

AN ANALYSIS OF THE ROLE OF HUMAN RESOURCE MANAGEMENT IN IMPROVING EMPLOYEE PERFORMANCE IN THE DIGITAL AGE

SRI NDARU ARTHAWATI

Universitas Sultan Ageng Tirtayasa, Indonesia
arthawatisri@gmail.com

Eloh Bahiroh

Universitas Sultan Ageng Tirtayasa, Indonesia
elohbahiroh@untirta.ac.id

Abstract

This article discusses the role of Human Resource Management (HRM) in enhancing employee performance in the digital age. Rapid technological changes have prompted organisations to adopt more strategic, effective, and digital-based human resource management systems. HRM no longer functions merely as an administrative unit but also as a strategic partner involved in recruitment, training, competency development, performance appraisal, and the creation of an adaptive and innovative work environment. This study employs a literature review method, examining various relevant sources from books, journals, and scientific articles. The findings indicate that the implementation of appropriate HRM strategies, such as the digitalisation of HR processes, employee competency development, data-driven performance appraisal systems, and enhanced employee engagement, can make a significant contribution to improving employee performance. Consequently, HRM plays a vital role in supporting both individual productivity and organisational competitiveness amidst the ongoing digital transformation.

Keywords: Human Resource Management, employee performance, digital era, digital transformation, literature review.

Introduction

Digital transformation has fundamentally altered the organisational landscape by accelerating the adoption of information technology, process automation, and collaboration platforms that are changing the way employees work on a daily basis. These changes require organisations to redefine the role of Human Resource Management (HRM) from an administrative function to a strategic partner that supports the use of technology to achieve business objectives (Khatoon et al., 2025).

The strategic role of HRM in the digital era encompasses the management of digital talent, job redesign, and the provision of continuous learning infrastructure to address skills mismatches. Competency-based approaches and HR analytics are crucial for identifying skills gaps and measuring the impact of training interventions on performance (El-Ghoul et al., 2024). For this section, the argument-analysis model helps to systematically organise claims, evidence, and policy implications.

Digital HR tools — including HRIS, e-recruitment, learning management systems (LMS), and performance management systems — enable faster, more accurate, and data-driven HR processes, whilst opening up opportunities for personalising the employee experience (Votto et al., 2021). However, the adoption of technology without a clear organisational change strategy can lead to resistance and underutilisation of the technology. The appropriate theoretical model to explain these adoption dynamics is an organisational change model that integrates technological and cultural aspects.

Employee performance in the digital age is measured not only by quantitative output but also by adaptive capabilities, cross-functional collaboration, and the ability to utilise digital tools for innovation. Therefore, performance appraisal systems must evolve into sustainable systems that utilise real-time data and 360-degree feedback based on digital platforms (Yablonsky, 2018) . Longitudinal and mixed-methods evaluation models are recommended to test the effects of HR interventions on short- and long-term performance.

The development of digital competencies through upskilling and reskilling programmes designed by HRM is key to maintaining workforce relevance and reducing the risk of technological unemployment. Preventing skills obsolescence requires synergy between data-driven needs identification and internal curriculum design that enables on-the-job learning (X. Wu et al., 2022) .

Employee engagement remains a key predictor of productivity and retention, but the nature of engagement is now influenced by employees' digital experiences—such as the quality of communication platforms, ease of access to information, and remote managerial support. HR must design engagement interventions that combine technology (chatbots, pulse surveys) and traditional HR practices to create strong psychological bonds (A.-C. Wu & Kao, 2022) .

Workplace flexibility—remote, hybrid, or flexible working hours—has become the new norm and requires HRM to formulate policies that maintain productivity without compromising employee well-being (Varaprasada Rao & Panda, 2023) . Implementing these policies requires outcome-based performance measurement tools and a deep understanding of boundary management between work and personal life. An evidence-based HR policy framework provides a structure for designing, testing, and revising such flexibility policies.

Digital leadership—leaders capable of utilising technology to facilitate collaboration and innovation—plays a crucial role in translating HR strategies into practices that enhance employee performance (Shatila, 2025) . HR must identify and develop new leadership competencies, including digital literacy, change management skills, and effective virtual communication. However, the digital transformation of HR also raises ethical and privacy challenges, particularly regarding the use of employee data and technology-based monitoring. HR must balance the benefits of analytics with

the protection of privacy rights and transparency in employee data policies (using GDPR best practices as a reference) to maintain organisational trust (A.-C. Wu & Kao, 2022).

