e-Governance A Source of Online Quality Education and the Challenges Faced by Public-Sectors Universities in Pakistan

[1]Shah Muhammad Butt, [2]Muhammad Ali Shaikh, [3]Zahid Hussain Sahito, and [4]Stephen John

[1]Ph.D. Research Scholar, Sindh University, Jamshoro, Hyderabad
[2]Professor, Sindh Madressatul Islam University, Karachi
[3]Assistant Professor, Shah Abdul Latif University, Khairpur
[4]Associate Professor, Sindh Madressatul Islam University, Karachi

Abstract

The purpose of this research study was to investigate the role of e-Governance in providing online quality education in the public sector universities of Pakistan and to discover the challenges faced by public sector universities in adopting this system. For the purpose, a quantitative research approach was adopted and questionnaires consisting of close-ended questions were distributed among faculty, staff, students, and IT staff of twenty-one universities of Pakistan. The data analysis reveals that more than 50% of universities are not having the basic infrastructure or state-of-the-art facilities then in absence of such things online quality education is not possible till the government provides financial support in solving such challenges.

Keywords: *e-Governance, Transparent & Quality Distance Education, Problems, and Public Sector Universities*

1. Introduction

In Pakistan, the issue of higher education governance has become increasingly important in the last decade or so, but despite some efforts, the issue has never been given proper attention. In 2001, the reorganization of higher education in Pakistan started with great enthusiasm and obvious encouragement, According to the Organization for Economic Co-operation and Development (OECD) only after two years, reforms were brought to a halt[1]. In the sense of higher education, the term "higher" means achieving a unique value with significant knowledge. Institutions seem to have issues with availability, ICT, efficiency, and free education. Tertiary institutions are struggling with enormous challenges and opportunities [2]. The higher education sector has undergone a transformative change over the past decade, driven by Internet and e-learning technology, and the transformation of higher education is fueled by the use of ICT to improve the quality of education [3].

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It was also pointed out that ICTs can improve the quality of learning by promoting, engaging, and developing the learner's basic skills. Higher education is plagued by serious challenges in developing countries to ensure that technological advances are viewed in the context of educational needs [4]. The relevant studies in the fields of e-Governance, Higher Education Commission (HEC), and Government of Pakistan are examining universities from methodological, theoretical, and practical perspectives and building their academic knowledge related to technology. Integration of ICT in higher education is also moving ahead in terms of personal computers for students, wireless broadband technology, mobile apps, online services like information updated regularly on the university website, learning management systems, student self-services and financial transactions, other e-tools for other equally accessible for students, faculty, and staff of the university [5]. Mobile telephony has advanced rapidly in Pakistan, with greater mobile connectivity than PC-based connectivity [6]. Higher Educational Institutes (HEI) should take the necessary steps to ensure proper mechanisms to allow such forms of ICT to be integrated within their teaching and learning. Through promoting online learning communities, digital technology allows more immersive pedagogy [7]. Conventional libraries are no longer just places where printed materials can be kept, and access to various digital libraries is now the new practice in tertiary institutions [8]. Such technological developments and the rise of online databases lead to an increase in education outside the traditional classroom, students, and teachers can use the internet as an important tool for research, report analysis and other academic work [9].

One way to get some ideas about e-Governance models is to explore how other institutions or your peers have organized and documented their e-Governance. Most universities that have adopted e-

Governance policies are generally transparent and publish their approach on their websites where they outline their organizational structure, describe their framework, and identify key members of each committee. Based on the research study, the researcher suggests the theoretical model for the integrated system of the major functional areas of the higher educational institutions. The model represents that all the different functional areas of the HEI's which can be implemented through a phased manner; however, it has been observed that Phase-1 of the proposed model partially implemented at all public sector HEI's through the help of HEC PERN. One-way information dissemination through website relating to university's conventional functions (i.e. All procedures, guidelines and notifications (including tender notifications), publications, important declarations, announcements, events, forms, and policies), the website should be kept updated. The Second Phase of the model is based on Infrastructure of the University; which includes the Student Management System, Dynamic Website, Network Management, Library Management, Training, and SOPs/manuals.

