


## Chapter 2

# Sustainable Information Technology Practice in Libraries

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### ABSTRACT

*Information technology is a crucial tool required for the growth of all sectors in any nation. Undoubtedly, its application in libraries contributes significantly to meeting people's information needs since libraries are essential in providing information services to information seekers. Thus, a well-organized library should have sustained information technology to assist in providing correct and timely services to its patrons. This chapter used current and relevant research findings and papers to explain various economic and social sustainability issues and challenges confronting IT adoption and practices in libraries. Similarly, it used recent research in cloud computing to explain some environmental sustainability issues related to information technology in libraries.*

### INTRODUCTION

The revolution brought by Information Technology (IT) into every sector of human endeavours has led to a paradigm shift in their operations and activities. Undeniably, its application in libraries contributes significantly to meeting people's information needs. Advancements in IT have changed how information is retrieved since information is considered essential for any nation or individual's socio-economic and cultural development (Sharma, 2016). According to Saleem et al. (2013), information is considered necessary for human existence, like the basic needs of life. The importance of information in all human activities cannot be overstretched; hence prompt and effortless access to all needed information is crucial, particularly for libraries and library users. Today, it is worth noting that the advent of information

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technology has significantly influenced how information is acquired and delivered, particularly in libraries. Information Technology offers correct and real-time information to clients in all fields (Adebayo et al., 2018)

The benefits of IT in the library cannot be overstated in the twenty-first century, as many traditional library procedures and operations are now being automated using IT solutions to provide better and quicker services to end-users. Therefore, libraries generally employ IT to computerise various administrative and technical processes, develop databases, networks, offer improved services to their clients and facilitate the proper operation of modern libraries. Thus, this chapter discusses issues relating to sustainable information technology practices in libraries. The components and application of IT in libraries, the tripartite sustainability model, challenges, and strategies for achieving sustainable information technology practices in libraries were all discussed.

As a starting point, this chapter offered a critical review of Information technology application, appropriation and operation in libraries' management over the past decades. It then investigated the sustainability processes as a leverage point for sustainable information technology practices in libraries. It examined evidence-based examples from the Knowledge Center, International Institute of Tropical Agriculture (IITA), Headquarters, Ibadan, Nigeria; formerly known as the IITA library. The chapter concluded by recommending priority issues for future research agendas.

## **BACKGROUND**

### **Concept of Information Technology**

Information technology refers to computer technologies that consist of hardware, software, network, infrastructure, and procedures to collect, process, store, protect, and present electronic data/ information in speech, written, graphic and multimedia forms (Igwe, 2011, Castagna & Bigelow, 2022). The essential components of information technology in library systems according to Library and Information Science Network (2022) include: Computer Systems which consist of input devices (keyboard, optical character reader, mouse, optical mark reader, bar-code reader, scanner, voice data entry), processing devices (Central Processing Unit (CPU)), output devices (monitor, printer, speaker, headphone and projector) and storage(memory) devices (hard disk drive, CD/DVD drive, USB flash drive and so on). The components of IT also include network systems (Modem, local area network, metropolitan area network, wide area network and cables), software (Koha, SOUL, GreenStone, Dspace, etc.) and databases (Author database, Bibliographic database, and full-text database). For example, IITA Knowledge Center subscribed to bibliographic and full-text databases.

### **Information Technology (IT) Practices in Libraries**

Janakiraman and Subramaniam (2015) postulated that the earth is experiencing a digital landscape revolution that has changed the possibilities for library work advancements and modified the required library performances. Information Technology operation in the libraries refers to the use of computer technologies in such a way that the activities of the libraries, such as ordering, cataloguing, classification, reference and information services, can be done quickly with the help of IT. Areas of information technology practices in libraries include:

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