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The Role of *Human Resource Information System* (HRIS) in Improving the Efficiency of the Recruitment Process in the Revolutionary Era 4.0

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Abstract

The era of revolution 4.0 is an era of digitalization, automation and centralization. The use of IOT, big data and cloud computing is starting to be implemented in various fields including Human Resource Management. One form of implementation is the use of AI-based HRIS software in the recruitment process. The implementation of HRIS certainly brings various positive impacts on performance efficiency and increased productivity. The purpose of this research is to analyze the efficiency of HRIS in the recruitment process, find out the various AI-based HRIS software and find out the challenges faced. The method used is a literature study by collecting various relevant sources. The results obtained are that HRIS implementation can increase time efficiency, cost efficiency and user satisfaction. Various HRIS features such as Fetcher, XOR, hireEZ, Eightfold, Pymetrics, Textio, Humanly, AllyO, Loxo, Turbohire and SaaS. These features offer various positive impacts on efficiency such as AllyO with 60% cost efficiency and 92% user satisfaction, SaaS with 42% cost efficiency and 46% user satisfaction and humanly being able to shorten candidate screening time by 60 hours. HRIS implementation also faces challenges such as high initial implementation costs, employee resistance and data security.

Keywords: *HRIS, AI, Recruitment, Efficiency*

A. INTRODUCTION

The era of revolution 4.0 is an era of digitalization, automation and centralization. The use of IoT (Internet of Thing), big data and cloud computing are familiar terms in the era of revolution 4.0. 4.0. Centralized information systems that connect various kinds of data in it make work efficient. Various large amounts of data are stored in the cloud that has been integrated. This centralized information system is not only a store of big data but also easy to search for data. The various conveniences offered in the 4.0 revolution era also have an impact on the performance of HR Management (Oktareza et al., 2024).

HR management is one of the important divisions for an organization or company. This management is tasked with managing HR (employees) from the recruitment process to become the desired HR in accordance with the will of the company. Various tools or

information systems are used to support the effectiveness and productivity of the HRM division's performance. The information system used by HR Management is better known as HRIS (Human Resource Information System).

HRIS (Human Resource Information System) is an information system designed to help simplify the work of human resource management. This system is considered capable of increasing the efficiency of human resource management performance in managing documents or data related to employees. HRIS helps collect, store and analyze information related to Human Resources in a company or organization (Yantu et al, 2024).

HRIS is software that has a centralized database or database so that the process of obtaining, collecting, storing and analyzing HR data can be well organized (Anggraini, 2022). HRIS also facilitates HR Management work, one of which is the recruitment process. This recruitment process is very important for companies to find candidates that match the needs of the company.

Recruitment is a process of searching, sorting and analyzing human resources to find suitable candidates to occupy positions or positions that have been determined by the company. This candidate search process is carried out by HR Management in various ways, one of which is by posting job vacancies on various social media platforms, then screening CVs that have entered the company data. This CV screening will consume a lot of time if done manually such as reading one by one incoming applications. HRIS shapes HR Management in screening CVs in a more effective and targeted way. Various kinds of HRIS software are used, one of which is ATS software (Widowati & Agustin, 2021).

The era of revolution 4.0, which is characterized by a variety of AI-based technologies, has been widely used in increasing the effectiveness of HR Management performance productivity. AI-based recruitment with the use of HRIS software is now starting to be applied in improving the efficiency of HR Management performance. The use of AI-based HRIS software with various platforms can obtain more effective and flexible results (Geetha & Reddy, 2018). The purpose of this research is to analyze the role of HRIS in improving the efficiency of the recruitment process in HR Management. In addition, to find outthe various software AI-based HRIS and the implementation challenges faced.

B. RESEARCH METHOD

This article uses a literature study research method or literature review by collecting, reading, analyzing the contents of the discussion and conclusions from various national and

international articles, and sources relevant to the article written (Halisa, 2020).

C. RESULTS AND DISCUSSION

HRIS Features for Recruitment Efficiency

The development of recruitment technology today has presented a variety of innovative solutions that include data-driven recruitment, utilization of AI, recruitment through social media, technology used for online interviews and improved candidate experience.

AI-based HRIS software for recruitment is designed to automate and centralize various important stages of the recruitment process such as sourcing, screening, matching, and candidate assessment (Qamashoui, 2023).

Human Resources Information System (HRIS) is one form of software implementation in HR Management in recruiting candidates in the era of revolution 4.0. Various kinds of information systems are used to increase efficiency in the candidate recruitment process. There are several best AI-based HRIS recommendations that can be used in the recruitment process, among others:

1) Fetcher: An AI-based platform that automates the candidate search process efficiently. By simply inputting the data of the position sought, the system filters and matches candidate profiles in a short time (Fraij, & László, 2021). Companies that use this tool include Sony Music and Velcro.
2) XOR: A specialized AI-based platform for day laborers and field workers. It can reach millions of job candidates and schedule interviews efficiently. Companies using this tool include Ikea and Mars (Fraij, & László, 2021).
3) hireEZ: An AI-based platform specialized in staffing, health, and security. Capable of reaching 800 million candidates and able to integrate with other platforms (Vedapradha et al., 2019).
4) Eightfold: An AI platform that can instantly match jobs with candidates' skills and potential within seconds. Companies using this platform include Nutanix and Dolby (Hoole et al., 2023).
5) Pymetrics: Pymetrics develops game-based-assessment selection systems that utilize optimized predictive models to identify potential candidates. Companies using this tool include Kraft Heinz and Boston Consulting (Oswal et al., 2020).

