Transforming Library Services through AI in SAARC Countries: a Review and Practical Implications

T. S. Poornappriya[1], K. Sujith[2], K. S. Vedashawmya[3*] and Arunachalam Rajkumar[4]

[1]Post Doctoral Researcher, Lincoln University College, Malaysia/Adjunct Faculty, Annai College of Arts and Science, India

[2]Post Doctoral Researcher, Lincoln University College, Malaysia/ Associate Professor at PG & Research Department of Computer Science & Application, Annai College of Arts and Science, India

[3]Department of Library and Information Science, Bharathidasan University, India

[4]SQL Developer, Rustorleum Corporation, Chicago, IL USA

**lisdrpr@gmail.com*

Artificial Intelligence (AI) is a transformative influence in redefining library services worldwide, providing unparalleled prospects for improved efficiency, automation, and user interaction. Libraries in the South Asian Association for Regional Cooperation (SAARC) region are increasingly utilizing AI technologies to enhance their operations and broaden equal access to information. This research examines the present condition, obstacles, and practical ramifications of AI implementation in libraries throughout SAARC nations, emphasizing the varied technological and socio-economic contexts of the area. The study is qualitative and a comprehensive literature assessment was performed through Scopus. Keywords including "artificial intelligence" "smart libraries" "digital transformation" "Internet of Things" "chatbots" and "library automation" were employed to retrieve pertinent English-language sources. Data were thematically analyzed to discern repeating patterns, encompassing significant AI applications, implementation obstacles, and strategic objectives specific to the South Asian libraries. Particular focus was on the actual implementation of AI tools, such as big language models, chatbots, and virtual assistants in improving fundamental library operations. The results indicated that AI technologies possessed considerable potential for enhancing library services in the SAARC area, especially in augmenting operational efficiency and delivering personalized, user-focused services. The rate of adoption differed significantly among nations due to enduring obstacles, including insufficient digital infrastructure, constrained financial resources, low AI literacy among library personnel, and inadequate regulatory frameworks regarding data ethics and privacy. India and Sri Lanka emerged as regional frontrunners in AI-driven library innovation and research productivity, whilst nations such as Afghanistan, Bhutan, Nepal, and Bangladesh are still progressing through the digital transformation. This assessment emphasizes numerous practical implications: the pressing necessity for investment in digital infrastructure, the creation of AI-specific training programs for library professionals, and the establishment of inclusive, region-specific regulations to enable responsible AI implementation. In conclusion, AI possesses the capacity to transform library services throughout SAARC nations by enhancing their intelligence, inclusivity, and alignment with changing user requirements. Notwithstanding budgetary and infrastructural constraints, the growing accessibility of open-source and affordable AI tools offer feasible avenues for libraries to adopt digital transformation. Achieving these benefits necessitates a coordinated effort to address difficulties associated with digital preparedness, workforce capability, and governance.

***Keywords**: Artificial Intelligence; Digital transformation; Information access; SAARC, Smart libraries.*