IMPLICATIONSARTIFICIAL INTELLIGENCE FOR LIBRARY SERVICES

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Abstract

Technology is developing rapidly, this is marked by the presence of artificial intelligence (artificial intelligence / AI). The existence of the issue of artificial intelligence has changed almost all sectors in various fields and industries, including libraries as information organizations. Artificial intelligence is able to assist librarians in increasing efficiency, accuracy and relevance in terms of providing information, especially library services. However, the impact brought by artificial intelligence is in the form of ethical, social and several technical challenges that need attention. This article examines the implications of applying artificial intelligence (AI) in library services and how librarians can prepare for the future. The method used in this article is the symbolic literature review method which includes a critical analysis of previous literature. The contribution of this article aims to assist further research to build a library in the era of artificial intelligence (AI), especially the implications for library services.

Keywords: library services, artificial intelligence, librarians

1 INTRODUCTION

An explosion of technological developments is marked by several things, including the application of information technology (IT) to improve the performance of librarians who have similarities to intelligence and artificial intelligence. Searching for information sources manually in the library will soon be over, computerization will make work easier and simpler. Especially if it is supported by the presence of artificial intelligence (AI) so that it can replace the role of librarians in their work. Related to work, such as making indexes, cataloging, selecting, archives and references can be assisted through expert systems. A system that helps to search for a scope of knowledge and provides a clear definition. Artificial intelligence (AI) poses various challenges to librarians and their customers, such as raising ethical and social issues, requiring technical and professional skills, and demanding organizational and cultural changes. Librarians must ensure AI systems respect customer rights and values, and are aware of potential biases and limitations. They must also acquire and update data literacy, programming, analytics, and problem solving skills to design, implement, evaluate, and

maintain AI systems. Additionally, librarians need to collaborate with data scientists, software engineers, and AI experts to leverage their expertise and resources. Finally, librarians must develop a clear vision and strategy for the future that aligns with the opportunities and challenges of AI while fostering a culture of innovation, learning. This article examines the implications of artificial intelligence (AI) for library services. The selection of artificial intelligence implications for library services is very important so that the function of the library as an information organization can run effectively.

The following are some related previous studies. Artificial intelligence as a new library concept, 2020 is one of the articles written by Anthanasia Octaviani Puspita Dewi. Explain related to artificial intelligence in the library. The research results explain that each can be applied. In this utilization, librarians act as initiators and discussion partners for information technology experts to create libraries with the application of artificial intelligence

Opportunityartificial intelligence in the library: Literature review, 2023 is an article by Araf Alijaya and Hanny Chairany Suyono. This article provides an explanation of how artificial intelligence in libraries includes the implementation of virtual reality, chatbots, speech recognition systems, robotics and analysis systems. We will also cover documentation of implementing AI in other areas that have opportunities for implementation in libraries. The type of this research is qualitative using descriptive method. Data sources were obtained from books, journals, activity reports, websites that match the topic of the problem. This study found several examples of AI implementation in libraries, both those that have been done and those that have never been done and will be the future of libraries. The concept offered discusses how AI can work with librarians in providing better and more efficient services for users.

Artificial intelligence (AI) library services are an innovative conceptual framework for the digital transformation of university education, 2022 is an article written by Rifqah Olufunmilayo Okulaya. In the article develops (AI-LSICF) an innovative conceptual framework for artificial intelligence library services to provide new insights on how AI technologies can be used to provide value-added innovative library services to achieve digital transformation. It will also encourage library and information professionals to adopt AI to complement effective service delivery.

Educationliterature review: Library information system based on artificial intelligence (AI), 2023. An article written by Mutia Atika and Retno Sayekti explains that the development of library service systems can take advantage of advances in AI technology. Collaboration between

libraries and AI experts is needed to develop innovations in library services. Future research can focus on the application of AI in predicting user needs for library collections or improving other services with AI technology. Thus, the library can remain relevant and provide services in accordance with the expectations and needs of users in the current information technology era

Artificial intelligence technology and its application in libraries, 2023. Miftha Khazannah's article explains how libraries can use various artificial intelligence applications to simplify work and improve user services. All types of AI coverage can be used in the library. As initiators and discussion partners for IT professionals, librarians help grow libraries by incorporating artificial intelligence into them. By implementing AI in the library, the library will become an unlimited source of knowledge, not only for the physical collections that fill the space in the library but also as a source of information in various forms.

The purpose of this research is to increase knowledge for readers, especially librarians in utilizing or applying artificial intelligence to library services. The benefit of this research is to increase knowledge in utilizing various fields of artificial intelligence into library services. The benefit of this research is to increase knowledge in utilizing various fields of artificial intelligence into library services.

2 METHODOLOGY

The method in this article uses the Systematic Literature Review which contains critical analysis activities on previous study literature. The papers reviewed are national papers, totaling 5 papers and limited to the last 3 years (2020 to 2023), the selected articles discuss the use of artificial intelligence in libraries related to services. So this article provides an overview of the development of artificial intelligence in libraries. Research using the systematic literature review method provides a comprehensive picture of the use of artificial intelligence in related trends. With secondary data this article provides valuable insights and information to identify relevant AI fields.

Writer	Title	Year	Discussion
Anthanasia Octaviani Puspita Dewi	Artificial intelligence as a new concept of library	2020	artificial intelligence in the library. The research results explain that each can be applied. In this utilization, librarians act as initiators and discussion partners for information technology experts to create libraries with the application of artificial intelligence
Araf Alijaya and Hanny Chairany Suyono	Opportunityartificial intelligence in the library: literature review	2023	artificial intelligence in libraries including the implementation of virtual reality, chatbots, speech recognition systems, robotics and analysis systems. We will also cover documentation of implementing AI in other areas that have opportunities for implementation in libraries. The type of this research is qualitative using descriptive method. Data sources were obtained from books, journals, activity reports, websites that match the topic of the problem.
Miftha Khazannah	Artificial intelligence technology and its application in libraries	2023	artificial intelligence to simplify work and improve user services. All types of AI coverage can be used in the library. As initiators and discussion partners for IT professionals, librarians help grow libraries by incorporating artificial intelligence into them.

