

# Assessing Digital Library Acceptance by Postgraduate Students: A Proposed Framework

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**Abstract:** A collection of information, alongwith related services managed and stored in the digital formats for accessing over a digital network is called digital library. The study aims to calculate the acceptance of digital library program initiated by higher education commission of Pakistan. Higher education commission is monitoring body that overlooks the higher education institutions and provides them with required facilities, equipment's and services. One of its biggest services is Digital library program, an outstanding national level digital library in Pakistan. For the sake of encourage the research culture and improve the digital infrastructure nation-wide, digital library is introduced. The study is based on a reviewing relevant literature on the subject to evaluate successes of digital library project and assessing its acceptance in perspective of users particularly research students of various universities and to provide theoretical framework towards acceptance of digital library by research students.

**Keywords:** Digital Library, Acceptance, Framework, students, Pakistan

## I. INTRODUCTION

There were two university libraries at the time of independence of Pakistan, that were in university of Punjab and university of Sindh Jamshoro but currently there are 173 universities are present in the country ([www.hec.gov.pk](http://www.hec.gov.pk)) and all having their library to full fill the required information of the user community and explore the institutional mission to achieve the academic perfection [1]. However, the available literature demonstrates the dull picture of university libraries in Pakistan lack of organised library services and devotion on the portion of library and information science [2]. Nonetheless, the scenario of university libraries has been improved after the establishment of HEC in Pakistan[3]. The HEC is constitutionally recognised institution responsible for monitoring, regulating and facilitating the development of higher education system in the country. HEC is responsible for monitoring, supporting and financing the public universities as a whole, while private universities are also monitored by HEC alongwith other private organizations [4]. HEC has become a main authority that improves higher education in Pakistan [5]. The main concentration of HEC is to promote the culture of research at postgraduate level and provide conveniences to teaching staff to engage them in innovation and research. Everywhere around the world countries are moving towards digitization of libraries for many reasons, but the most important is to provide remote access to the users through web, since the creation of Digital library is one of the marvellous initiative by HEC that provides approach to electronic databases, electronic journals and electronic books from world's brilliant publishers, HEC digital library provide free research with in public and

private universities and development organization the researchers can access the high-quality material that is included 30 plus databases that allow access over 20,000 full text journals, HEC digital library access by around 250 institutions with in country, more than 10,000 e-books and over 150 million items obtainable through British Library Document Delivery Service [6]Therefore the HEC digital library programme is good initiative by the government of Pakistan, but it needs to come with facts and figures to check usage and effectiveness of digital library. This study will review the research studies conduct so far by independent researchers beside it aims to check that either it provides good enough material or full fills the user's requirement as they needed in their research and how much it's responsible to promote the research culture of higher education in Pakistan.

## II. PROBLEM STATEMENT

The idea of digitalization of libraries is not very old in developing country like Pakistan. Here, different projects of library digitization are going on in the county. HEC digital library is very helpful for researchers and librarians, cheap access and support to promote the research efforts in public and private sectors of Pakistan. Hence, library and Information Science experts has conducted different studies to assess the acceptance and use digital resources provided through HEC digital library [7]–[13] but yet no major studies has been conducted to investigate the effectiveness of digital library facilities in connection with research students particularly in universities at Sindh province of Pakistan, despite this previous research did not provide good enough

information about the effectiveness of HEC digital library project in universities of Sindh province. Therefore, this study is going to assess and calculate the effectiveness of resources provided by HEC digital library, by examining the questions like much HEC digital libraries beneficial to research scholars, for research innovation, This research is being planned to find the research students views about HEC digital library and different issues being faced by them, The results will further improve the convenience of resources for them in order to achieve excellent academic performance by researchers and to further advancement the status of research and academic perfection in the country.

### III. LITERATURE REVIEW

First, Term digital library have different meanings according to [14] an organization that have expert staff for guidance in selecting collection that are available for community, preserve integrity and access points called digital library. Digital library not only supports material preservation but also it helps learning, exchange of ideas and collaboration in research and innovation[15]. "The digital library is an umbrella term for conceptual modes of libraries that focus on the provision of services associated almost totally with digital content and to describe those aspects of existing library services that have significant component" [16]. Libraries digitization in Pakistan is in embryonic stage, many of digitization projects going on in all over the country, one-third of university libraries were engaged in digitization, the university libraries competitively better in comparison of other sector libraries [17]. In 2004 British council start a project to launch networked digital library in Pakistan to benefit human being and foundations in their research, in same year united nations introduce its digital library to provide access to complete text documents produce by various UN agencies, program and funds that were active in Pakistan[18]. HEC entrenched a program for enhancement of research information (PERI) with the help of international network for the availability of scientific publication (INASP), oxford its objective is to improve the use of ICT's and promote the production of national and regional research [19].

Research studies conducted by LIS professionals shows that digital library has brought much improvements and resources are much utilized in research and teaching by academicians and researchers. For example, (said, 2006) the research output increase after the HEC digital library initiative by 2004 the key finding shows that low incentive available for the researchers restricted and congested access to the resources and poor infrastructure are the factors that affect research output in country. The HEC digital library initiative is a valuable program to accommodate to information needs of the users, nonetheless HEC digital library resources is not plentiful to achieve the researcher information needs because primitive information resources that reside in university libraries are not part of such project [17], on the other hand [20], [21] shows in their studies the professionals was not properly aware to utilized HEC digital

library resources due to that the library services were not being fully utilized by librarian or researchers. Hence the HEC digital library is very beneficial for the teachers, researchers and R&D organizations in Pakistan it allow access the very expensive databases, books and research journals free of cost that would must be helpful in their work .as stated in [12], HEC digital library is very useful for research community, we still need more efforts to speed up our goal through this revolutionary path which is still in evolutionary stage for more learning, and by focusing on our weakness like lack of awareness about the importance of e resources, deficient promotional activities and low information literacy rate are real challenge for librarians is to solve the challenges faced by users.

