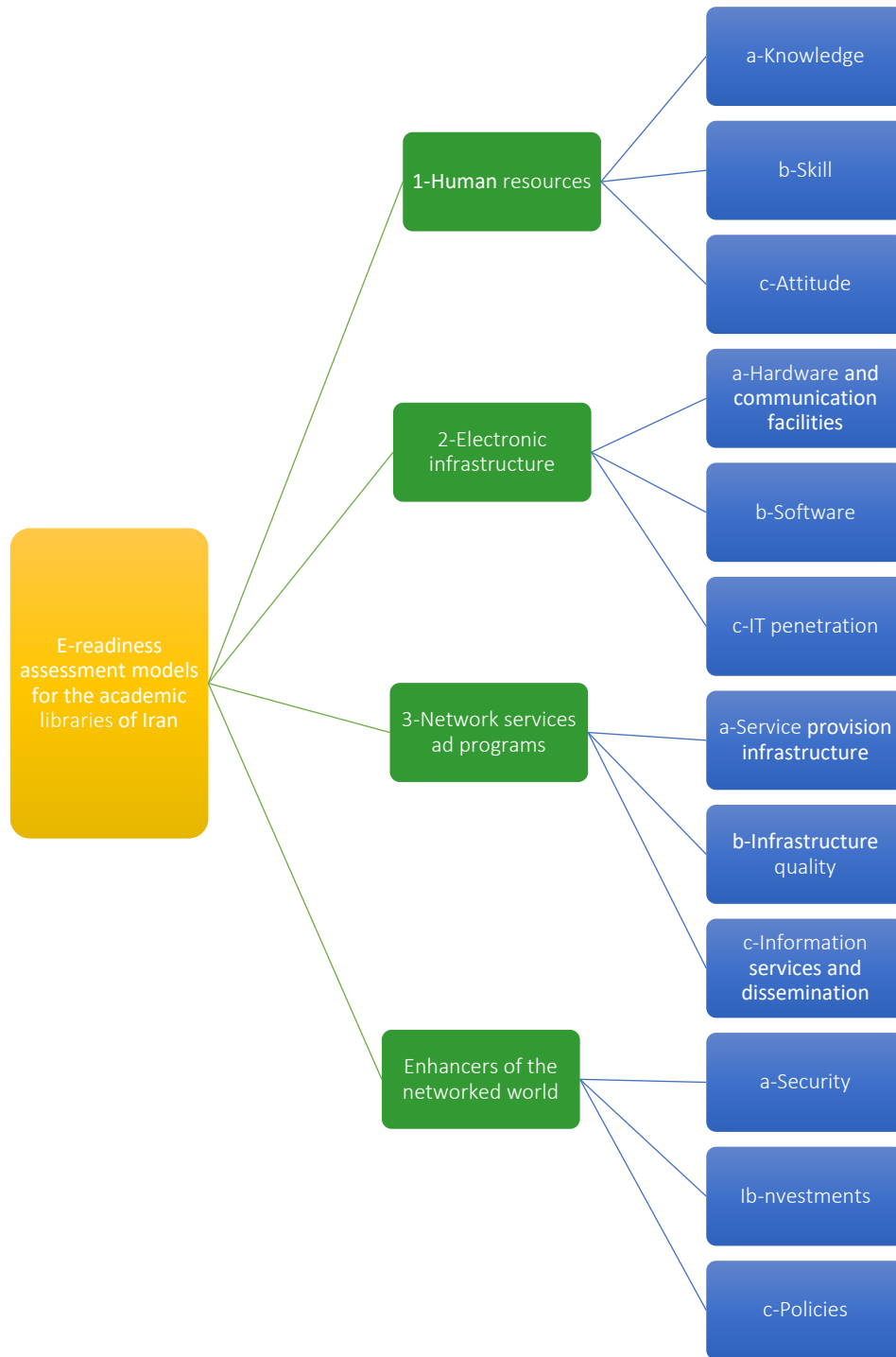
3- Material and Methods

This study adopts a descriptive approach and utilizes a quantitative research method to gather data on the e-readiness of public sector university libraries. This method is suitable given the controlled population and the wide geographical area covered, following the "e-readiness assessment model for Iranian academic libraries" [21]. The participants in the study were the librarians/in-charge of the central libraries of public sector universities and libraries in Khyber Pakhtunkhwa, Pakistan. Since the population was controlled, the data collection encompassed the entire population. Out of the 31 public sector university libraries in the province, data was collected from 27 universities, excluding four degree-awarding institutions. The librarians or in-charge of these university libraries constituted the population.

To gather data, the questionnaire developed by Noorafroz (2012) was adapted for this study. After finalizing the questionnaire, it was reviewed by experts and professional researchers for validation and feedback on its design [22]. The suggestions and feedback from the experts and researchers were incorporated into the questionnaire. The questionnaire was further reviewed by the supervisor, who provided additional suggestions that were included in the instrument. The research instrument's internal consistency and content reliability were assessed using Cronbach's Alpha Coefficients. Prior to the main study, a pilot study was conducted by sending the tool to 10 private sector university libraries and gathering their comments and feedback. Minor modifications were suggested by the pilot study participants and were incorporated into the questionnaire. The questionnaire demonstrated a high content reliability and internal consistency, with an alpha value of 0.972.

A total of 27 questionnaires were distributed to the respondents, and all questionnaires were received back from the respondents, resulting in a response rate of 100%. Modern communication platforms such as cellular networks, email, and online surveys were utilized to collect data efficiently. All received questionnaires were carefully reviewed and used for data analysis. The Statistical Package for Social Sciences version 22 (SPSS) was employed for data investigation. Each study variable was defined in SPSS, and the responses/data were entered accordingly.

E-readiness Assessment Model

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                                              ┌──────────────────┐
                                              │   a-Knowledge    │
                                              └──────────────────┘
                         ┌──────────────────┐ ┌──────────────────┐