The project may be funded by HEC or incurred from University's recurring budget. In the educational sector, the role of Information Technology (IT) has played a key role in introducing operational, administrative, and service-oriented reforms to different levels of governance. The use of IT in public administration and education reforms is widely recognized and referred to as e-government or e-governance intermittently[10]. In recent years, the higher education landscape has been immensely transformed by technology. Universities around the world have adopted numerous creative approaches to advance learning environments, refurbish their libraries, and improve campus security. One of Augmented Reality's most significant benefits of learning and development is that it needs no hardware investment. We can use our smartphones or tablets to experience Augmented Reality. Simulation-based education is a form of education or training used to "replace or improve the real experience with controlled experiences.". IoT in universities means a vision for education that is better connected and more cooperative. IoT devices provide students with better access to everything from learning materials to communication channels and allow teachers to evaluate the progress of student learning in real-time. In the classroom buzzwords circulated by experts as granular for students of the 21st century, digital literacy is one such technology. It's everywhere, in everybody's language, but it can be daunting to figure out what it means. Current academic qualifications models are based on the obsolete Industrial Age criteria. Back in those factory-like work environments, we needed to make sure that people with the same level of education were given the same credentials as a way to show future employers that they could do some job.

Nowadays the role of e-governance in education plays an important role, particularly in the process of empowering technology in educational activities i.e. single point of access, several challenges can delay progress towards realizing the promise of e-government. The variety and complexity of e-government initiatives imply the existence of a wide range of challenges and barriers to its implementation and management. The following are the different challenges of e-government implementation. Quality of services can be improved through the successful implementation of e-Government like e-governance infrastructure, privacy, security, policy and regulation, lack of qualified human capital, digital divide, institutional leadership, and management. Keeping in view the variables used by the United Nations for measuring e-Government development of member countries which are successfully used for the last eighteen (18) years. The variables used by the UN are Online Services Index (OSI); Telecom Infrastructure Index (TII); Human Capital Index (HCI). As a composite indicator, the E-Government development index (EGDI) is used to measure the willingness and capacity of national administrations to use information and communication technologies to deliver public services. Items adopted from the UN e-Governance Development (EGD) Model to assess member countries ' quality for qualitative data collection, including students, faculty, and administrative staff from twenty-one (21) universities in the public sector in Pakistan. Taking into account the solutions proposed by IT experts, international standards and policies developed by the Government of Pakistan / HEC for the good use of the e-Governance system, it is proposed that a framework for the knowledge of all stakeholders, SOP for TI infrastructure, Digital Services and Human Capital should be developed in all HEI. Efficiency, transparency, and quality of service are also suggested in light of the issues faced.

2. Research Objectives

The objectives of this research study were:

- To prove that it is a source of transparent and quality online education
- To discover the factors that influence e-Governance use in the Public-Sector universities

Research Questions

The following question guided this research study:

- What are the e-Governance international standards for universities?
- Do public sector universities meet these standards?
- What are the challenges faced by public-sector universities while adopting the set standards?

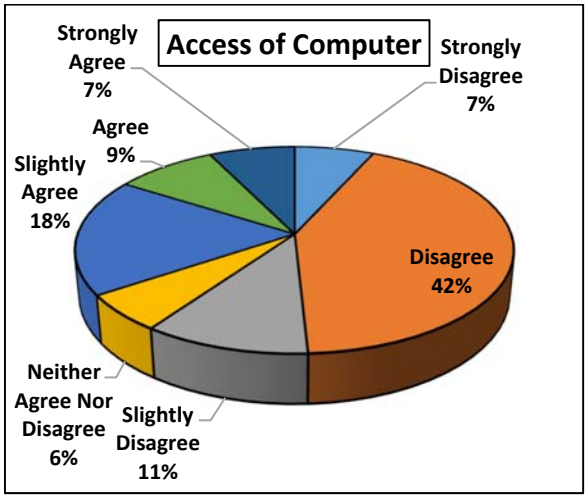
3. Research Methodology

Keeping in view the requirements of the present research study, a quantitative approach was adopted. A quantitative approach was used to get exact responses to fulfill the requirements or to keep the respondent on the required track. The population of this research study was faculty, administrative officers, students, and IT administrative staff. The required data were collected by using questionnaires having close-ended questions from randomly selected 138 faculty members, 142 administrative staff, 365 students, and 79 IT administrative staff from 21 public sector universities of Pakistan.

