



The Strategy of Bojonegoro University Library Facing the Era of Society 5.0 by Implementing the Internet of Things (IoT) in Library Services

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ABSTRACT

The Society 5.0 era is divided into Big data, the Internet of Things (IoT), and Artificial Intelligence (AI). **Purpose Research** implementation of the Internet of Things (IoT) in library services to face the era of society 5.0 **Research Method:** Descriptive qualitative research, determining informants using purposive sampling. **Data analysis** using the triangulation method, namely data obtained from direct observation, interviews, and personal documentation, the Bojonegoro University Library as a place for observation. **Results:** The results of research on the application of the Internet of Things (IoT) to library services have advantages that can provide optimal and efficient services

Keywords: *Internet of Things (IoT), Era Society 5.0, Library Services*

A. INTRODUCTION

Technological developments show increasingly advanced developments. Not a few innovations have emerged to incorporate these developments into the line of life. By offering convenience so that various levels of society can accept it. Especially in the development of electronic media such as computers, which are supported by easy access to internet media - the Internet of Things (IoT). IoT is an evolution of the internet, capable of collecting, analyzing, and distributing data into information, knowledge, and, ultimately, wisdom (Fitri Handayani, 2019).

Entering the Society 5.0 era, the main components that carry it are Big data, the Internet of Things (IoT), and Artificial Intelligence (AI) (Ayuningtyas, 2022). All levels of society adopted this development, including libraries. They are widely used in libraries, namely the Internet of Things (IoT), and are directly related to the library's service system. As Ranganathan argues, the fifth law of library science: (1) books are or are used, (2) every reader his or her book, (3) every book its reader, (4) save the time of the reader, (5) the library is a growing organism (Keren Barner, 2011). In this way, libraries should be able to keep up with the times and develop systems within them.



The development of libraries depends not on the development of thinking patterns of Humahuman resources) within them, but also in developing services within them and the system. Apart from that, libraries are also required to continue to innovate in library development. Developments in library systems and innovation are intended so that libraries do not lose their existence.

The application of IoT in libraries has a good impact on libraries and library development. The reason is that the library is no longer a building containing books arranged in rows. However, the application of IoT itself is a revolutionary innovation that restores the image of libraries as credible sources of information. By implementing IoT, libraries can function as 1) information literacy, 2) access to libraries and collections, 3) collection management, 4) recommendation services, 5) local-based services, and 6) equipment management (Utomo, 2019).

The Internet of Things (IoT) is a significant new trend that libraries can implement. The application of IoT itself can be an innovation for libraries because it can facilitate improvements in service quality as a facility and can save costs in accessing information. Implementing IoT properly and optimally can undoubtedly have a good impact on the development of libraries. Moreover, libraries are required to continue to develop (Fitri Handayani, 2019).

Entering the era of society, 5.0 is a momentum for libraries to accelerate their information so users can use it. An essential component in the era of Society 5.0 is the Internet of Things (IoT), where development relies on the Internet. The application of IoT in libraries can take the form of RFID applications and cloud computing, which functions when accessing digital libraries and circulation services in digital libraries (Ayuningtyas, 2022). This research aims to determine how the Internet of Things (IoT) is implemented in library services at the Bojonegoro University Library.

B. METHODS

This research uses a descriptive method with a qualitative approach. The descriptive method aims to explain a particular event (Morissan, 2017) by describing the aims and objectives of the Internet of Things (IoT) in the Bojonegoro University library. The research method using a qualitative approach is a method in which the researcher seeks meaning, understanding, and understanding of an incident or events, whether directly involved or not, in the framework of the research carried out. After the researcher obtains the data, it is processed in stages. Qualitative data includes detailed descriptions of certain events, which are the direct opinions of the people involved in the research, and excerpts from several documents (Yusuf, 2017).

The data collection process in this research uses the following methods: first, observation collects data directly from the field. We conducted this research directly in the Bojonegoro University library by observing the users' needs. Second, interviews are directly communicated between researchers and respondents through face-to-face questions and answers. This research conducted questions



and answers directly with librarians and users. Third is documentation, in which the researcher examines documents related to the research object.

They are determining informants using a purposive sampling technique. Purposive sampling selects data with specific criteria according to the research phenomenon (Sugiyono, 2016). The informants in this research were the librarian and head of the Bojonegoro University library. This selection aims to provide detailed and precise information.

C. RESULT AND DISCUSSION

The concept of society 5.0 initially emerged in Japan in 2015 (Wang et al., 2018). The striking difference is between Industrial Revolution 4.0, which focuses on production, and Society 5.0, which places humans as the source of developing innovation (Abreu, 2018). It can be concluded that Industrial Revolution 4.0 focuses on factories with increasingly sophisticated developments, while Society 5.0 focuses on super-intelligent humans. Developing in the Society 5.0 era shows that this development can increase scientific knowledge and intellectual property (Shidiq, 2019). So that it has a good impact on life, this development extends to libraries where libraries today have penetrated this era. Society 5.0 seeks to keep pace with the massive development of technology to improve individual lives and benefit society in general qualitatively (Gladden, 2019).