                         │ 1-Human resources│─│     b-Skill      │
                         └──────────────────┘ └──────────────────┘
                                              ┌──────────────────┐
                                              │   c-Attitude     │
                                              └──────────────────┘

                                              ┌──────────────────┐
                                              │  a-Hardware and  │
                                              │  communication   │
                                              │    facilities    │
                         ┌──────────────────┐ └──────────────────┘
                         │  2-Electronic    │ ┌──────────────────┐
                         │  infrastructure  │─│    b-Software    │
                         └──────────────────┘ └──────────────────┘
                                              ┌──────────────────┐
                                              │ c-IT penetration │
┌──────────────────┐                          └──────────────────┘
│   E-readiness    │
│ assessment models│                          ┌──────────────────┐
│ for the academic │                          │ a-Service provision│
│ libraries of Iran│                          │   infrastructure │
└──────────────────┘     ┌──────────────────┐ └──────────────────┘
                         │ 3-Network services│ ┌──────────────────┐
                         │   ad programs    │─│ b-Infrastructure │
                         └──────────────────┘ │     quality      │
                                              └──────────────────┘
                                              ┌──────────────────┐
                                              │  c-Information   │
                                              │  services and    │
                                              │  dissemination   │
                                              └──────────────────┘
                                              ┌──────────────────┐
                         ┌──────────────────┐ │    a-Security    │
                         │  Enhancers of the│ └──────────────────┘
                         │  networked world │ ┌──────────────────┐
                         └──────────────────┘─│   Ib-nvestments  │
                                              └──────────────────┘
                                              ┌──────────────────┐
                                              │    c-Policies    │
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4- Data Analysis and Interpretation

To obtain the results, descriptive statistics such as frequencies, percentages, mean, and standard deviation were utilized to align with the study objectives. Data was presented in tables, which were then analyzed to derive the findings and conclusions.