The implementation of effective HRM strategies in the digital age requires clear, business-oriented performance metrics that can be measured through data—for example, productivity per FTE, task cycle time, output quality, and employee experience metrics (employee experience score) (Felstead & Henseke, 2017). The combination of traditional KPIs and digital experience metrics provides a holistic view of individual and team performance. -modified balanced scorecard models tailored to the digital context help integrate financial, customer, internal process, and learning/growth perspectives.

Case studies of companies that have successfully undertaken HR transformation—such as large technology firms and several manufacturing companies that have adopted digital HR—show that success often depends on the synergy between business strategy, technology investment, and HR capabilities (Votto et al., 2021). Comparative analysis across companies provides practical insights into best practices and pitfalls to avoid.

Against this backdrop, this article will analyse the role of HR in enhancing employee performance in the digital age through two main discussions: (1) the transformation of the HR role and the challenges of technology adoption; and (2) effective HR strategies for performance improvement, including competency development, appraisal systems, and flexible working policies.

Research Methodology

The research method employed in this article is a *literature* review, which involves collecting, examining and analysing various relevant sources such as books, scientific journals, articles and other supporting documents relating to the role of Human Resource Management in improving employee performance in the digital age (Eliyah & Aslan, 2025); (. Through this method, the author seeks to build a comprehensive understanding of concepts, theories, and previous research findings so as to produce a systematic, objective, and in-depth analysis as the basis for the discussion in the article.

Results and Discussion

The Transformation of the HRM Role in the Digital Age

Digital transformation has fundamentally altered the way organisations manage human resources, as HR functions are no longer limited to administrative tasks such as employee data recording, payroll, or attendance administration, but have evolved into strategic functions that support the achievement of the organisation's business objectives (Jarrahi et al., 2021). This change has occurred because organisations face an increasingly dynamic, competitive, and technology-driven work environment, meaning HRM is required to be more adaptive in designing policies, systems, and work cultures

that align with the needs of the digital age. Consequently, the transformation of the HRM role is not merely the digitisation of tools, but also a paradigm shift in viewing people as strategic assets that must be continuously developed to enable them to contribute optimally to the organisation (Aslan & Soesanto, 2026).

One of the primary forms of HRM transformation in the digital era is the shift from operational functions towards strategic and analytical functions (El-Ghoul et al., 2024). Whereas previously the HR department often focused on routine, administrative tasks, HRM is now required to analyse workforce data, map competency needs, and design evidence-based interventions to enhance organisational effectiveness. HR analytics enables decision-makers in the HR field to understand patterns of absenteeism, turnover, productivity, and employee development needs more accurately, ensuring that the policies devised are more targeted (Votto et al., 2021). Consequently, the role of HRM is increasingly characterised by analytical skills, data interpretation, and the integration of information in strategic decision-making.

The digitisation of recruitment and selection processes is clear evidence that HRM has undergone significant changes in the digital age. Through online platforms, professional social media, and applicant tracking systems, organisations can reach a wider pool of candidates, accelerate the selection process, and improve recruitment cost efficiency (Vermeulen & Von Solms, 2002). Furthermore, technology enables initial candidate screening to be conducted more systematically based on data, digital portfolios, and online assessment results, thereby making recruitment decisions more measurable (Rahmadi & Rusmiati, 2025). In this context, HRM acts not only as the executor of selection but also as a talent architect, ensuring the company secures human resources aligned with the demands of the digital era.

The transformation of HRM is also clearly evident in employee development through digital training and continuous learning. Modern organisations no longer rely solely on face-to-face training, but utilise e-learning, microlearning, webinars, and learning management systems to enhance employee competencies in a more flexible and efficient manner. Such learning models enable employees to learn at their own pace, whilst allowing organisations to adapt training materials to the ever-changing demands of the workplace (El-Ghoul et al., 2024). Consequently, HR now acts as a learning facilitator, fostering a culture of lifelong learning to ensure the organisation remains competitive amidst technological disruption.

In the realm of performance management, digital transformation has driven a shift from annual appraisal systems towards more continuous, real-time, and data-driven evaluations. Technology enables managers and employees to monitor work progress directly, provide rapid feedback, and set more measurable targets aligned with the dynamics of modern work (Yablonsky, 2018). This system enables HR to design performance indicators that assess not only final outcomes but also work processes, collaboration, innovation, and employees' ability to adapt to new technologies

(Verbeeten & Speklé, 2015) . Consequently, the role of HRM in performance management has become increasingly strategic as it is directly linked to organisational productivity and sustainability (A.-C. Wu & Kao, 2022) .

