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Abstract: The library is one of the institutions that provides services, both traditional (borrowing and returning) and modern (digital). Therefore, the library is important to be able to provide the best service for users. In relation to the digital ecosystem and the era of the industrial revolution 4.0, where the library user model is a virtual community, libraries need to provide innovative services, one of which is the application of the concept of library automation and visitor experience. This paper aims to explain the concept of library automation and visitor experience and its application in libraries during the fourth industrial revolution. The method used to explain these objectives is a descriptive method with observational data collection methods and literature reviews using various scientific reference sources, both printed books and electronic books, articles, and news. The results of this paper show that the application of the concept of library automation and visitor experience in the library can be done in five ways. The first is understanding real customers from digital users; the second is rearranging the strategy from a traditional base to an experiential basis; the third is the latest management and service models; the fourth is individuals and work culture; and the fifth is being aware of human and ecological issues.

Keywords: Library Automation, Visitor Experience, Industrial Revolution 4.0

INTRODUCTION

The development of information technology (IT) today is growing so rapidly. Along with the development of information technology, every organization or company, especially libraries, must keep abreast of information technology developments in order to compete in the current era of globalization. The unstoppable flow of globalization and massive technological developments led to the emergence of the "Industrial Revolution 4.0" era. The development of the Industrial Revolution 4.0 is an opportunity for libraries to transform into information technology-based libraries by utilizing AI (artificial intelligence) technology, augmented reality (AR), remote access, and co-working space. Librarians must also improve their literacy skills in the information technology era. The existence of a library is one of the
solutions to the very rapid development of information by providing service principles without differentiating one from another in obtaining information.

The library's management as an information center for the community follows a pattern that favors or is oriented toward the community, so that the community's various information needs are represented, easily accessible, and meet the values of quality information, namely accuracy, timeliness, and relevance. But unfortunately, the existence of the library is still neglected by some people. Currently, libraries are faced with changes in the behavior of people who are increasingly familiar with the use of information technology, demanding fast-paced and more active services, or known as "digital natives." According to Oblinger & Oblinger (2005: 2.2), "digital natives" are people who, in their daily lives, often use information technology and have known it from an early age. so that they are very accustomed to using information technology assistance in their daily lives, including in accessing information. For this reason, libraries must keep abreast of information technology developments as mandated in Law Number 43 of 2007 concerning libraries, which states that each library develops library services in accordance with advances in information and communication technology. With the advancement of the concept of library automation, or what is commonly referred to as a digital library, many libraries are gradually beginning to compete to build and develop digital libraries in order to provide the best service and ease of access for library users.

According to Pendit (2008: 3), of the various types of libraries that exist, the library that feels the most need for the construction and development of digital libraries is the college library. Through the development of ICT (information and communication technology), this eventually gave birth to a computer-based library. The terms library automation and digital library are frequently used in the library environment. Currently, many libraries are dreaming of implementing digital libraries into their management. It turns out that this is not as simple as it appears. Limited funds and low human resources are identified as the dominant factors in the inability to create a digital library. According to Widyawan (in Saleh, 2010), digital libraries are related to various other sources of information and their information services are open to users around the world, so it can be said that digital libraries do not stand alone. The library collection is not only limited to electronic documents to replace printed documents, but the scope of the collection
can reach digital artifacts that cannot be replaced by printed forms.

**METHOD**

This writing method uses a descriptive approach with observational data collection methods. Observation is the activity of paying attention to an object by using all the senses (Arikunto, 2006: 156). In this study, we also carried out a literature review using various scientific reference sources, including printed books, electronic books, articles, and news.