Demographic Information

This section examines the demographic information of the participants. One of the survey questions pertained to the gender of the participants, and the resulting ratio of male and female respondents was determined. The analysis of the collected data reveals that out of the 27 LIS professionals, 24 (88.90%) were male, while the remaining participants were female. It can be concluded that the proportion of male respondents was significantly higher than that of female respondents. The majority of the respondents were aged above 41 years, accounting for 10 individuals (37%). This was followed by the age group of 36-40 years with 9 respondents (33.30%). There were 7 respondents (25.90%) in the age range of 31-35 years, and only 1 respondent (3.70%) fell within the age group of 25-30 years. Educational qualifications were also collected from the survey respondents. Of the LIS professionals, 22 individuals (81.50%) held an MLIS degree, while 5 respondents (18.50%) had an M.Phil in LIS. The respondents were also asked about their job designation. The data shows that out of the 27 participants, the majority, comprising 13 individuals (44.8%), were librarians. The remaining respondents included 3 chief librarians (10.3%), 3 deputy librarians (10.3%), 6 assistant librarians (20.7%), and 2 individuals (6.9%) with other designations. Furthermore, it was observed that 18 LIS professionals (62.1%) had 1-10 years of experience, followed by 6 professionals (20.7%) with 11-20 years of experience, 2 respondents (6.9%) with up to 21-30 years of experience, and 1 respondent (3.4%) with 31-40 years of experience.

E-readiness Status in terms of Human Resources

Table 1 presents data regarding the e-readiness status in relation to human resources. Public sector university library practitioners were asked to provide responses regarding the e-reaTable No.1 **Electronic-readiness status in terms of Human resources**

Component	Indicators	Mean	Accumulative Means
Knowledge	In-service or continuous training 0f IT to library personnel	2.63	2.72
	presence of ICT experts with relevant education certificate	2.81	
	Access to specialized counselors related to ICT out of the library	2.92	
	Level of English proficiency of library managers and personnel	3.33	
Skill	Level of information and digital literacy of library	3.70	3.57

	managers and personnel		
	capability of personnel for using ICT tools	3.44	
Attitude	capability of personnel for using system and internet for research objectives and promoting studies	3.48	3.35
	Awareness 0f managers and personnel of the potential of ICT	3.37	
	considerate the value of information in development and helping the rapid and fluid flow of information	3.11	
	Positive attitude toward reengineering working processes with a special look into IT	3.44	

The table shows the electronic-readiness status of a library in terms of human resources, based on three components: knowledge, skill, and attitude. The indicators used to measure each component are listed in the table.

Under the knowledge component, the table shows the mean scores and accumulative means for four indicators, including in-service or continuous training of IT to library personnel, presence of ICT experts with relevant education certificate, access to specialized counselors related to ICT out of the library, and the level of English proficiency of library managers and personnel.

The skill component has two indicators: the level of information and digital literacy of library managers and personnel, and the capability of personnel for using ICT tools. The mean and accumulative means scores for these indicators are also listed.

The attitude component measures the capability of personnel for using the system and the internet for research objectives and promoting studies, awareness of managers and personnel of the potential of ICT, consideration of the value of information in development and helping the rapid and fluid flow of information, and positive attitude toward reengineering working processes with a special look into IT.

Overall, the table suggests that the library has a moderate level of electronic-readiness in terms of human resources, with higher mean scores for skill and attitude components compared to the knowledge component. The library personnel have a reasonable level of information and digital literacy and a positive attitude toward reengineering working

processes with IT, but they require more in-service or continuous training of IT, access to specialized counselors related to ICT out of the library, and improved English proficiency.

1.1. E-readiness stats in terms of Electronic Infrastructure

Table 2 provides an evaluation of the electronic infrastructure, presenting data collected from the heads/in charge of public sector university libraries regarding its status. The evaluation focuses on three components: hardware, software, and IT penetration. The "Hardware" component exhibits a higher value (3.31) compared to the other two components, as indicated in the analysis presented in the table. The availability of hardware facilities is generally favorable, suggesting that the majority of libraries are equipped with these necessary resources.