4. Data Analysis

To find out the state of e-governance standards and policy implemented in the public sector universities. Twenty-one (21) universities of Pakistan were surveyed and data was collected. The analysis of collected responses is as under:

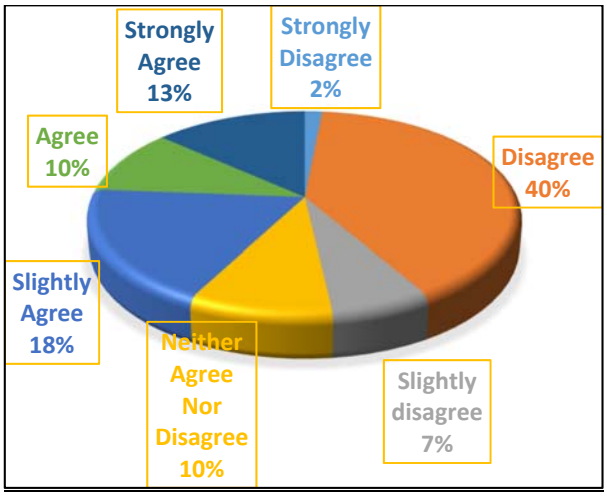
Accessibility of Computer in the University



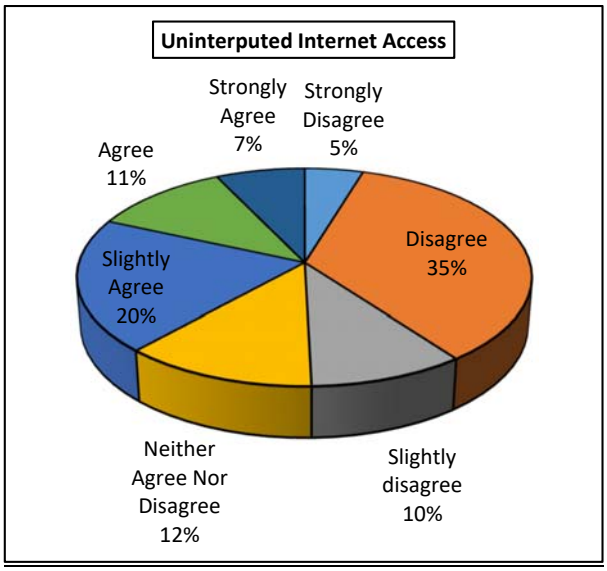
Accessibility of the computer is the basic requirement for e-Governance. In response to a question related to it, the options used by the respondents' SD = 6.8%, Disagree =42.4%, SD =10.6% and neither agree nor disagree =5.8% and overall responses of this part =65.6% which reflects that may or surely computer access is not possible in more than 50% universities of Pakistan.

Availability of Dedicated Nodes and Bandwidth for University Computers

The responses to this question indicate that 57.7% of computers available in the universities do not have hardware which could contact computer with internet.



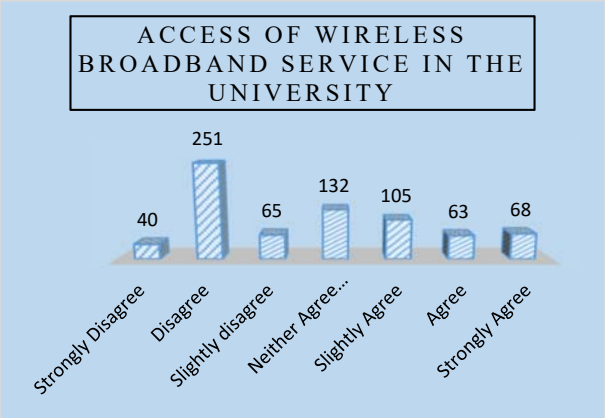
Uninterrupted Internet Accessibility in the University



The data present in this graph below reveals that approximately 61.8% of respondents were on the side of 'No' means internet uninterrupted access is not present in their university.

