Chapter 12
Authorship and Collaborative Pattern in the Field of Artificial Intelligence in Academic Libraries:
A Scientometric Study

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ABSTRACT

The present study analyzes the research output of artificial intelligence in academic libraries scientometric study. The data were downloaded from the Web of Science database from 2004-2023 at the end of June 2024 and retrieved 2770 documents. It was found that the research output of the number of publications increased from 61 in 2004 to 203 in 2023, with the highest growth of publications in 2023 (7.33%). They secured the utmost citations in 2015 (9.08%). It was found that while the utmost publications single authors were 1.42 in 2005, and the Collaborative Index remained relatively stable, with values ranging between 0.82 and 1.12, the Collaborative Coefficient and Modified Collaborative Coefficient increased from 0.05 in 2004 to 0.08 in 2023. It was observed that the authorship pattern utmost contribution is

DOI: 10.4018/979-8-3693-5807-8.ch012

38.77% single authors and, more than five authors are relatively low initially, with several years of zero publications. In addition, Chiu DKW leads with 24 papers and has garnered the highest number of citations at 531.

INTRODUCTION

Artificial Intelligence (AI) has emerged as a transformative technology across various sectors, including academic libraries. The integration of AI into academic libraries holds the potential to revolutionize information retrieval, resource management, and user services. AI technologies such as machine learning, natural language processing, and robotics are being employed to enhance the efficiency and effectiveness of library operations. One of the most significant applications of AI and ML in libraries is in the domain of information retrieval and resource discovery. Machine learning techniques such as logistic regression, k-nearest neighbors (KNN), and AdaBoost have been effectively utilized for metadata generation, resource discovery, and book acquisition (Das et al., 2020). These techniques help in organizing and retrieving information more efficiently, thereby enhancing the user experience. AI technologies have the potential to transform library management, resource utilization, and the overall research experience as well as the application of AI in academic libraries, highlighting both the transformative impact of AI-based tools and the challenges that need to be addressed for successful implementation (Mallikarjuna., 2024). AI supported by librarians to deliver high-quality services to library customers as a result of the information explosion in our current culture has led to the adoption of modern technologies and the library now uses AI in a chat window to answer queries on the website, alert users about overdue items, respond to simple informational requests and connect users to relevant resources. Artificial intelligence is a collaborative robot that interacts with people on the library floor and performs hard or repetitive activities (Adejo & Misau, 2021). Additionally, the use of AI technology has improved core library services, including acquisitions, cataloguing, categorization, information retrieval, and library systems (Ali et al., 2022). Various facets of AI are an area of computer science that is one of the world's most rapidly developing and popular technologies. It has already impacted fields including higher education, learning and teaching, e-learning, and libraries (Chatterjee & Bhattacharjee, 2020). However, current AI technology may not be entirely suited for such an experience and will require additional time to develop. Chabot can help to provide individualized assistance in resolving any essential situation. It can provide solutions to specific student needs. As the technology matures, AI-enabled Chabots could assist in accurately answering individual students' queries (Gasparini & Kautonen, 2022).