Regarding the software component, the mean score indicates that all respondents confirmed the incorporation of library software for automating library services and other routine tasks in their respective libraries.The IT penetration aspect was also assessed by the heads/in charge of public sector university libraries. Some indicators within this component demonstrate very low mean values, indicating poor quality of these facilities. The cumulative mean for this dimension falls around the average mark, highlighting the need for significant improvement in the quality of these amenities within the libraries.

Overall, Table 2 presents an overview of the electronic infrastructure assessment, showing the status of hardware, software, and IT penetration. It suggests a favorable availability of hardware facilities and the implementation of library software, but also indicates the need for enhancement in certain aspects of IT penetration to elevate the overall quality of these amenities in the libraries.

Regenerate response**Table 2** *E-readiness stats in terms of Electronic Infrastructure*

C0mponent	Indicators	Mean	Accumulative Means
Hardware	Trust in ICT	3.62	3.31
	Existence 0f facilities and hardware such as	4.00	

	computer, scanner, printer, copy, and fax in the library		
	existence of telephone in the library	3.29	
	Existence of cell phone in the library	3.03	
	Existence of email in the library and for the personnel	3.85	
	Existence of computer and internet site in the library (for members and personnel)	3.57	
	Existence of a section called IT in the library	3.07	
	Existence of network in the library	3.51	
	Existence of website for the library	3.00	
	Existence of weblog for the library	2.81	
Software	Existence of electronic discussion groups for better communication with the users	2.62	2.89
	Existence of an integrated library software	3.07	
	Existence of educational software in the library	3.07	
	Existence of specialized software in the library	3.00	
	Existence of multi-media material, update CDs and DVDs about the new science and issues of the day	2.70	
IT Penetration	Use of ICT for marketing and advertising library resources	3.03	2.94
	Use of practical software of knowledge management and customer relationship management	2.88	
	Use of RFIC technology in library	2.37	
	Use of ICT in ordering processes	2.66	
	Use of ICT such as telephone, internet, e-mail, SMS for communication	3.29	
	Use of ICT and online environment in organizing library resources	3.18	
	Use of ICT, especially internet for collecting and expanding library resources	3.14	

E-readiness status in terms of Network services and programs

Table 3 displays the collected data pertaining to the Network services and programs dimension, gathered from the heads/incharge of public sector universities libraries. This dimension consists of three components: "Infrastructure quality," "Service provision infrastructure," and "Information service and dissemination." Upon analyzing the cumulative mean scores of these components, it is evident that the "Infrastructure quality" component received a higher mean score (3.31) compared to "Information service and dissemination" (2.98) and "Service provision infrastructure" (2.93). The mean scores for the "Service provision infrastructure" component fall below 3, indicating that the libraries possess either insufficient or moderate service provision infrastructure.

Resultantly, Table 3 provides insights into the Network services and programs dimension, highlighting the mean scores for each component. It suggests that there is a relatively higher level of infrastructure quality, while the service provision infrastructure component shows a need for improvement to meet the desired standards.

Table 3: E-readiness status in terms of Network services and programs

Component	Indicators	Mean	Accumulative Means
Infrastructure quality	Number of computers per users	3.14	3.31
	Number of phone lines per personnel	2.96	
	Number 0f online users or network population	2.92	
	Number 0f computers connected to internet for every 100 users in the library	3.22	
	Type of connection to internet	3.51	
	Quality of ICT support	3.59	
	The speed of internet bandwidth	3.88	
	Number of personnel with personal e-mail	3.29	
Service provision infrastructure	Presence of a single knowledge and information management in the library	3.07	2.93
	Existence of a digital collection in the	3.22	