6) Textio: An AI platform that uses linguistic analysis of documents to optimize the recruitment process. Companies using this tool include McDonald's and Nestle (Veluchamy et al., 2021).
7) Humanly: An AI platform that utilizes QR codes to screen candidates based on work experience. Humanly can be integrated with other platforms such as Linkeind and Indeed. Companies using this platform include Swiss monkey and Inyore Consulting (Oswal et al., 2020).
8) AllyO: An end-to-end recruitment process based on conversational AI. Companies using this platform include The Andersons and Staples.
9) Loxo: This AI-based recruitment automation system integrates with CRM platforms and features an Applicant Tracking System (ATS) that leverages an extensive database of 530 million candidate profiles. Companies using this platform include Lockheed Martin and Amazon (Oswal et al., 2020).
10) Turbohire: An AI platform that automates the recruitment process from the resume analysis stage to the candidate acceptance stage. It offers hybrid interviewing features. This platform represents the evolution of the conventional ATS (Applicant Tracking System) system into a more comprehensive talent intelligence solution (Lakshmi et al., 2020).

Impact of HRIS Implementation on Recruitment Efficiency

The era of the 4.0 revolution has created new breakthroughs in the field of HR Management, the implementation of HRIS with various AI-based platforms can improve the efficiency of the employee recruitment process. HRIS is able to overcome various operational problems such as cost efficiency, time efficiency, reducing managerial workload and standardizing HR Management processes (Hosain et al., 2020).

HRIS has an important role in the recruitment process of employee candidates. Integrated e- recruiting techniques enable an efficient digital recruitment process. Various AI-based platforms also increase accuracy in matching candidate qualifications that match the company's needs (Quasoar & Rahman, 2021).

In a conventional recruitment process, HR Management will receive applications in physical form. Then, they would screen the candidates by reading the applications one by one. This of course takes a long time. The implementation of AI-based HRIS in the employee recruitment process can speed up the candidate screening process by using the desired

keywords. According to Qamashoui (2023), the use of AI-based HRIS can shorten the time in the recruitment process by 40%.

Various uses of AI platforms in the recruitment process are considered capable of increasing time and cost efficiency as well as the quality of candidates sought. AllyO, one of the AI-based platforms, is proven to be able to reduce recruitment costs by 60% and get a user satisfaction rate of up to 92%. Meanwhile, the Humanly platform can save up to 60 hours of candidate screening time (Qamashoui, 2023).

Software-as-a-Service (SaaS) is a cloud computing-based HRIS software in which software applications are hosted and managed centrally by a service provider, then accessed by end users via the internet network. SaaS can reduce costs by 42% and increase user satisfaction by 46% (Card & Cadigan, 2016).

HRIS Implementation Challenges in the Recruitment Process

The era of revolution 4.0 has a positive impact on HR Management, especially on the recruitment process. The use of AI-based HRIS software provides a shorter time and cost efficiency impact and increases user satisfaction. In addition to bringing a positive impact, the implementation of HRIS software also provides its own challenges. Some of the challenges that must be faced include high implementation costs at the beginning, user resistance, candidate data privacy and user training needs.

The implementation of AI-based HRIS software will be a major long-term investment in a company or organization. This implementation needs long and careful consideration.

Choosing the right HRIS software according to your needs is important so that it is worth the costs incurred. Companies or organizations must carefully consider these costs and risk management for long-term HRIS investments (Abdullah et al., 2024).

A company or organization consists of employees of various ages and across generations. The boomer generation and millennial generation prefer the conventional recruitment system. This generation prefers to screen candidates in a manual way that takes a lot of time where applicants also have to send application files to related companies. In the era of revolution 4.0, applicants prefer to submit applications to companies via the internet. This is considered faster and does not require a lot of money. Currently, the need for position formations in lockers is not proportional to the number of incoming applicants. The overwhelming number of applications will make it difficult for HR Management to screen candidates. HRIS is needed for a faster and more precise candidate screening process. Unfortunately, millennials and boomers are not used to this, they are reluctant to switch from

conventional systems to digitalization systems (Utomo et al., 2023). There needs to be solutions to related challenges such as gradual socialization and training related to HRIS.

The use of HRIS in the recruitment process is of course related to the storage of candidate personal information. The security of HRIS software implemented in a company or organization must have a strict and appropriate security system so that there is no leakage of candidate data or loss of candidate data. Security in the HRIS system must be in accordance with CIA (Confidentiality, Integrity and Availability) and authentification security information (Arta et al., 2021). There are several solutions related to data security that can be applied such as Data Encryption, Multi-Factor Authentication (MFA) and Data Backup. Data Encryption can reduce the risk of data breaches by up to 80%. While Multi-Factor Authentication (MFA) can prevent attacks up to 90%. Data Backup is a backup that is done to prevent data loss caused by device damage or Cyberattacks (Nahuway, 2024).

D. CONCLUSION

The implementation of various HRIS (Human Resource Information System) software in the recruitment process of HR Management brings positive impacts such as time efficiency, cost efficiency and user satisfaction. Various AI-based HRIS features in the recruitment process include Fetcher, XOR, hireEZ, Eightfold, Pymetrics, Textio, Humanly, AllyO, Loxo, Turbohire and cloud computing-based SaaS. The use of AI-based HRIS features is considered capable of increasing time efficiency by up to 40%. Some HRIS features such as Humanly are able to shorten time up to 60 hours. AllyO is considered capable of providing cost efficiency of 60% with user satisfaction of 92% and SaaS is able to provide cost efficiency of 42% with user satisfaction of 46%. The implementation of AI-based HRIS in the recruitment process also experiences challenges that must be faced such as high implementation costs, employee resistance and data security.

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