According to Pedit, with the development of technology and the emergence of ERM digital libraries, librarians should be able to become information navigators for users (Khariroh, 2021). The Bojonegoro University Library then innovated to make library services more effective. The biggest problem in libraries is returns. Therefore, the library launched an independent return system: users can make returns independently via computers provided by the library, where the computer has a website-based library system installed and uses the internet network for its implementation.

Apart from independent returns, the Bojonegoro University library has another innovation: reminders to remind users to return library materials they borrowed. Using the "send message" application will automatically send a message to the user every time you return it. This application can work optimally if the user enters the WhatsApp number correctly when registering as a member. The problem is if the user needs to enter the WhatsApp number correctly.

The Internet of Things application uses library websites as a medium for sharing information on library activities. This library's website contains information about the library, including (1) information on independent returns, (2) information on library regulations, (3) information on accessing final assignments, (3) information on uploading final assignments independently, (4) information on library activities, etc.

The development of the Society 5.0 era seems to have penetrated far into libraries. Users compete to innovate and support insight development for their users; one example is through discussion activities. This activity is done online by



making a book resume, and offline activities include holding discussions and book reviews using Zoom or other online media. Apart from that, collaborative activities also play a role, coaching statistical agents online using developments in Zoom technology era of society 5.0 has become part of the Bojonegoro University library.

Application of the Internet of Things (IoT)

The Internet of Things (IoT) has a good impact on improving library services (Salamah et al., 2023). The Internet of Things (IoT) is a new form of actual Internet implementation. The Internet of Things (IoT) has indirectly integrated into routine library activities (Shidiq, 2019). Many physical things or natural objects are then equipped with sensors connected to the internet network (Ayuningtyas, 2022), often called radio frequency identification (RFID), wireless networks, websites, and real-time (Fitri Handayani, 2019). Apart from that, CCTV also plays a role in developing the Internet of Things (IoT) in libraries.

CCTV has the function of reaching areas that librarians cannot reach directly. As in the Bojonegoro University Library, CCTV is in the final project area. The purpose of installing CCTV is to protect the final project collection. At the Bojonegoro University Library, the final project collection does not have a special chip or detector, so more security is needed to protect it.

The final assignment collection is also available in digital form and can be accessed via the library website. In digital collections, users must log in with a specific username and password, and then they can access the collection they need. Meanwhile, the final year assignments for 2023 graduates are undergoing a transition to the repository.

The use of the Internet of Things (IoT) in the Bojonegoro University library functions to provide maximum and efficient library services, especially distance services. With the increasing development of technology and research, libraries should participate. As with uploading final assignments, if 5 years ago, final assignments were collected using CDs in the library, with the Internet of Things (IoT), students/users can simply upload their final assignments via the website provided at anytime and anywhere.

In simple terms, the Internet of Things (IoT) is a combination of objects that form a network to form important information and utilize Internet media to connect them (Purnik, 2024). The library system is centralized on the library's core website, allowing users to find the information they need through one door.

So, it is essential to have a server and network that connects the two. The evolution of libraries has developed by utilizing digital media, or what is usually called digitalization (Manurung, 2019). Supporting components such as networks, devices, and media are needed to implement digitalization in libraries optimally. The Bojonegoro University Library has 25 computers connected to the internet that visitors can use. The devices provided must, of course, be connected to the internet network. It can be used freely by users who need it.

In particular, the Bojonegoro University library has a digital library called "Digilib UNIGORO," which can be downloaded from the app store and installed



on cellphones, laptops, or computers. It contains collections to support learning and teaching in the university environment. It would help to have an internet network and a supporting device to access this application. "Digilib UNIGORO" will be implemented in 2022 with a total collection of 50 e-books and divided into all study programs at Bojonegoro University. In particular, "Digilib UNIGORO" is managed by the Bojonegoro University Library and in collaboration with Kukuku. In its development this digital library has a particular budget to develop the digital library.

You can download the application from the Google Play Store using "Digilib UNIGORO," the first Bojonegoro University academic community. Second, users register on the application by filling in their data and scanning their Student Identity Card (KTM) or Resident Identity Card (KTP) for those who do not have a KTM. Third, wait for confirmation from the admin on whether user data can be accepted (according to predetermined requirements) by the admin. Fourth, get a confirmation reply via email, and "Digilib UNIGORO" can be used. The loan period in the system lasts 7 days and will automatically return when the loan period has been completed.

E. CONCLUSION

The era of Society 5.0 is a momentum for libraries to accelerate the dissemination of information. By utilizing the Internet of Things (IoT), the information in the library can be used optimally by its users. The Internet of Things (IoT) is a new form of library innovation. Its use can provide convenience for library services, especially circulation services for digital and print collections. The Internet of Things (IoT) has also expanded into final assignment services, where users can carry out the final assignment upload system independently via the website provided. The Bojonegoro University library has "Digilib UNIGORO" which contains a collection of e-books that can be accessed freely by members of the Bojonegoro University library.

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