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**Human Resource Planning Strategy to Improve the Quality of
Online Library Management Information Systems (E-Libraries) of
Higher Education in the Industrial Era 5.0**

Tuti Nurhaningsih Santoso¹, Arita Marini², Rihlah Nur Aulia³

^{1,2,3} Universitas Negeri Jakarta, Indonesia

ABSTRACT

Library management information systems in universities are essential for managing e-libraries in universities. The world of education will face one of the challenges after 2030: the use of information technology or robotics in various sectors of human life, one of which is university libraries. This research was conducted using a literature approach by collecting data from various relevant theoretical sources about human resource management and higher education management information systems in the context of university library human resource planning strategies. This article delves into the practical application of library human resource planning strategies in universities. It discusses the formulation of university library human resource planning and the development of human resources in the era of Society 5.0. Furthermore, it explores the challenges and opportunities in implementing these strategies, such as change management, adaptive higher education management information system policies, and the development of librarians' professionalism in the era of society 5.0. This study uses a literature approach by collecting data from relevant theoretical sources about library human resource management and higher education management information systems in the educational context of university library human resource planning strategies. Data is analyzed through systematic literature synthesis to identify university library human resource planning strategies that can improve the quality of management e-library in the era of Society 5.0. In this era, adaptive and technology-oriented human resource management strategies are the key to improving the quality of university e-library management.

Human Resources Planning, Information Management System, Online Library Higher Education.

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**Corresponding
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Tuti.Santoso@intoglobal.com

INTRODUCTION

The educational landscape, particularly in Indonesia, is evolving towards a more dynamic framework, making it essential to focus on the knowledge competition relevant to the industrial era 5.0. The lessons learned from the

COVID-19 pandemic have highlighted the crucial role of technology in various facets of human life. Consequently, this situation influences the management information systems in higher education, particularly in the administration of online library management systems within Indonesian universities. Furthermore, advancements in Artificial Intelligence (AI) have accelerated human engagement with knowledge, leading to a significant digital transformation and advancements in technology. The role of libraries within universities in Indonesia is vital amid the swift advancements in information technology (IT). As knowledge centers, university libraries must offer high-quality online services to support students in their academic pursuits on campus.

The period of the information revolution 5.0 builds upon the industrial era 4.0, renowned for its connectivity and automation. In this phase, Industry 5.0 investigates the possibilities for collaboration between humans and machines, specifically by integrating artificial intelligence technology, commonly referred to as Artificial Intelligence (AI), with human skills to foster an innovative and efficient work environment. In practice, the advancements in AI influence the information systems established within organizations, including universities. The purpose of the information systems in universities is to facilitate the use of technology for administrative tasks conducted online, such as those involved in the academic process, New Student Admissions, curriculum development, class schedule organization, filling out Study Plan Cards, recording grades, managing data for lecturers and students, handling finances, accreditation, and overseeing online libraries (e-libraries).

This system can also serve as a tool for data analysis to inform decisions within the campus. The implementation of this technology is essential and significantly influences the advancement of an educational institution's organization in the face of global competition. A superior higher education institution must possess an adequate, if not exemplary, educational management information system to deliver outstanding service to the entire academic community (including students, faculty, administrators, and various external stakeholders). To offer exceptional services to all members of the academic community, an integrated information system has become increasingly necessary for universities. This is due to the complex nature of the campus management process. Therefore, there is a need for skilled human resource management in higher education libraries, which is prepared for the technological advancements of the industrial era 5.0. Prior research, presented in the proceedings titled 'Digital Literacy for Librarians in the Era of Society 5.0: Opportunities and Challenges' by Hijrana, Satriani, Suttaria, & Harunuddin in

2022, indicates that the challenges posed by technological advancements in the industry 5.0 era will be quite intricate, necessitating librarians to acquire digital literacy skills to keep pace with the rapid technological development in delivering quality services in higher education. The author intends to further expand on the insights from previous research regarding human resource planning for online libraries in the realm of higher education. The demand for information that is relevant, accurate, quick, precise, and efficient has posed numerous challenges for library managers that are becoming increasingly intricate. In their quest to support universities, libraries often encounter various hurdles, one of which is the lack of skilled human resources for managing digital libraries within educational institutions. As a result, feedback has emerged from both lecturers and students who struggle to find and access the literature necessary for teaching and research purposes. Human resource planning is a key aspect that can be examined in this context. Therefore, the author can draw a conclusion regarding "How can universities assess human resource planning for the management of online library information systems?"