Component	Indicators	Mean	Accumulative Means
	library		
	Regular and rapid updating of library resources and services	3.25	
	Existence of digital reference desk in the library	2.81	
	Offering telephone services to users	2.25	
	Offering electronic information services	2.96	
Information service and dissemination	Offering the services of selective distribution of information (electronically)	2.88	2.98
	Offering the services of electr0nic reference and electronic delivery of resources	2.92	
	Measuring science, measuring web, and measuring information	2.85	
	Teaching the standards 0f information literacy and technical skills to library users	3.00	
	Possibility of online searching of library resources for distant users	3.14	
	Measuring library plans and services	3.07	

Knowledge	In-service or continuous training 0f IT to library personnel	2.63	2.72
	presence of ICT experts with relevant education certificate	2.81	
	Access to specialized counselors related to ICT out of the library	2.92	
	Level of English proficiency of library managers and personnel	3.33	
Skill	Level of information and digital literacy of library managers and personnel	3.70	3.57
	capability of personnel for using ICT tools	3.44	
Attitude	capability of personnel for using system and internet for research objectives and promoting studies	3.48	3.35
	Awareness 0f managers and personnel of the potential of ICT	3.37	
	considerate the value of information in development and helping the rapid and fluid flow of information	3.11	
	Positive attitude toward reengineering working processes with a special look into IT	3.44	

The provided table allows for an analysis of the library's e-readiness status based on different components and their respective indicators. Each component's mean score and accumulative mean score are presented in the table.

Infrastructure quality: The library demonstrates a moderate level of infrastructure quality, with mean scores of 3.14 for the number of computers per user, 2.96 for the number of phone lines per personnel, 2.92 for the number of online users or network population, 3.22 for the number of computers connected to the internet per 100 users, 3.51 for the type of internet connection, 3.59 for the quality of ICT support, 3.88 for the speed of internet bandwidth, and 3.29 for the number of personnel with personal email.

Service provision infrastructure: The library exhibits a moderate level of service provision infrastructure, with mean scores of 3.07 for the presence of a single knowledge and information management in the library, 3.22 for the existence of a digital collection, 3.25 for regular and rapid updating of library resources and services, 2.81 for the existence of a digital reference desk,

2.25 for offering telephone services to users, and 2.96 for offering electronic information services.

Information service and dissemination: The library maintains a moderate level of information service and dissemination, with mean scores of 2.88 for offering selective distribution of information (electronically), 2.92 for offering electronic reference and electronic delivery of resources, 2.85 for measuring science, web, and information, 3.00 for teaching information literacy and technical skills to users, and 3.14 for the possibility of online searching of library resources for distant users.

Knowledge: The library has a low level of knowledge, indicated by mean scores of 2.63 for in-service or continuous training of IT to library personnel, 2.81 for the presence of ICT experts with relevant education certificates, 2.92 for access to specialized counselors related to ICT outside the library, and 3.33 for the level of English proficiency among library managers and personnel.

Skill: The library demonstrates a high level of skill, with a mean score of 3.70 for the level of information and digital literacy among library managers and personnel, and 3.44 for their capability to use ICT tools.

Attitude: The library exhibits a moderate attitude, with mean scores of 3.48 for the capability of personnel to use the system and internet for research objectives and promoting studies, 3.37 for the awareness of managers and personnel regarding the potential of ICT, 3.11 for considering the value of information in development and facilitating the flow of information, and 3.44 for a positive attitude toward reengineering working processes with a focus on IT.

Overall, the library's e-readiness status is deemed moderate, with certain areas requiring improvement, particularly in knowledge and information service and dissemination. However, the library demonstrates a high level of skill and a positive attitude towards reengineering working processes with a specific emphasis on IT.

Discussion

The main objective of this study was to assess the level of e-readiness in the libraries of public sector universities in Khyber Pakhtunkhwa, focusing on human resources, electronic infrastructure, and network services and programs available in these libraries.

