HR TECHNOLOGY UTILISATION STRATEGIES IN HUMAN RESOURCE MANAGEMENT: A LITERATURE REVIEW

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Abstract
This study aims to review strategies for technology utilisation in human resource management (HRM) based on a literature review. HR technologies, such as personnel information management systems (HRIS) and analytics applications, have been proven to improve operational efficiency, data accuracy, and the quality of data-driven decision-making. In addition, these technologies also simplify the recruitment process, performance management, and employee development. However, the adoption of such technologies presents challenges, including high implementation costs, the need for strict data security, and resistance to change. Through the right strategy and top management support, companies can overcome these challenges and successfully integrate HR technologies to improve employee satisfaction and productivity, and maintain competitiveness in a dynamic business environment.
Keywords: Strategy, HR Technology Utilisation, Human Resource Management.

Introduction

With globalisation and rapid technological advances, human resource management (HRM) faces significant new challenges and opportunities. One of the key challenges is the rapid changes in technology that require organisations to constantly adapt and update employee skills. Resistance to change and the inability of some employees to adapt quickly to new technologies can result in decreased productivity (SELVARAJ & V, 2023). In addition, increased reliance on technology also brings with it increasingly serious cybersecurity and data privacy issues. Organisations must ensure that sensitive employee data is always protected from external threats, which requires strong security systems and strict privacy policies (Hewett & Shantz, 2021).

On the other hand, the digital era also brings great opportunities for HR management. Automation of HR processes through technologies such as talent management systems, data analytics, and online recruitment applications can improve operational efficiency and reduce administrative burden. The use of big data and analytics can provide deeper insights into employee performance, which can be used for career development and strategic decision-making (McMackin & Heffernan, 2021). In addition, the trend of flexible and remote working supported by modern communication technologies opens up opportunities to attract global talent and create

a more inclusive and diverse work environment. By leveraging these technologies effectively, organisations can improve performance, employee retention, and overall job satisfaction (Lee & Ryu, 2024).

The role of HR management is not only limited to administrative and operational functions, but also becomes a strategic partner in achieving organisational goals. The development of information and communication technology has had a major impact on various fields, including the HR management function.

HR technology, or technology that supports HR functions, has evolved very quickly. From human resource information systems (HRIS), online recruitment applications, to the use of data analytics for HR decision-making, these technologies are fundamentally changing the way HR management works. The implementation of HR technology aims to increase efficiency, optimise processes, support better decision-making, and improve employee experience (Singh & Khatun, 2023).

However, the adoption of HR technology also faces various challenges. One of them is the resistance to change that often occurs among employees and management. In addition, data security and privacy issues are a major concern, given that sensitive employee data must be managed properly. The cost of implementing and integrating new technologies is also an obstacle for many organisations, especially small and medium-sized ones (Loscher & Bader, 2023).

Amidst these complexities, it is important for organisations to formulate effective strategies for leveraging HR technology. This research seeks to explore various aspects of HR technology utilisation strategies in HR management through a literature review. By reviewing scholarly articles, journals, books, and other relevant sources, this research aims to identify existing HR technologies, their impact on the HR function, challenges faced in their implementation, and opportunities that can be utilised to achieve the desired transformation (Zhang, 2024).

By understanding the effective strategies and challenges to be faced, this research is expected to make a significant contribution to HR practitioners and academics in developing and implementing optimal HR technologies in human resource management. This research also aims to provide practical recommendations for organisations in overcoming barriers and leveraging opportunities of HR technology to improve performance and efficiency.

This research is relevant given the increasing need for innovation and adaptation in HR management in this digital era. Thus, a comprehensive understanding of HR technology utilisation strategies is essential to ensure that organisations can compete effectively and sustainably in a changing business environment.

Research Methods

The study in this research uses the literature method. Literature research method, also known as literature review, is a research approach that involves collecting, analysing, and interpreting existing data through various written sources. This method is used to understand certain theories, concepts, or phenomena by reviewing published studies and literature, such as books, journal articles, research reports, and online sources. The main objective is to provide a theoretical foundation and in-depth understanding of the topic under study, as well as identify gaps or opportunities for further research (JUNAIDI, 2021); (Abdussamad, 2022). In doing so, researchers must systematically and critically evaluate the existing literature, compile a comprehensive summary, and synthesise the information to generate new insights or strengthen research arguments. In addition, literature review allows researchers to compare various views and findings, so as to enrich the context and theoretical framework of the research being conducted (Wekke, 2020).

