

# Chapter 15

## Responsive Library Website Design and Adoption of Federated Search Tools for Library Services in Developing Countries

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### **ABSTRACT**

*Library attention has been shifted away from only physical services, since much of its operations are now going virtual, and almost everything about library activities now compete for online attention. Librarians have no choice than to conform to the trend since the major concern of library is to meet the need of its clientele at all cost. Moreover, the paradigm shift in information ecosystem is now e-discovery tools. Responsive website design and federated search tools are part of the tools adopted to meet and satisfy information needs of library users in this era of information exploration. This chapter looks at the concept of responsive website design and federated search, components of responsive websites design, need for adoption of responsive website design for libraries in developing countries, federated search products and vendors, benefits of federated search technology, dichotomy between open search and federated search, adoption of federated search tools in developing countries, issues to consider with the federated search tool.*

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## **INTRODUCTION**

There are indications that the emerging economies amongst the developing countries are not far behind in structuring the required information infrastructure necessary for viable economic increase. These emerging countries nevertheless have restrictions in terms of bridging the digital divide within their societies, as a result of co-existence of ostracized and privileged communities (Das, 2008). Countries like Nigeria, South Africa, Senegal, Kenya, Ghana, Tanzania and Uganda, the focus of this research, must become active contributors to global information access, taking the advantage of available information and communication technologies (ICTs) by building up required information infrastructure i.e. e-discovery tools, such as advanced website design (responsive website) and related technologies like federated search tools to deliver modern library services for easy access and better service delivery to transform developing countries into information rich societies and from emerging and developing economies to developed economies and nations.

## **BACKGROUND**

Library and information science have been witnessing a technological development over a long period of time, beginning from the introduction of computers and the first large-scale online catalogues developed at Ohio State University in 1975 and the Dallas Public Library in 1978 (Borgman, 1996). Online catalogues have been in existence long before the development of websites, but according to Borgman (1996), they were difficult to use because their design did not incorporate sufficient understanding of searching behavior. Beginning from the late 1980s to the early 1990s, libraries were faced with transformation driven by information technology; the emergence of the World Wide Web in the mid-1990s was possibly the clearest indication of this shift. At the beginning of the 21st century, libraries were besieged to adopt modernization and to recognize the implications and meanings of transformation (Lynch, 2000). Earlier than the development of the World Wide Web, librarians and information professionals have acknowledged the essence of creating a common interface to navigate diverse information resources with a single search. The global search and retrieval protocol, Z39.50, was initially proposed in 1984 as a standard of interrogating bibliographic databases by the American National Standard for Information retrieval/ National Information Standards Organization (ANSI/NISO). Since then, it has gone through three editions, the newest of which was launched in 1995 (Kumar Sanaman & Rai, 2008).

History has it that Tim Berners-Lee; a computer scientist from Britain introduced the World Wide Web technology over 20 years ago. The Web has since become an exciting place for communication, business interaction and other activities. Since the emergence of the web technology, the users' expectations and needs to access library resources remotely have compelled libraries to embrace websites as a medium of reaching out to their numerous customers without barrier of space and time. Ogunsola (2008) reiterated that the professional librarian is expected to keep pace with new findings and products in the profession. Web technology is one of the major Integration of Information Communication Technology (ICT) products reshaping virtually all facets of professions and librarianship is no exception. Today, especially in advanced countries, libraries have largely integrated web technology to drive library services for users to have access to a variety of interconnected information resources compared to a period when users had to search through thousands of catalogue cards. Obviously, the Internet and related technolo-

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