



Chapter 1

Application of AI in Academic Library Services: Prospects and Implications for Quality Service Delivery

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ABSTRACT

Academic libraries are mandated to support the information needs of their students, staff, and faculty. In the current technological environment and the influx of artificial intelligence technology into services provision and delivery, this study assessed the knowledge and perception of librarians on the use of AI in library services provision in Ghana. The population for the study consisted of librarians from all 15 public universities in Ghana. Findings from the study revealed that the librarians were knowledgeable of the emergence of AI and sources their information on AI mainly from research articles. It was also revealed that educational level had a significant positive ($r = 0.3$, $p < 0.01$) relationship with the sources of knowledge on AI tools and applications. There was a positive significant relationship ($r = 0.533$, $p < 0.01$) between educational level and the frequency of knowledge acquisition on the application of AI in academic library services provision. Academic libraries are encouraged to invest in AI tools and applications to leverage their advantages.

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INTRODUCTION

Information and its role in development is a necessity in every country. Information is a significant factor of production, playing a major role in the industrial revolution with technological developments in all spheres of human endeavours. Growth is a priority for universities as they pioneer the development and advancement of knowledge. Educational institutions invest in technologies and information resources through their libraries to support their teaching, learning, and research functions. These libraries play a significant role in the collection, organization, dissemination, preservation, and retrieval of information in a timely and organized manner.

Academic libraries are mandated to meet the information needs of their parent institutions by providing access to information resources, information, and reference services and implementing and investing in emerging technologies to optimize their service provision for user satisfaction. Technological advancements and the proliferation of artificial intelligence have transformed the academic library fundamentally by providing invaluable resources with increased access to information.

Artificial Intelligence is an essential technology whose machinery is enhanced with the support of state-of-the-art technological innovations and improvements. Artificial intelligence has emerged as a pervasive form of technology in our everyday lives and now forms a part of various activities in the academic world. The term artificial intelligence (AI), according to Kaliraj and Devi (2022), was coined by John McCarthy and is defined as “the science and engineering of making intelligent machines and brilliant software programs.” It is also “the application of computers and utilization of computer-based products and services in the performance of different library operations and functions or the provision of various services and production of output products” (Tsabedze et al., 2022).

The emergence of AI and its implications on academic library activities, services, and products is critical in the present information-dependent society. The degree to which AI is adopted in the library space is likely to be driven by widespread technical developments and so cannot be controlled by librarians. Its advancement becomes a prevailing threat to the need for professional librarians. The intensive burden on librarians to provide high-quality services to library users due to the information explosion in our present society has led to the integration of modern technologies.

This chapter assesses Artificial Intelligence’s prospective use and implications in academic libraries and analyses librarians’ competencies, perceptions, and skills to use AI supported technologies. The objectives of the chapter are to:

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