RESEARCH METHODE

This research employs a literature-based methodology, gathering information from pertinent theoretical sources regarding human resource management in libraries and management information systems in higher education, specifically relating to human resource planning strategies for college libraries. In this research, the data were examined through systematic literature synthesis to pinpoint human resource planning strategies for college libraries that can enhance the quality of e-library management in the context of the Industry 5.0 era. During this period, human resource management strategies that are both adaptive and technology-driven are essential for elevating the quality of management information systems in college e-libraries.

RESULT AND DISCUSSION

Library Management Information System in Higher Education

The current age of globalization is characterized by an innovation that impacts societies worldwide. This technological emergence is particularly evident in education, where competition among universities and new perspectives are arising. This situation is closely linked to the effects of transformation and civilization, which shape higher education's approach to managing educational services and addressing the needs of students. Such changes inevitably lead to developments that broaden our understanding of the demands for adaptation, encouraging the alignment of policies and the

formulation of strategies that correspond with the evolving technological landscape. In the context of Industry 5.0, the planning and cultivation of human resources in the management of information systems are deemed crucial for Indonesian universities as they tackle the challenges presented by the swiftly advancing educational technology.

Information systems are essential for a company or organization as they support decision-making and help achieve the goals of the institution, particularly within higher education. The emergence of Industry 5.0 has led to the advancement of digital technology because of the increasingly sophisticated information technology, resulting in significant transformations in contemporary technology, commonly known as the digital era (Budihartanti et al., 2019). This concept was also highlighted by Anggadini (2013), who pointed out that information systems involve three fundamental activities: input, processing, and output. A Management Information System is a system that aids in the management process of an organization. This management information system is vital for any institution, including libraries. The effective implementation of a library management information system in delivering services hinges on the availability of sufficient facilities, infrastructure, and skilled human resources as library managers.

To deliver services effectively, a system is essential for ensuring the swift execution of service processes and the handling of library materials (Negara & Marlina, 2018). The management information system in libraries relies on information technology. Wibowo et al. (2017) state that employing information technology can lead to cost reductions in maintaining collections, as well as offer convenience and savings to users. A library functions as a unit that processes, stores, preserves, and disseminates information to its users. Furthermore, Irawan and Najiullah (2015) highlight that to meet user expectations and needs, it is crucial to implement process standards for quality in library services. Library users are likely to feel satisfied if the level of service meets their expectations. In contrast, if the service quality falls short of what is anticipated, library users may experience dissatisfaction. As a core component of Higher Education, the library plays a vital role in enhancing the teaching and learning process.

Digital Libraries in Higher Education

A digital library refers to a repository offering services in an educational context, combining collections, services, and personnel to facilitate the creation, sharing, utilization, and preservation of data, information, and knowledge. William Saffady describes digital libraries broadly as collections of information that can be processed by computers or as repositories of such information. TB

Rajashekar defines them as collections of organized information, complete with related services, that are stored in digital format and accessible through a network. James Billington, a librarian at the Library of Congress, as cited in Rogers (1994), characterizes a digital library as a coalition of institutions that digitally collect their unique resources. Drobnik and Monch (in Nugroho, 2000) define a digital library as an organized collection of electronic documents that are easily searchable and readable. Komariah Kartasasmita describes a digital library as a system offering various services and information objects that assist users requiring access to these objects via digital or electronic devices. Romi Satria Wahono characterizes a digital library as one that stores data in various forms, such as books, images, and sounds, as electronic files and distributes them using electronic protocols over a computer network. According to him, the term digital library is synonymous with electronic library and virtual library.

