# Chapter 14
# A Meta-Analyses of Smart Libraries Using PRISMA

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## ABSTRACT

*The study followed the guidelines of the preferred reporting items for systematic reviews and meta-analysis (PRISMA) to conduct the comprehensive review of literate pertaining to smart libraries and smart devices that underpin their implementation. The PRISMA method under this study revealed various smart devices that underpin smart libraries, which were grouped based on their functionalities including smart devices that deal with data management and access, smart devices for networking and connectivity, smart devices for resource tracking and security, and smart devices for user engagement and services. The study sought to understand the current trends and practices pertaining to the integration of smart devices in library settings. The study argued that the needs assessment is a fundamental practice when deciding on the integration of smart technologies in libraries. Challenges such as librarians' resistance to change and transformation were noted as one of the challenges that impede the seamless integration of smart devices in libraries.*

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## BACKGROUND AND INTRODUCTION

The rapid growth of digital transformation, and the rise of emerging technologies, such as Artificial intelligence, Machine Learning, Internet of Things allows for the interconnection and integration of various smart devices into all facets of human life (Bi et al., 2022). Smart libraries are part of this digital transformational trend. Smart libraries are known for the amalgamation of smart technologies, smart services, and smart users (Schöpfel, 2018). These institutions bear users interest at heart, with their aim to provide advanced and smart services to users by utilizing a variety of information and communication technologies, and emerging technologies such as AI, IoT, big data, ML, Blockchain, and many other emerging technologies (Schöpfel, 2018; Bi et al., 2022). Smart libraries are underpinned by smart services, smart people, smart governance, and smart places (Schöpfel, 2018), and they hold a fundamental role in the transformation of libraries in the digital information society. Similarly, Ekere et al. (2022, p. 2) opined that the fundamental components that advance a smart library are centered around a thorough comprehension of smart technological architecture, the accessibility of smart devices, and the availability of smart platforms. These factors are essential in ensuring the effective integration of emerging technologies and the provision of smart and innovative services in the context of smart libraries (Chan and Chan 2018, Ekere et al., 2022).

The concept of "smart" in the context of libraries carries a variety of connotations, including efficient, sustainable, equitable, habitable, instrumented, and networked. The integration of smart technologies in libraries has bridged the gap between services and technological integration, leading to the development of innovative and efficient library services (Gul & Bano, 2019; Adetayo, Adeniran & Gbotosho, 2021). The integration of smart technologies in libraries has bridged the gap between services and technological integration, leading to the development of innovative and efficient library services (Gul & Bano, 2019).

This paper aims to review literature, identify, and present a global perspective in relation to smart libraries and smart devices that underpin their implementation. This systematic review endeavors to shed light on the existing best practices and standards for implementing smart technologies in academic libraries, and their impact on the successful integration. The paper seeks to understand the frameworks and guidelines that contribute to the effective utilization of smart technologies in academic library settings, ultimately leading to the improvement of library services, enhancement of user experience, and the increased operational efficiency. The literature between 2019-2024 was scanned, examined, and reviewed to gather specific studies that have examined the types of smart devices used in modern libraries, their functionalities, the impact of smart devices on library services, user experience, and operational