

## Chapter 3

# Cloud Libraries: Issues and Challenges

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### ABSTRACT

*On-demand computing power at modest cost, tied with faster Internet accessibility in the Cloud has offered the future of Cloud libraries. This chapter presents a snapshot of what is happening in the arena of Cloud libraries. It presents the features, its promises, components that drive a Cloud library, users and the services, infrastructure, information sources, and retrieval strategies in the Cloud. Further, it presents a Cloud strategic planning model for its realization in libraries. Whereas a lot of work has been done on the technical aspects and implications in health and medical services, there is lack of focus on the implication of Cloud computing in a library setting. This chapter is a self-conscious attempt in filling some of the gaps.*

### INTRODUCTION

Greek mythology tells of critters plucked from the earth's surface and treasured as a celestial body in the sky. Analogous developments have erupted in the computing world where data, software, hard disk and platforms have been swept from desktop PCs and server rooms and installed in the compute Cloud. "The Cloud phenomenon is very real because of its position to drive technology, deliver usability and force standardization" (James, 2010).

In general, Cloud computing has stripped the computing power from CPU and brought a shift in the geography of computation leading to delivery of computing power on the Web (online CPU).

"The Cloud is the content bazaar of the Web" that is "massive" and "ignoring or prohibiting the Web is to prohibit electricity" (James, 2010). The "Cloud" element of Cloud Computing can be seen as an acronym that stands for:

**C:** Computing resources,  
**L:** That is Location independent,  
**O:** Accessed via Online means,  
**U:** Used as an Utility, and  
**D:** On Demand availability.

Cloud Computing has severely infested the structure and functions of library's trinity: books to e-books, users to virtual users, staff to virtual staffs. Under the ascendancy of technological

developments library services have underwent phenomenal changes taking the shape of Cloud libraries. This chapter is written with an aim to present the various shades of Cloud computing enabled Cloud libraries their needs, features components, major players, infrastructure as well as strategies of realization. Cloud library in general is a fundamental transformation of the entire brick- and- mortar library which offers an auspicious opportunity to introduce Web-based dynamic library services. A Cloud library is a trinity of users, Cloud (Internet) and staff which are interconnected through computing. In a Cloud library the library services are consumed and delivered over the Internet.

### **CLOUD COMPUTING AND LIBRARIES: ISSUES**

There is an intellectual contestation of varied interpretations regarding the implication of Cloud computing in libraries. Sadeh (2007) feels that “The widespread adoption of Web search engines and other Internet tools and services and the emergence of players such as Google Scholar and Windows Live Academic in the scholarly information-retrieval arena have reduced users’ dependence on library support to fulfil their information needs.” The Web has also expanded the scope of services provided by librarians. Vaquero, Roderio-Merino, Caceres, and Lindner (2009) opine that Cloud computing and Web collaboration is two major concepts that underlie new and innovative developments in library automation. Cloud services allow for more optimal resource utilization, easier access, and more effective cost reduction.

The growing Internet usage among library users plus the time users spend on the Internet has made it imperative for the libraries to offer their services online. Today’s information consumers have more alternative and attractive ways of finding information than the traditional libraries. The

“change in users’ perceptions and their preference for Internet tools and services such as Web search engines, e-mail, blogs, and RSS feeds” needs to be studied and redesign the library services (Sadeh, 2007).

Yang (2012) asserts that “The Cloud-based new generation of ILS allows many libraries to share useful data. For instance, sharing of full-text journal titles from electronic databases, many libraries subscribe to the same database.” Historically, libraries have turned to huge capital investment on IT infrastructure for various online as well as subscription based services. With these success libraries are motivated for using subscription based IT infrastructure in the Cloud. “In the field of library automation there are several commercial suppliers already offering various adaption’s of their products which make the use of the cloud possible to a lesser or greater extent” (Romero, 2012). According to Tomer and Alman (2011) Cloud computing is important in the context of LIS for two reasons “First, the embrace of Cloud computing by many organizations, including OCLC, OhioLink, SirsiDynix, and the Library of Congress suggest that this mode of computing will have a significant impact on the configuration, the economics, and perhaps the personal requirements of library computing in years to come.”

Moreover, libraries are in a unique position to experiment with Cloud computing given their service oriented mission and need to find appropriate solutions using limited resources. Fox (2009) observes that the goals of the organization have an impact on their use of Cloud solutions. Sachdeva, Rana, Kapoor, and Shahid (2011) argue that “There are many reasons for why Cloud-computing is being in common. Technologically we use Cloud computing because we can and it’s convenient. Economically, it is cost effective and pocket friendly, and finally it makes interactivity easier to achieve with the target audiences” (p.161).

Fox (2009) further argues that libraries may be governed by the policies and regulations that dictate how they can use Cloud-based solutions.

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