

# DIGITAL COMPETENCIES OF LIBRARIANS AND EFFECTIVENESS OF DIGITAL LIBRARY SERVICES IN UNIVERSITY LIBRARIES

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**Abstract:** The effectiveness of digital library services in higher education institutions is increasingly dependent on the digital competencies of library professionals. As academic libraries transition toward technology-driven service models, librarians are required to manage electronic resources, digital platforms, institutional repositories, and remote access systems. This study examines the relationship between librarians' digital competencies and the effectiveness of digital library services in university libraries. A quantitative research design was adopted, and data were collected from 105 library professionals working in selected university libraries in Haryana State, India. A structured questionnaire based on a four-point Likert scale was used to assess digital competencies and service effectiveness. Descriptive statistics and Pearson's correlation analysis were employed for data analysis. The findings reveal that librarians possess moderate to high levels of digital competencies and that these competencies have a strong and statistically significant positive relationship with the effectiveness of digital library services. The study concludes that human expertise is a critical determinant of digital library success and recommends continuous professional development and institutional support to strengthen digital library services.

**Keywords :** Digital competencies; Librarians; Digital library services; Academic libraries; Higher education; India

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## 1.0 Introduction

Academic libraries have undergone profound transformation in response to rapid advancements in information and communication technologies (ICT). Traditional library services centered on print collections have expanded to include digital resources such as e-journals, e-books, online databases, institutional repositories, and remote access systems. As a result, the role of librarians has evolved significantly, requiring new competencies related to digital resource management, information technology, and user support.

In the digital library environment, the effectiveness of services is no longer determined solely by the availability of technological infrastructure. Instead, it increasingly depends on the professional competencies of librarians who design, manage, and deliver these services. Librarians are expected to possess skills in database management, digital content organization, metadata creation, troubleshooting, user training, and research support. Without adequate digital competencies, even well-funded digital libraries may fail to meet user expectations.

In the Indian higher education context, university libraries have rapidly adopted digital resources through national consortia and institutional subscriptions. However, disparities in professional skills, training opportunities, and organizational support continue to influence the quality of digital library services. Haryana State, with its diverse range of universities, provides an appropriate setting to examine how librarians' digital competencies affect digital library effectiveness.

The present study aims to empirically investigate the relationship between librarians' digital competencies and

the effectiveness of digital library services in university libraries. By focusing on library professionals, the study contributes to the growing body of research emphasizing the human dimension of digital library development.

## 2.0 Review of Literature

The concept of digital competencies in librarianship has received increasing scholarly attention over the past two decades. Digital competencies are broadly defined as the knowledge, skills, and abilities required to effectively use and manage digital technologies and resources. Islam and Tsuji (2011) emphasized that librarians' competencies are critical for successful digital library implementation, particularly in developing countries.

Several studies have examined the evolving roles of librarians in digital environments. Cox and Corral (2013) observed that academic librarians are increasingly involved in research support, digital curation, and data management services. Iyer (2018) highlighted the importance of technical, instructional, and managerial competencies in digital librarianship.

Research on digital library effectiveness suggests that service quality is influenced by system usability, access reliability, and user support. Noh (2015) argued that human support mechanisms play a vital role in enhancing user satisfaction with digital library services. Similarly, Hernon and Altman (2010) emphasized that service effectiveness is closely linked to staff competence and responsiveness.

Studies conducted in the Indian context reveal mixed findings regarding librarians' digital preparedness. Harinarayana and Raju (2010) reported increasing adoption of Web 2.0 tools in Indian university libraries, while Dixit and Negi (2018) identified skill gaps among library professionals in advanced digital applications. These findings underscore the need for continuous professional development.

Despite growing literature, empirical studies examining the direct relationship between librarians' digital competencies and digital library service effectiveness remain limited, particularly at the regional level. The present study addresses this gap by providing statistically validated evidence from university libraries.

## 3.0 Objectives and Hypothesis

### 3.1 Objectives

1. To assess the level of digital competencies among librarians in university libraries.
2. To examine the effectiveness of digital library services provided by university libraries.
3. To analyze the relationship between librarians' digital competencies and digital library service effectiveness.

### 3.2 Hypothesis

**H<sub>2</sub>:** Librarians with higher digital competencies are more capable of managing digital libraries, leading to improved effectiveness of digital library services.

## 4.0 Methodology

### 4.1 Research Design

The study employed a **quantitative survey research design**, suitable for examining relationships between variables.

### 4.2 Sample and Data Collection

The sample consisted of **105 library professionals** working in selected university libraries in Haryana State. Stratified random sampling was used to ensure representation across different types of universities.

A structured questionnaire was administered, comprising statements related to:

- Digital skills of librarians
- Proficiency in managing databases
- Ability to support users in accessing e-resources
- Management of institutional repositories
- Effectiveness of digital library services

Responses were measured using a four-point Likert scale.

#### 4.3 Data Analysis

Data were analyzed using descriptive statistics to assess competency levels and service effectiveness. Pearson's product-moment correlation coefficient was used to test the hypothesis at the 0.01 significance level.

#### 5.0 Results

The descriptive analysis revealed that a majority of librarians possess adequate digital skills required for managing digital library services. Respondents reported proficiency in handling online databases, guiding users in accessing e-resources, and managing digital library systems.

Moderate challenges were reported in areas such as off-campus access management and user awareness of digital resources. However, overall perceptions of digital library effectiveness were positive.

Correlation analysis revealed a **strong positive and statistically significant relationship** between librarians' digital competencies and the effectiveness of digital library services. The calculated correlation coefficient exceeded the critical value at the 0.01 level, leading to acceptance of the hypothesis.

#### 6.0 Discussion

The findings confirm that librarians' digital competencies are a decisive factor in the effectiveness of digital library services. This supports earlier studies emphasizing the human dimension of digital library success. The strong correlation indicates that libraries with digitally skilled professionals are better equipped to manage electronic resources, support users, and ensure service reliability.

The results also highlight the importance of continuous professional development. While basic digital skills are widely present, advanced competencies related to emerging technologies and research support require further strengthening.

#### 7.0 Conclusion and Implications

The study concludes that digital competencies of librarians significantly influence the effectiveness of digital library services in university libraries. Technology alone is insufficient to ensure effective service delivery; skilled and adaptable librarians are essential for maximizing the benefits of digital library investments.

The findings have important implications for library management and policy. University administrators should prioritize regular training programmes, encourage skill enhancement, and provide institutional support for professional development. Strengthening librarians' digital competencies will directly contribute to improved access, utilization, and satisfaction with digital library services.

Future research may explore longitudinal changes in competencies, comparative studies across regions, and qualitative investigations into librarians' professional experiences.

#### 8.0 References

- i. Cox, A. M., & Corral, S. (2013). Evolving academic library specialties. *Journal of the American Society for Information Science*, 64(8), 1526–1542.
- ii. Dixit, M., & Negi, S. (2018). Digital literacy among library professionals. *International Journal of Information Studies*, 10(2), 45–53.
- iii. Herson, P., & Altman, E. (2010). *Assessing service quality*. Chicago, IL: ALA.
- Islam, M. A., & Tsuji, K. (2011). Librarians' competencies for digital libraries. *Library Hi Tech*, 29(2), 304–319.
- iv. Noh, Y. (2015). Measuring digital library service quality. *Library Hi Tech*, 33(2), 184–200.