Human Resource Planning Strategy (HR) for Online Library Management Information Systems in Higher Education

Strategic HR planning is a methodical approach used to forecast and assess the current and future needs for human resources. By utilizing this systematic planning, it is possible to estimate the quantity and types of work required during each time frame. In this context, HR planning plays a crucial role in facilitating recruitment, selection, training, education, and organizational restructuring. The responsibility of Human Resource Planning and Development (HRD) encompasses identifying future employee requirements, managing changes over various time periods, attracting qualified individuals, and enhancing the company's human resources.

Essentially, HR planning significantly influences the company's development, particularly in the context of the industrial era 5.0. This era embodies the idea that human existence will harmonize with technology to enhance the quality of life sustainably. Such a shift demands that industries innovate to provide greater benefits to consumers. Universities, as institutions of higher learning, equip students with essential knowledge and skills, which means that HR planning and development must focus on empowering these institutions to stay competitive and foster innovation, particularly by integrating emerging digital technologies with advanced university library systems. Furthermore, universities must ensure they prepare the necessary human resources or staff to realize the potential of digital libraries, taking into account the skills and competencies of their personnel.

Universities need to adopt human resource planning and development (HRD) to support digital transformation through a corporate culture

enhancement initiative that fosters changes in mindset, behavior, abilities, and digital competencies. A library serves as an organization that handles various information sources, which can be leveraged by its users, who must be aware of and responsive to advancements in science and information. Similarly, university libraries face significantly higher and more varied information demands from users than those at lower education levels. In Indonesia, universities practice the Tridharma of Higher Education, which includes education, research, and community service, all referred to as the Tridharma of Higher Education. It is essential for libraries at universities to comprehend these three foundational elements.

In universities, libraries are managed operationally by various librarians. As institutions focused on information management, libraries have primary goals outlined in Law No. 43 of 2007 related to Libraries, which include delivering services to users, promoting reading habits, and expanding knowledge and insight to enhance national welfare. To fulfill these objectives, libraries must adapt to the current information paradigms, enabling them to achieve their core missions effectively. To realize these goals, skilled human resources are essential, specifically librarians who can proficiently oversee library operations.

Librarians represent a crucial component of the workforce in a library. As noted by Lasa Hs (2009:295), a librarian is an individual who engages in library functions by delivering services to the community, following the responsibilities outlined by their parent organization, drawing on their expertise in library science, documentation, and information acquired through education. As key personnel in libraries, librarians must perform their duties with professionalism, which is evident in their competencies that encompass knowledge, experience, and skills required to manage and enhance library operations independently (Nashihuddin, 2011:14).

Librarians working in campus libraries need to constantly stay updated on the developments in the academic field. In this digital age, it is essential for college librarians to recognize the information needs of their users. The abilities and creativity of librarians in enhancing and advancing services during the digital era are crucial. Librarians should actively seek to understand the requirements of users in today's technology-driven society. Without innovation in their services, librarians risk becoming obsolete, which would reduce the library's role as a vital information source and knowledge-sharing space to mere rhetoric (Dayono, 2017). In the current digital landscape, campus librarians face the challenge of continuously providing value to their community members.

Librarians need to possess digital literacy skills. As more information is made available online, digital literacy is becoming increasingly essential in university libraries. Digital literacy refers to the ability to efficiently utilize digital technologies, including computers, the internet, and mobile devices, to access, comprehend, assess, create, and share information (Roche, 2017). Having digital literacy skills allows librarians to effectively manage and facilitate access to digital resources while equipping users with the necessary skills to navigate the digital environment. Furthermore, digital literacy for librarians encompasses staying informed about emerging technologies and trends in the field, such as virtual reality, artificial intelligence, and machine learning, to anticipate and adapt to future developments in the library sector.