### IV. RESEARCH OBJECTIVES

1. To check the researcher's satisfaction level about HEC digital library resources and services
2. To know the problem faced by researchers in using resources provided by HEC digital library.
3. To review the improvement in research culture in Pakistan is the HEC digital libraries motivate and attract the university student or not.
4. To develop a framework for researcher.

### V. RESEARCH METHODOLOGY.

In library information science, most common method for conducting research is survey method. According to [8], [26]–[29] in library information science studies the survey method is common and successfully usable research method. To achieve all objectives of this research, the quantitative research design, the survey method will be applied, both the public and private sector universities will be studied for this research from universities at province of Sindh Pakistan.

Respondents for this research will be the postgraduate students. A paper based structural questionnaire will be developed to collect data in public and private sector universities of Sindh, hence, there are large number of students are studying so it will not possible to survey the whole population, 4 universities will be selected one private and three public the whole population of four universities will be around 5000 PG students so according to [30], the sample size of 5000 students will be 357. The questionnaire first will be pre-tested and pilot study will be conducted from 50 MPhil and PhD research scholars, to identify the problems in improving the questionnaire, after pilot study the final main survey study will be conducted by sending questionnaire among respondent through e-mail, personal visits to the universities.

TABLE I. TARGET UNIVERSITIES

Type	Name of category	Name of university	location
Public	Engineering	Mehran University of Engineering and Technology	Jamshoro/Hyderabad (Central Sindh)
Public	General	University of Sindh	Jamshoro/Hyderabad (Central Sindh)
Public	General	University of Karachi	Karachi (capital city)
Private	General	Hamdard university	Karachi (capital city)

VI. PROPOSED FRAMEWORK

The framework given in Figure 1 is developed based on the extensive literature review relevant to information system field. The variables used in developing framework were adopted from TAM with addition of some external variables, discussed one by one in below section.

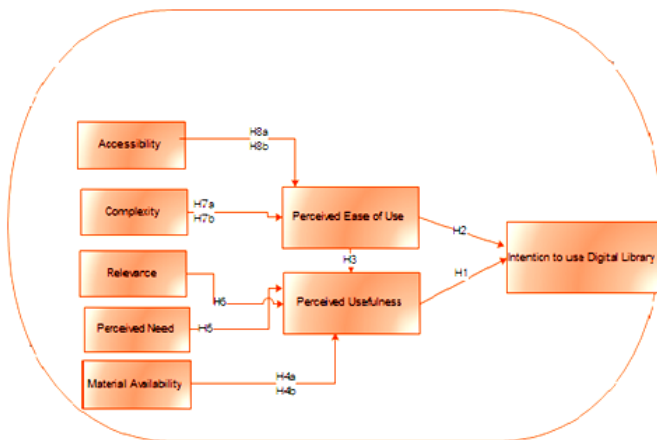


Figure 1: Proposed Framework

A. VARIABLES AND HYPOTHESIS

a) *Perceived usefulness:*

It shows the level of believe of person in using the technology that it will improve his or her performance is called Perceived usefulness (PU) [22]. Here we will use it to see intention of the digital library use by researchers to improve their research performance.

Hypothesis for this are given below

*H1 Perceived usefulness will have significant positive effect on Intention to use digital library.*

b) *Perceived ease of use:*

Person’s perception about using technology will be free of effort is called Perceived ease of use [22].

*H2a Perceived ease of use will have significant positive effect on Intention to use digital library.*

*H3 Perceived ease of use w will have significant positive effect on Perceived usefulness of digital library*

c) *Material availability:*

Material availability is defined as the repositories or databases provided in digital library. Here it is used to check either availability of material is important for behavioral intention of users. Hypothesis for this are below

*H4a Material availability has significant positive effect on intention to use digital library*

*H4b Material availability has no significant effect on intention to use digital library.*

d) *Perceived needs:*

An inference from examining a present state and comparing it with a vision of better condition is called perceived need [23].

*H5 Perceived needs will have a significant positive effect on perceived usefulness of digital library*

e) *Relevance*

Significance or importance of anything for particular work or job is called relevance here it is used to check how researcher seek it for their work. Hypothesis are given below

*H6 Relevance will have significant positive effect on perceived usefulness of digital library*

f) *Complexity:*

The degree to which an innovation is perceived as relatively difficult to understand and use [24]

*H7a Complexity will have significant positive effect on perceived ease of use for intention to use digital library*

*H7b Complexity will have negative effect on perceived ease of use for intention to use digital library*

g) *Accessibility:*

Accessibility can be defined as the access or reach source or service [25], here this construct is used to measure the accessibility of digital library resources and services to researchers particularly postgraduate students.

*H8a Accessibility has significant positive effect of perceived ease of use for intention to use digital library*

*H8b Accessibility has no positive effect of perceived ease of use for intention to use digital library*

VII. CONCLUSION AND FUTURE WORK

The nation-wide digital library provision is positive effort by HEC Pakistan, no doubt the needs for digitized contents increasing worldwide day by day, so this study will be helpful to evaluate the effectiveness of HEC digital library

program in the sense of user's satisfaction, improvement of research culture in country and the provided material meets the researcher's information needs and identify the problems in accessing the HEC digital library website.

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