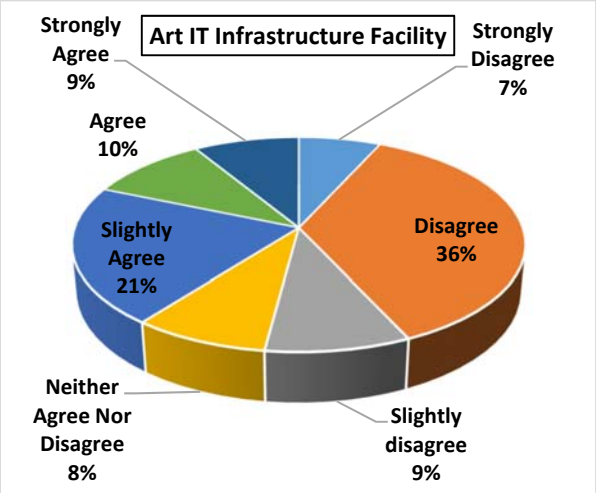
Wireless Broadband Service in the University

The graph below reveals that in 67.4% of universities wireless broadband service is not available.



State-of-the-Art Infrastructure Facility in the University

60.5% of respondents used the options 'No' indicating that ICT infrastructure is not present in the universities of Pakistan.



Availability of Updated Regular Information on the University Website

The responses present in the table reveals that 62% of universities in Pakistan are either are having no website or are not upgrading their page regularly.

Table 1: University website provides all information and updates regularly

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	9	1.2	1.2	1.2
	Disagree	312	43.1	43.1	44.3
	Slightly disagree	41	5.7	5.7	50.0
	Neither Agree Nor Disagree	87	12.0	12.0	62.0
	Slightly Agree	118	16.3	16.3	78.3
	Agree	72	9.9	9.9	88.3
	Strongly Agree	85	11.7	11.7	100.0
	Total	**724**	**100.0**	**100.0**	

Availability of Online Self-Service and Learning Management System in the University

62.4% of respondents used the options strongly disagree, disagree, slightly disagree of they used the option having no comments indicates that self-service or learning management system is not available in the universities.

Table 2: University provides online self-service and interacts through the learning management system

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	47	6.5	6.5	6.5
	Disagree	274	37.8	37.8	44.3
	Slightly disagree	53	7.3	7.3	51.7
	Neither Agree Nor Disagree	78	10.8	10.8	62.4
	Slightly Agree	159	22.0	22.0	84.4
	Agree	78	10.8	10.8	95.2
	Strongly Agree	35	4.8	4.8	100.0
	Total	**724**	**100.0**	**100.0**	

Table 3: University has a web portal that provides e-tools and financial transactions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	18	2.5	2.5	2.5
	Disagree	289	39.9	39.9	42.4
	Slightly disagree	55	7.6	7.6	50.0
	Neither Agree Nor Disagree	101	14.0	14.0	64.0
	Slightly Agree	109	15.1	15.1	79.0
	Agree	81	11.2	11.2	90.2
	Strongly Agree	71	9.8	9.8	100.0
	Total	**724**	**100.0**	**100.0**	

Availability of E-Tools and Financial Transaction in the University

64% (2.5 + 39.9 + 7.6 + 14.0) respondents used the negative side of the options which means that e-tools are available in web portals of the universities, therefore, financial transactions are not done through the online system.

Availability of Complaint Management System and Real-Time Support in the University

66.44% (.8+40.1+9.9+15.6) respondents used 'No' which means that there is no complaint management system present in the universities therefore real-time support through social media is not provided to the workers and students of the universities in Pakistan.

Table 4: University has an online complaint management system and real-time support through social media

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	.8	.8	.8
	Disagree	290	40.1	40.1	40.9
	Slightly disagree	72	9.9	9.9	50.8
	Neither Agree Nor Disagree	113	15.6	15.6	66.4
	Slightly Agree	123	17.0	17.0	83.4
	Agree	64	8.8	8.8	92.3
	Strongly Agree	56	7.7	7.7	100.0
	Total	**724**	**100.0**	**100.0**	

5. Conclusion

It is concluded from the analysis of the collected responses that in 65.6% computer the basic required tool for e-Governance is not available, if someone having own then in 57.7% universities dedicated nodes and bandwidth are not available, 61.8% have no access to uninterrupted internet, wireless broadband service is not available in 67.4% universities, state-of-the-Art infrastructure is not existing in 60.5% universities, 62% universities are working without official websites, in 62.4% universities online-self-service and learning management service is not existing, 64% universities are having any type of e-tool for financial transactions, and in 66.44% universities complaint management system and real-time support is not existing.

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