**RESULT AND DISCUSSION**

The term "industry 4.0" was born from the idea of the fourth industrial revolution. The European Parliamentary Research Service in Davies (2015) said that the industrial revolution occurred four times. The first industrial revolution occurred in England in 1784, when the invention of the steam engine and mechanization began to replace human work. The second revolution occurred at the end of the 19th century, when production machines powered by electricity were used for mass production activities. The use of computer technology for manufacturing automation starting in 1970 marked the third industrial revolution. Currently, the rapid development of sensor technology, interconnection, and data analysis has led to the idea of integrating all of these technologies into various industrial fields. This idea is predicted to be the next industrial revolution. The number four in the term "industry 4.0" refers to the fourth revolution. Industry 4.0 is a unique phenomenon when compared to the three industrial revolutions that preceded it. Industry 4.0 is announced a priori because the real events haven't happened yet and are still in the form of ideas (Drath and Horch, 2014).

Visitor experience and application in libraries "Visitor experience" or "so-called visitor experience" is a term commonly used in museum institutions. A strong person is defined in the concept of the museum visitor experience as someone who uses multiple senses and has an individual impression of a location (Tarssancn and Kylancn, 2005). experience as the visitor's perception of an unforgettable and meaningful experience. In this case, if this concept is used in the library field, there will be efforts from library institutions to create an unforgettable and meaningful experience for every visitor who comes to visit the library, either as an offline or online visitor. According to Daengbuppha (2009), evaluation of visitor experience consists of two main structures: evaluation elements and evaluation process elements. As a type of intervention model, the determining factors of the evaluation element itself are
the user's comfort factor and the distraction factor. Furthermore, the elements of the evaluation process consist of interactively repeating the user experience, enhancing the visitor experience interactively, and withdrawing from the user experience. Library Automation in the Era of the Industrial Revolution By applying this visitor experience model, we will have several positive impacts. Before looking at the positive benefits of the visitor experience, here are the levels of experience: The level of motivation refers to the interest in the product that is built in the mind of the client. It denotes a desire and readiness to participate in it and experience it. If this is applied to libraries, they are required to have innovative digital services or digital products that can attract library users. The physical level refers to the user's experience of the environment through which service or product senses are received, tried, recognized, and used. At this level, digital products or services resulting from innovation at the first level provide opportunities for users to experience and try these digital services. The rational level is the process of sensory stimulation provided by the environment where customers learn, think, apply knowledge, and form opinions. In this case, application enables users who try and use digital products or digital services from a library to express and form opinions about these digital products or services. As a result, customers make a decision about whether they are satisfied with the product or not.

Furthermore, the emotional level refers to the customer's response to product experiences such as joy, satisfaction, the enjoyment of achieving and learning new skills, a sense of victory, and affection. Library users who have used digital products or digital services offered by the library will get either positive or negative responses. At this level, the library has the opportunity to provide optimal service. This optimal service provision does not only refer to those who regularly use library products but also to users who only visit the library once. Libraries that provide positive services will indirectly get positive ratings from library users.

Vice versa, a library that does not provide positive services for users will have a negative impact on library users. The last level is the mental level, which refers to the highest level of experience. Positive emotional reactions and strong reactions to experiences can lead to personal changes that bring about modifications to one's physique, state of mind, or lifestyle. Although the experiential triangle model has not been tested empirically, it is useful for analyzing the current context of digital libraries. Overall, libraries that apply the concept of
visitor experience, both in offline and online service models, will see a positive impact. An example of this positive impact is that users of offline or online services will feel joy, satisfaction, enjoyment, a sense of victory, and affection from using library services and learning new skills. Every positive thing that is felt and received by library users will indirectly give them a positive impression of the library itself.

Besides that, it will also add value to the library itself. Library Opportunities in the Industrial Revolution 4.0 era There are four design principles for Industry 4.0. First, interconnection (connection), namely the ability of machines, devices, sensors, and people to connect and communicate with each other through the Internet of Things (IoT) or the Internet of People (IoP). This principle requires collaboration, security, and standards. Second, information transparency is the ability of information systems to create virtual copies of the physical world by enriching digital models with sensor data, including data analysis and information provision. Third, technical assistance, which includes: (a) The ability of a government system to help people by storing and analyzing information in a secure manner, resulting in timely decisions and the resolution of problems in a short period of time. (b) System capabilities for human development by performing a variety of tasks that are neither enjoyable, nor safe; (c) Includes both visual and physical aids. Fourth, decentralized decisions, which are the ability of virtual physical systems to make their own decisions and carry out tasks as effectively as possible.