Rifqah The Final Oath	Artificial intelligence (AI) library services an innovative conceptual framework for the digital transformation of university education	2022	An innovative conceptual framework for artificial intelligence library services to provide new insights into how AI technologies can be used to deliver value-added innovative library services to achieve digital transformation.

3 FINDINGS AND DISCUSSION

The According to Sridevi p.c Shanmugam A.P (2018), that artificial intelligence is an idea from the modern generation to be used to manipulate virtual libraries. Artificial intelligence is to expand computer or machine structures that resemble, behave and correct to rival human intelligence. Intelligent security services have become a focus of attention in the context of modern librarianship. Librarianship in an inclusive manner shows that every individual must have equal access to library services. However, it should be recognized that there is a negative side to this inclusiveness, especially in relation to harmful behavior that can harm library staff and other users. Currently, many libraries rely on professional security officers and library staff to provide security services. However, there is often a shortage of manpower which affects the effectiveness and efficiency of the library security service. To solve this problem, a number of technological innovations have been introduced. One such innovation is the use of an intelligent security system developed by the University of Birmingham and security company G4S. This system is known as "Bob" and has been tested in the security services sector (Taylor, 2014; Yorke & White, 2014). Bob is a system that can monitor the surrounding environment and collect important information, such as cleanliness of desks and proximity to emergency exits. By using sensors and AI technology, Bob can provide useful information for library staff in maintaining user safety and comfort. Overall, the use of intelligent security technology in library services is an example of the application of artificial intelligence which has provided benefits in increasing speed, security and user experience. However, the use of this technology must also be accompanied by serious attention to aspects of privacy, data security, accuracy of technology, as well as active participation from users and the community. With a careful and sustainable approach, the use of intelligent security technologies in libraries can create a more secure, efficient and inclusive environment for all users.

3.1 Smart Security Service

According to Nuansa and Rohmiyati (2017) the security system in the library is one aspect that can be used to protect collections of library materials, in the library the risk of losing collection materials is a serious problem for library security, the purpose of security services in libraries is to provide a sense of security for librarians, library users and sources of information. At the library Currently, security professionals (security) and some library staff provide most of the library security services, but there are manpower shortages from time to time. The use of facial recognition technology in managing access and measuring body temperature in libraries in China has several benefits. First, this technology increases speed and efficiency in the process of entering and leaving visitors. Users no longer need to look for membership cards or fill out manual forms, which speeds up and simplifies the process of using the library (Q. Liu et al., 2020; Nie et al., 2022).

Second, this technology also helps in maintaining the security of the library. Visitor identification based on facial recognition minimizes the risk of unauthorized entry into the library. Meanwhile, body temperature measurements ensure that people entering do not have a high body temperature, which could be an indication of an infectious disease. Third, the use of AI technology also provides experience.

In order to ensure the successful implementation of AI technology in library management, collaboration between libraries, technology providers and other related parties is required. Libraries need to continuously evaluate and monitor the use of this technology, including identifying challenges and correcting weaknesses that may arise. In addition, it is also important to involve users and the public in the decision-making process regarding the use of this technology, so that concerns regarding privacy and ethics can be properly addressed. The use of facial recognition technology and body temperature measurement in library management in China is an example of the application of artificial intelligence which has benefited in increasing speed, security and user experience. However, the use of this technology also faces challenges and ethical concerns that need to be taken seriously. In its implementation, libraries need to maintain the privacy and security of user data, ensure the accuracy of facial recognition technology, and involve users and the public in making decisions regarding the use of this technology. With a careful and sustainable approach, the use of AI technology in libraries can provide significant benefits in improving library management and services in the future (American Library Association, 2019; Omame & Alex-Nmecha, 2019).

However, there are challenges in using robots in libraries, especially related to understanding language accents. Robots are not fully able to understand the various accents that children have. Therefore, children need to adapt their voices so that the robot can understand them. One example of a robot used in the context of a library is the Pepper robot, which can be found at the Carroll County Public Library in Maryland. This robot has the ability to start conversations, dance, and tell stories. The existence of the Pepper robot provides an interesting interactive experience for children in the library, thereby creating a more lively and enjoyable atmosphere. The use of robots in libraries has the potential to complement and enrich children's learning experiences. Robots can be interactive partners in the learning process, helping to increase children's involvement in reading, writing and communicating. In addition, the presence of robots can also help overcome the limitations of human resources in libraries, expand the scope of services, and provide variations in learning approaches. However, it is important to continue to pay attention to ethical and privacy aspects in the use of robots in libraries. It is necessary to carry out appropriate supervision and control to maintain security and protect the privacy of users, especially children who interact with robots.

4 CONCLUSION

In the context of intelligent security services, the use of robots and facial recognition technology and body temperature measurement has become an effective application to protect the security of librarians and library users. In addition, the use of robots and expert system applications has also enriched reference/referral services, literature searches, and children's services in libraries. Therefore, libraries need to collaborate with artificial intelligence experts in library development efforts. Further research can lead to the development of the implementation of artificial intelligence in predicting the needs of users for library collection materials or the development of other services that can be used in the context of the library. By utilizing artificial intelligence technology, libraries can improve the efficiency, security and quality of services provided to users. In facing the ever-changing technological developments, libraries must continue to adapt and follow these trends in order to meet the needs of users and strengthen the role of libraries in providing inclusive and innovative access to information

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