Results and Discussion

Recent HR technologies used in HR management

Modern human resource (HR) management increasingly relies on the latest technology to improve efficiency and effectiveness. One of the major trends in HR today is the use of cloud-based HR management systems. These systems allow companies to store and access employee data in real-time from various devices, thus speeding up administration and decision-making processes. Cloud-based applications also offer scalability and flexibility, which is especially important when organisations experience growth. In addition, with centralised data, collaboration between departments and the development of HR strategies can be done more easily (Kellner, 2020).

Analytics and big data technologies also play an important role in current HR management. With the ability to collect and analyse large amounts of data, companies can gain deep insights into employee performance, employment trends, and training needs. Data analytics allows HR managers to make evidence-based decisions, such as identifying employee turnover patterns or measuring the impact of training programmes. This helps companies to design more effective strategies in employee recruitment, development, and retention (Minbaeva, 2021).

Automation of routine HR tasks is one of the innovations that make the work of HR teams easier. By using automation software, many administrative tasks such as leave management, working time recording, and payroll processing can be completed more quickly and accurately. This not only saves time but also allows HR staff to focus on strategic tasks, such as leadership development and succession planning. These automation technologies also reduce the risk of human error, improve accuracy, and ensure compliance with regulatory standards and company policies (Fuchs & Reichel, 2023).

Digital communication and collaboration platforms also play an important role in modern HR, especially with the increasing trend of hybrid and remote working. Tools such as Slack, Microsoft Teams, and Zoom enable seamless and collaborative communication among geographically dispersed teams. These platforms not only facilitate effective internal communication but also support virtual employee training and development activities. The ability to conduct meetings, webinars, and discussions through these platforms allows organisations to remain adaptive and responsive to changes in the business environment (Gupta, 2020).

Finally, artificial intelligence (AI) technology is starting to be used in various aspects of HR management, such as employee recruitment and selection. AI-based tools can screen applications quickly and efficiently, identify the best candidates based on specific criteria, and reduce human bias in the selection process. In addition, AI-based chatbots are used to handle routine employee queries, thereby improving user experience and responsiveness of HR services (Biron et al., 2024). The use of AI not only improves efficiency but also helps to create a more inclusive and data-focused work environment that can be used as a reference in employee career development.

HR Technology to HR Management Functions

Modern HR (Human Resources) technology has had a significant impact on human resource management (HRM) functions in various organisations. One function that has benefited greatly is employee recruitment and selection. With AI-based recruitment software, the candidate screening process has become more efficient and accurate. This technology allows companies to quickly assess thousands of applications and identify candidates who fulfil specific criteria, while reducing biases that may occur in manual selection processes. The interview process can also be conducted virtually, saving time and costs, and providing flexibility for candidates in different locations (Pak et al., 2023).

The employee training and development function has also undergone a significant transformation thanks to HR technology. E-learning platforms and Learning Management Systems (LMS) allow companies to offer training that can be accessed anytime and anywhere. This helps to upskill employees in a more efficient and personalised manner. Virtual reality (VR) and augmented reality (AR) technologies are also being utilised in training to provide a more interactive and realistic experience, which is particularly useful in technical training or complex simulated situations. In addition, learning analytics help HR to track the progress and effectiveness of training programmes in real-time (Jo et al., 2023).

Employee performance management is also enhanced through HR technology by using digital performance management systems. These systems allow managers to set goals, monitor achievements, and provide feedback in a regular and structured manner. Performance dashboards provide real-time performance data, assisting

managers in making data-driven decisions (Edwards, 2023). Thus, performance evaluation becomes more transparent and objective. Effective performance appraisals also contribute to employee career development and succession planning, ensuring that the company has the talent ready to fill critical roles in the future.

Automation in HR administration functions goes a long way in reducing manual workload and improving accuracy. The use of automated payroll software, for example, ensures that salary and bonus calculations are done correctly and on time, reducing the risk of errors that can occur in manual data processing. In addition, employee leave, attendance and working time management can be integrated in one system, providing easy access and transparency for employees and managers. This allows the HR team to focus more on other strategic functions (Storey & Wright, 2023).

Lastly, employee engagement and well-being functions are also enhanced through HR technology. Employee engagement platforms allow organisations to measure employee satisfaction and engagement levels regularly and get immediate feedback through digital surveys. This technology helps HR to create wellbeing programmes that better suit employees' needs, such as mental, physical, and financial health programmes (Piszczek & Berg, 2020). In addition, internal communication applications facilitate effective interactions between employees and management, increasing a sense of engagement and job satisfaction. Thus, HR technology helps create a more positive and productive work environment.

Challenges and opportunities in the utilisation of HR technology

The utilisation of HR technology brings a range of opportunities that can improve the effectiveness and efficiency of HR management, but also presents a number of challenges that need to be addressed. One of the main opportunities is the ability to process and analyse big data obtained from various HR functions, such as recruitment, training and employee engagement. These data analytics allow companies to make better, data-driven decisions, identifying trends and patterns that may not be apparent through traditional methods. Additionally, the use of AI-based technologies can help in automating routine tasks, freeing up time for HR professionals to focus on strategy and talent development (Garg et al., 2020).

