

# Chapter 61

## Cloud-Based Digital Library Era

**Ahmed Shawish**

*Ain Shams University, Egypt*

**Maria Salama**

*British University in Egypt, Egypt*

### ABSTRACT

*Rapid advances in information processing, storage, and communication technologies have revolutionized the role of the libraries. This chapter reviews the library services, problems and drivers of change from the classical form to the digital one. The chapter then focuses on the current cloud era. It comparatively covers the library cloud-based platforms, services, management systems, innovative products and opened environments in terms of their characteristics, added values, pros and cons. A comprehensive survey on the digital libraries in the cloud era is presented in this chapter.*

### INTRODUCTION

Libraries are the repositories of knowledge and form an integral part of education; an organized collection of resources made accessible to a defined community for reference or borrowing, providing physical or digital access to material, and may be a physical building or room, or a virtual space, or both. Traditionally, libraries have been divided into four groups: academic, school, public and specialized, where each of them has its own structure and purpose. With the rise of higher education, increase of mobility and fast advancement of technology the library has started to migrate to the next era; the digital era.

Rapid advances in information processing, storage, and communication technologies have revolutionized the role of the libraries and information centers all over the world. Developments of digital technologies have increased the possibility of horizontal and vertical integration of knowledge and information. The term “Digital Library” has a variety of potential meanings, ranging from a digitized collection of material that one might find in a traditional library through to the collection of all digital information along with the services that make the information useful to all possible users.

With the emergence of cloud computing, a new Library era has started, where new features, services, platforms and solutions are invading the old library’s approaches. This chapter presents most of the library Cloud-based platforms, services management systems, innovative products and open-source environments.

DOI: 10.4018/978-1-5225-3914-8.ch061

The Platforms like “*WorldCat* and *DuraCloud*”, Service management systems like “*ExLibris Alma*”, innovative products like “*Millennium*, *Sierra Services*, *Encore Synergy*, *Content Pro*, *AirPAC*, and *Campus Computing*”, and open-source environment like “*Kuali Open Library*” are covered in this chapter.

The rest of this chapter is organized as follows. The background section covers an overview on the library including its definition, services, problems, and drivers of change, as well as the related concepts of cloud computing. The second section presents the emergence of cloud computing technology in the digital libraries, comprehensively addressing the cloud-based platforms, the services, the products and the platforms. The last section discusses the adoption of cloud computing in library services; covering some feature cases of using cloud in library platforms, a comparison between different library cloud platforms and a discussion about the advantages and disadvantages of the emergence of cloud computing in the library field. The book chapter is finally concluded.

## **BACKGROUND**

This section covers the library services along with their problems and the drives of change, as well as the related concepts of cloud computing.

### **1. Library Services**

Libraries are information centers established in support of the mission of the host institutions, where they are located, to generate knowledge, equip people with knowledge in order to serve the society and advance the well being of mankind.

The primary objective of academic institutions of higher education is advancement of learning and acquisition of knowledge. Academic libraries are part of the university and its organizational culture. Whatever affects universities also has an impact on their libraries too. The role of university libraries is changing to provide the competitive advantage for the university. Academic libraries are the nerve centers of academic institutions and are mandated to support teaching, research and other academic programs.

Universities and Higher Education Institutions (HEIs) are faced with a challenge to create and disseminate knowledge to society. Traditionally, universities have been the sites of knowledge production, storage, dissemination and authorization. Universities need to share information and knowledge among the academic community within and outside the institution. Therefore, knowledge created in universities through research and teaching should be relevant to the society, and promoting knowledge as a major factor of business of the university and higher education institutions (Aswath & Gupta, 2009).

Library services include the following:

- Online/offline access to digital information resources
- Information retrieval
- Database searching
- Public access services
- Electronic reference
- Public relations services
- Library promotion and marketing
- E-publishing

16 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/cloud-based-digital-library-era/191566](http://www.igi-global.com/chapter/cloud-based-digital-library-era/191566)

## Related Content

---

### Disaster and Digital Libraries in Developing Countries: Issues and Challenges

Goodluck Ifijeh, Jerome Idiegbeyan-Ose, Chidi D. Isiakponaand Julie Ilogho (2018). *Library Science and Administration: Concepts, Methodologies, Tools, and Applications* (pp. 988-1015).

[www.irma-international.org/chapter/disaster-and-digital-libraries-in-developing-countries/191552](http://www.irma-international.org/chapter/disaster-and-digital-libraries-in-developing-countries/191552)

### University Library Services and Student Academic Performance

Booyesen Sabeho Tubulingane (2021). *International Journal of Library and Information Services* (pp. 1-17).

[www.irma-international.org/article/university-library-services-and-student-academic-performance/277422](http://www.irma-international.org/article/university-library-services-and-student-academic-performance/277422)

### An Approach to Trie Based Keyword Search for Search Engines

Pranav Murali (2017). *International Journal of Library and Information Services* (pp. 1-16).

[www.irma-international.org/article/an-approach-to-trie-based-keyword-search-for-search-engines/181684](http://www.irma-international.org/article/an-approach-to-trie-based-keyword-search-for-search-engines/181684)

### Measuring Customer Satisfaction in Bowen University Library, Nigeria

Grace Omolara O. Olla, Paul Adesola Adekunle, Roseline Mitana Oshinameand Ayoola Oluwaseun Ajayi (2019). *International Journal of Library and Information Services* (pp. 1-21).

[www.irma-international.org/article/measuring-customer-satisfaction-in-bowen-university-library-nigeria/228175](http://www.irma-international.org/article/measuring-customer-satisfaction-in-bowen-university-library-nigeria/228175)

### Researchers' Perceptions of Research Data Management Activities at an Academic Library in a Developing Country

Johnson Mulongo Masinde, Jing Chenand Daniel Wambiri Muthee (2021). *International Journal of Library and Information Services* (pp. 1-17).

[www.irma-international.org/article/researchers-perceptions-of-research-data-management-activities-at-an-academic-library-in-a-developing-country/280357](http://www.irma-international.org/article/researchers-perceptions-of-research-data-management-activities-at-an-academic-library-in-a-developing-country/280357)