Data on human resources were collected from the heads/in charge of public sector university libraries. The cumulative mean scores indicate that the "skills" component (3.57) received a higher mean score than "attitude" (3.35) and "knowledge" (2.72). The mean scores for the knowledge component are below 3, suggesting that the respondents had limited or no knowledge of ICT.

Regarding electronic infrastructure, the availability of hardware facilities in these libraries was satisfactory, enabling them to function effectively. The mean score for the software dimension indicates that the majority of libraries had implemented library software for automating library services and other routine tasks. However, the cumulative mean score for the dimension is only average, indicating that there is room for improvement in the quality of these facilities.

In terms of network services and programs, data on the Enhancer of the Network World dimension were collected from the heads/in charge of public sector university libraries. The components of this dimension, including "security" and its associated indicators, are provided with their respective mean values. The mean scores show that the component "use of security systems and gates for protecting and controlling the inventory" (3.44) received a higher mean score compared to "information and network security" (3.25). The mean scores for the "updating antivirus software" component (3.14) are below average, suggesting that there is a need for improvement in this aspect.

Overall, the e-readiness status in terms of enhancing the networked world in these libraries is moderate. While some components demonstrate higher mean scores, others indicate the need for improvement, particularly in knowledge, service provision infrastructure, and updating antivirus software.

Conclusion

Indicators provide a valuable tool for assessing the readiness level of university libraries and understanding their strengths and weaknesses, ultimately bridging the digital gap in these libraries. These indicators enable the evaluation of all the information technology services

offered by university libraries, including IT staff knowledge, technology infrastructure, technology utilization, and IT services.

Based on an extensive examination of various electronic readiness models and the conclusions drawn from this study, it can be asserted that highly electronic-ready libraries are required to provide users with up-to-date and efficient information services and technology. The indicators proposed in this study's model can be used as a method to assess the current state of electronic readiness in university libraries and compare them with others.

However, the model does not define the minimum level of electronic readiness that libraries should achieve. Future research will focus on determining consistent and comprehensive levels of electronic readiness in university libraries. The findings indicate that the proportion of male respondents was higher than that of female respondents. A total of 01 (3.70%) LIS professionals were found to be in the age group of 31-35 years, 07 (25.90%) respondents were in the age group of 36-40 years, and 09 (33.30%) were 41 years and above. Regarding the respondents' designations, the majority of 13 (44.8%) were librarians, followed by 3 (10.3%) chief librarians, 3 (10.3%) deputy librarians, 6 (20.7%) assistant librarians, and 2 (6.9%) others. The data were collected from 27 librarians from public sector universities, and the majority of respondents (44.8%) were librarians.

In terms of electronic readiness of human resources, the "Skills" component received a higher mean score (3.57) compared to "Attitude" (3.35) and "Knowledge" (2.72). The cumulative mean scores of the two components are below 3, indicating that the respondents had only basic or rudimentary knowledge and abilities in Information and Communication Technology. In the electronic readiness of electronic infrastructure, the "Hardware" component received a higher score (mean=3.31), suggesting that all surveyed libraries have integrated library hardware for automating library services and regular operations. The availability of software facilities in the libraries was also easily accessible.

Several indicators of the "Infrastructure Quality" component had relatively low mean values, indicating poor-quality facilities. The cumulative mean of this component is around average, suggesting that the examined libraries have significant room for improvement. The cumulative mean scores of the components indicate that the "Infrastructure Quality" component (3.31) received a higher mean score compared to "Information Service and Dissemination" (2.98) and

"Service Provision Infrastructure" (2.93). The mean scores of the "Service Provision Infrastructure" component are below 3, indicating a need for improvement or modest infrastructure in this area.The components of the "Enhancer of the Network World" dimension, along with their respective indicators, are presented with their mean values. The mean scores of the "Use of security systems and gates for protecting and controlling the inventory" component (3.44) received a higher mean score than "Information and network security" (3.25). The mean scores of the "Updating antivirus software" component (3.14) are below average, suggesting a need for improvement or modest updates in antivirus software.

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