However, the first challenge that arises is the cost of implementing and maintaining HR technology. Advanced HR software and analytics platforms often require significant financial investment, both in terms of software purchase, user training, and system maintenance. For small and medium-sized companies, finding the necessary resources to adopt these technologies can be a big problem. In addition, there is also the challenge of integrating new technology with legacy systems that may already exist, which can result in operational chaos if not managed properly (Johnstone et al., 2023).

Data security and employee privacy is another considerable challenge. With more and more employee data being stored in digital systems, the risk of data leaks and cyber-attacks also increases. Companies must be able to ensure that they have robust security measures in place to protect sensitive employee data, thereby preventing data breaches that could damage the company's reputation and employee trust. Compliance with data privacy regulations, such as GDPR in Europe, must also be taken seriously, requiring companies to constantly update their security policies and procedures (Wijenayaka, 2021).

The next challenge is resistance to change from employees and managers. Changes from manual to digital systems are often met with resistance, especially if the change is not managed with effective communication. Employees and managers may feel anxious or frustrated when having to learn to use new software, which can result in a short-term decrease in productivity. Therefore, effective training and mentoring programmes are essential to ensure that all users can easily adapt to new technologies (Zbinden, 2023).

Nonetheless, these challenges also open up opportunities for companies to strengthen their competence in change management and digital upskilling of employees. Investing in technology training and developing a corporate culture that is open to innovation can help accelerate the adoption of HR technologies (Veldhoven & Vanthienen, 2023). Moreover, companies that successfully address these challenges will gain a significant competitive advantage, with the ability to improve operational efficiency, optimise employee experience, and make better and faster decisions based on data. Thus, effective utilisation of HR technology can be a key pillar in a company's growth strategy and long-term success.

In addition to the challenges and opportunities mentioned above, another crucial aspect of utilising HR technology is maintaining a balance between the use of technology and the human touch. While technology can simplify many HR processes, such as scheduling interviews or performance appraisals, the human touch remains crucial in building strong interpersonal relationships and fostering a positive company culture. Combining technology with a humanistic approach to HR management can produce more holistic outcomes and support overall employee well-being (Istiqhotsah et al., 2024).

It is also important to note that the adoption of HR technology requires a clear vision and strategy from company leadership. Without strong commitment from top management, HR technology initiatives may stall or even fail. Therefore, company management must continue to provide support in the form of resources, time, and attention to HR technology projects. Including key stakeholders in the decision-making process regarding HR technology can also help ensure that the solutions adopted are truly relevant and effective for the specific needs of the company (Gupta, 2020).

On the other hand, as HR technologies evolve, the adoption of new technologies also brings opportunities for continuous innovation in HR practices. For example, the use of augmented reality (AR) and virtual reality (VR) technologies for employee training and development opens up opportunities to create more interactive and immersive learning experiences. Similarly, cloud-based applications enable more flexible and collaborative access to HR management, especially in an increasingly dynamic and diverse work environment (Biron et al., 2024).

In conclusion, the utilisation of HR technology offers many promising opportunities to improve companies' performance and operational efficiency. However, challenges such as cost, data security, resistance to change, and the need to incorporate the human touch remain to be overcome with the right strategy and strong support from management. With a balanced approach between technology adoption and human skills development, companies can maximise the benefits of HR technology and build a solid foundation for long-term growth and success (Cayrat & Boxall, 2023). Integrating HR technology with an innovative and adaptive corporate culture will help companies compete in an increasingly competitive market and meet the demands of employees in this digital age.

Conclusion

The use of HR technology in human resource management (HRM) offers significant benefits, such as improving operational efficiency, facilitating data-driven decision-making, and optimising the recruitment process and employee performance management. Technologies such as human resource information systems (HRIS), analytics applications, and online training platforms enable organisations to reduce administrative time and costs and improve data accuracy. Technology integration also enables personalisation across HR functions, from career development to employee performance management, which in turn can improve employee satisfaction and productivity.

However, the adoption of HR technology also presents challenges that need to be addressed with the right strategy. Some of the key challenges include the cost of implementation, the need for strong data security, and resistance to change from its departments, staff, or even managers. An effective strategy involves a combination of utilising advanced technology and a humanistic approach to management. Top management support is key to the success of this initiative, as without strong commitment, efforts to integrate HR technology may stall or fail. In addition, it is important to keep abreast of technological developments and trends in HRM, so that companies remain competitive and can accommodate the needs of employees who are increasingly dynamic in this digital era.

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