

Chapter 15

Preparing Academic Libraries for Service Delivery in the Fourth Industrial Revolution (4IR) Era

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ABSTRACT

This chapter focused on preparing academic libraries for effective service delivery in the 4th Industrial Revolution (4IR) era. The chapter discussed issues relating to various services rendered by academic libraries to their users and how these services are being rendered (primitively and the use of ICT facilities). The chapter also discussed various developments in 4IR era and the technologies that are associated with 4IR that are useful to libraries. The chapter also discussed how libraries can be prepared to adopt advanced technologies associated with 4IR and how they can be utilized for effective service delivery in libraries. The chapter also discussed types of training needed by academic library staff to be able to function and render effective services to their user in the 4IR. The chapter reviewed relevant literature on the topic of discussion, and the researchers utilized Google search engine to gather scholarly articles from databases that are open access and are relevant to the study, which formed the basis for all the literature that was reviewed in the study.

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INTRODUCTION

The Library, according to S.R Ranganathan, the world's renowned father of library science, is a developing organism (Labangon & Manabat, 2019). It is therefore not surprising that despite the evolving information technology environments, the modern library continues to grow, adapt, and expand. Thus, the 5th law of librarianship that stated that the library is a growing organism keep on providing 21st Century librarians with a blueprint for future directions that is as important now as it was in 1931 (McMenemy, 2010; Noh, 2015). The growth recorded in librarianship in the face of emerging and changing technologies is a pointer to the readiness and willingness of libraries generally, academic libraries in particular to embrace and cope with change. These changes in information dissemination situate the 21st Century library at dawn of Fourth Industrial Revolution (4IR), a period marked by "cyber-physical systems" (Labangon & Manabat, 2019).

The term Industry 4.0 denote fourth industrial revolution and is defined as a new degree of organization and power over the full value chain of products. It is directed at satisfying the increasing/dynamic unique customer requirements (Vaidya, Ambad & Bhosle, 2018). According to Livia (2018), "industry 4.0 or 4IR is the zenith of various hi-tech advancements in which sophisticated sensors, artificial intelligence, cloud computing, and advanced robotics take center stage, i.e. an era in where intelligent products and services are being created". With the 4IR, how we live, work, and communicate is changing. Self-driving automobiles, internet shopping, and drone delivery services are just a few examples. Artificial intelligence has formed and personalized numerous jobs, therefore students today must remain significant for future employment markets. Because the 4IR is typically focused on artificial intelligence, there are some changes encouraged by the subsistence of the era. The multiple changes brought about by the 4IR era are best described as "disruptive change" (Ahmat & Hanipah, 2018).

The disruptive change is affecting every facet of life and libraries and librarianship are not exempted. Before the emergence of the 4IR era, library services were usually rendered traditionally to users. Libraries traditionally offer several services to users, such as structuring their collections for ease of access and availability, developing tools to tell users about the document resources they have, and assisting users in obtaining whatever information they require (Panda, 2014). Primitive library services were never held captive by a shortage of electricity or faulty telecommunication equipment (Asamoah-Hassan, 2001). Records stored on cards and in catalogue cabinets in libraries have persisted for several years, leading users to the library's stock, despite being slow, having outdated information, and taking up a lot of space. According to Chack, Prajapati, and Trivedi (2017, p147), "in a traditional library setting, the library infrastructure is more akin to a temple or a museum that is old and poorly furnished, and the library's resources are primarily books and magazines that are only available in printed form, and the major apparatus for accessing the library's resources are old catalogue cards.

However, in the 21st Century library environment, libraries perform their roles in providing knowledge from not merely resources deposited and well-kept in the four walls of the library but provides access to books, publications, magazines, old manuscripts, archives, articles, standards, reports, and government resolutions, to name a few, which all play important roles in extracting knowledge and information. Thus, key modifications in the libraries have occurred due to the adaptation to and use of newer technologies which are all characteristics of the 4IR era (Chack, Prajapati & Trivedi, 2017). In developed nations of the world, the 4IR has significantly affected the manners with which information services are being rendered to users in the library. In the 4IR era, services such as Book to desk (B2D), Mobile work lists alerts, 3D printing, use of robots for shelving and shelf-reading, cloud storage, etc. are now being incorporated to

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