Library staff need to be proficient in utilizing social media and various communication tools to engage with patrons and promote library offerings. Additionally, they can partner with fellow librarians and information specialists to exchange knowledge and resources while exploring innovative technological methods to enhance library services. University libraries in the era of Industry 5.0 can leverage technologies like artificial intelligence, the Internet of Things, and big data analytics to improve user experience and increase resource accessibility. Examples include using virtual reality for remote access to collections, chatbots for user assistance, and data analytics to monitor and analyze user behavior. Moreover, librarians are no longer simply waiting for patrons to come in to request books or directly manage borrowing and returns with students.

Nevertheless, librarians must confront the reality that operating 24/7 library services in the 5.0 era necessitates using increasingly sophisticated technology. Technological advancements have transformed college libraries and will continue to shape their future. The incorporation of technology presents both opportunities and challenges for libraries within campuses and universities, compelling them to evolve alongside technological advancements. If librarians fail to keep pace with technology, there will be a belief that they may become obsolete. Libraries play a crucial role in the educational landscape (for both learning and research). Their purpose is to serve as a portal to information, making libraries essential for accessing relevant data needed for learning.

Another crucial aspect is that librarians need to prepare information media for their patrons, which means they must also adapt and become more analytical. With everything now available in electronic formats, these resources can be accessed from various locations, including both the library and home. The shift to electronic resources has necessitated that librarians embrace new

roles, tasks, and responsibilities. Where the focus was once on circulation, it has now transitioned to consultation, positioning electronic resource librarians as consultants. Librarians are tasked with identifying free resources and integrating them into a cohesive system.

The Role of Human Resource Planning in Building Quality Performance Management

An organization aiming to improve its performance quality cannot succeed without employee support. Therefore, planning for employee development indicates that the organization seeks to establish a synergistic force within a framework focused on effective management. As stated by Malayu SP Hasibuan, the goals of human resource planning (HR) include:

- 1) To ascertain the quality and quantity of employees needed for all positions within the organization.
- 2) To guarantee the presence of a current and future workforce to fulfill every role.
- 3) To prevent mismanagement and duplication of tasks.
- 4) To enhance coordination, integration, and synchronization, thereby boosting productivity.
- 5) To avoid situations of employee shortages or surpluses.
- 6) To serve as a reference for decisions regarding employee recruitment, selection, compensation, development, integration, maintenance, discipline, and termination.
- 7) To provide a framework for managing employee transfers (both vertical and horizontal) and retirements.
- 8) To form the foundation for conducting employee evaluations.

Furthermore, there are several factors to consider in HR planning, including:

- 1) Growth; Different organizations experience varied growth rates. It is essential for HR planning to take into account financial growth factors and the needs of the company.
- 2) Change; Changes can occur at any time. During periods of transition, HR should maintain flexibility to better satisfy the company's requirements.

Technology; In this technology-driven era, it is crucial for HR to recognize the significance of technology in the company's operations.

CONCLUSION

Effective and strategic human resource planning is essential for the success of a well-organized online library management information system in higher education. Within an organization, particularly in the higher education sector, the emphasis on developing quality human resources with the skills and

competencies required for Industry 5.0 is crucial, especially in the administration of a digital library management information system. It is vital for higher education institutions to implement development programs for campus library managers, providing training or educational opportunities – both formal and informal – related to digital literacy, Artificial Intelligence (AI), and data processing or coding skills necessary for managing books within an integrated online system. These measures aim to deliver professional online library services in higher education. Additionally, institutions of higher learning can partner with technological expert organizations capable of designing application systems for the management of books, scientific articles, and research findings, facilitating their online integration on campus. A concerted effort and strong collaboration are required between the government, private sector, and educational technology community to ensure that online libraries (digital libraries) at the university level maintain high quality and are managed effectively.

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- Hijrana, Satriani, Suttaria³, & Haruddin⁴ ^{1,2}Library Unit, Alauddin State Islamic University, Makassar ⁴Muhammadiyah University of Sinjai
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