Opportunities for developing library technology in the Industrial Revolution 4.0 era are as follows:

**AI (Artificial Intilegent)**

One of the characteristics of Industrial Revolution 4.0 is the application of artificial intelligence. The development of artificial intelligence in the library is expected to facilitate librarians in managing the library and providing services to users. The development of artificial intelligence in processing library materials with the introduction of book objects so as to facilitate the search for subjects for classifying library materials in the information retrieval system, the development of artificial intelligence is also being pursued so that the recall and precision systems in the retrieval system can be more effective and efficient. The effectiveness of the information retrieval system is evaluated using Lancaster and Pendit's (2008) relevant and irrelevant theory. In this theory, it is also explained that the effectiveness of the information retrieval system is categorized into two categories: effective if the value is above
50% and ineffective if the value is below 50%. The two sizes above are assessed in percentage form, 1–100%. An information retrieval system will be considered good if the level of recall and precision is high. According to Pao and Hasugian (2006), the ideal condition for the effectiveness of an information retrieval system is when the recall-to-precision ratio is the same (1:1). In the development of artificial intelligence in the library, it is expected that the level of effectiveness in recall and precision will be 100%.

**Augmented Reality (AR)**

The use of AR in the library is good navigation for finding the location of the library building, searching for library materials sought, and assembling (shelving) library materials into a row of collection shelves. AR technology is used to access books virtually and in real time, with the same information content as the original book. This technology is used especially for special collections of libraries so that users can access the information contained in these special collections, but the original collections are preserved from user access.

**Remote Access**

The measure of the success of a library is no longer calculated based on the number of visitors, but on how many people access information from the library. By utilizing remote access, the library manages digital information that can be accessed widely without space or time limits. The library makes an application that is both a computer-based database of books and a communication tool (mobile) to make it easier for users to access library information without having to come to the library.

**Co-Working Space**

The library provides a co-working space for entrepreneurs, start-ups, and communities to meet and work with the facilities provided by the library. The facilities provided are unlimited connection access, information services, library materials, and a comfortable room that is provided free of charge. The coworking space concept in the library is made with an appealing, unique, comfortable, and up-to-date design and is supported by an atmosphere that can stimulate creativity.

**CONCLUSION**

From the results of the research that has been described, several conclusions can be drawn as follows. The concept of libraries in the era of the industrial revolution 4.0 requires libraries to be able to innovate and improve. One of the innovations that can be implemented in libraries in the industrial revolution 4.0 is the Visitor Experience concept in libraries which can be done in 5 ways. The first is
understanding real customers from digital users, the second is rearranging the strategy from a traditional base to an experiential basis, the third is the latest management and service models, the fourth is individuals and work culture, and the fifth is aware of human & ecological issues. The era of the Industrial Revolution 4.0 was marked by the emergence of supercomputers, artificial intelligence technology, and robotics to maximize human tasks.

Libraries as lifelong learning information institutions must take advantage of opportunities in the development of library information technology. Librarians as managers of information institutions must have the competence to be able to implement the use of information technology in the Industrial Revolution 4.0 era. Librarian competencies that must be possessed by librarians in the application of information technology in the Industrial Revolution 4.0 era are 3 main literacy, namely, 1) Digital Literacy, 2) Technology Literacy, and 3) Human Literacy. With the development of library technology in the era of the Industrial Revolution 4.0, which includes the use of AI (Artificial Intelligence), Augmented Reality (AR), Remote Access, Co-Working Space technology, it is hoped that it will be able to answer challenges in the globalization era so that libraries become the front line capable of providing information in a timely manner, easy, and fast in order to educate the life of the nation.

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