Digital transformation is also bringing changes to the compensation and rewards systems managed by HRM. Organisations can now utilise labour market data, performance data, and productivity analysis to design compensation schemes that are fairer, more competitive, and more relevant to employees' contributions. The use of technology in compensation management enables companies to develop personalised, performance-based reward systems, ensuring employees feel valued more objectively (Kamuri et al., 2025) . With this approach, HR functions not only as a payroll administrator but also as a driver of employee motivation and retention in an increasingly competitive workplace.

HR analytics has become a key pillar in the transformation of HR's role in the digital age, as data now forms the primary basis for decision-making. Through data analysis, HR can identify turnover trends, predict the risk of talent loss, and evaluate the effectiveness of specific training programmes and work policies. This data-driven approach strengthens HRM's position as a strategic management partner, as decisions are no longer based solely on intuition but on stronger empirical evidence (Kamuri et al., 2025) . Consequently, data literacy has become a key competency that modern HRM practitioners must possess to remain competitive in the digital age.

In addition to analytics, HR transformation is also closely linked to employee experience, which is increasingly influenced by technology. Employees in the digital age desire fast work processes, easily accessible information systems, transparent communication, and HR services that are responsive to their needs. In this context, HR must be able to create a positive work experience through digital platforms that enable employees to carry out various activities without excessive administrative hurdles (Rahmadi & Rusmiati, 2025). Consequently, HR transformation is not only focused on organisational efficiency but also on the comfort, engagement, and satisfaction of employees as the primary users of HR services.

Another significant change is evident in the digital competencies required of both employees and HR professionals themselves. Organisations seeking to succeed in digital transformation must ensure that their workforce possesses the skills to operate technology, adapt to new systems, and continue learning to keep pace with change. In this regard, HR plays a vital role as a developer of competencies through targeted and continuous upskilling and reskilling programmes. Without such intervention, digital transformation can create a skills gap that actually hinders organisational performance (Prassl, 2018). Therefore, HR must be the primary driver in ensuring the workforce is prepared to face an era of ever-evolving technology.

The transformation of HRM's role in the digital age also presents ethical challenges, particularly regarding the use of employee data and technology-based

monitoring. On the one hand, digital systems help organisations monitor performance and work behaviour more efficiently; on the other hand, they may raise concerns regarding privacy, transparency, and potential algorithmic bias. Consequently, HR must be able to balance the organisation's need for data with the protection of employees' rights to ensure trust remains. In other words, digital transformation demands that HR be not only technically savvy but also ethically wise in managing people and technology.

In the context of leadership, HRM transformation makes the role of leadership development increasingly important, as digital leaders are needed to guide teams working in rapidly changing environments. HRM must be able to design leadership development programmes that emphasise virtual communication skills, data-driven decision-making, and flexibility in leading cross-location teams (Shatila, 2025). Digital leadership is not merely about the use of technology, but also the ability to foster a collaborative and innovative work culture amidst change (Hossain et al., 2025). Consequently, HR plays a significant role in preparing leaders capable of effectively bridging organisational strategy with human resource needs.

Workplace flexibility has become a key feature of HRM transformation in the digital age, particularly through the implementation of remote working and hybrid working models. Technology enables employees to work from different locations without losing connectivity with the organisation, whilst HRM is responsible for ensuring productivity is maintained through appropriate policies, systems, and oversight (Felstead & Henseke, 2017). In this model, the HRM function does not merely regulate physical attendance, but also manages performance based on outcomes and employees' work-life balance. Consequently, technology-enabled work flexibility has expanded the role of HRM in creating organisations that are both agile and people-centred.

The transformation of HRM in the digital age is also closely linked to changes in organisational culture to become more adaptive, innovative, and open to new learning. A rigid and hierarchical work culture struggles to survive in a digital environment that demands speed and collaboration; consequently, HRM must play a role as a driver of cultural change (D. Wu & Huang, 2024). Through internal policies, organisational communication, and the development of new values, HR can help shape a working environment that supports sustainable digital transformation (Hossain et al., 2025). This means that HR's role does not stop at implementing new systems, but also encompasses the formation of a new mindset across all levels of the organisation.

Overall, the transformation of the HRM role in the digital era demonstrates that the HR function has evolved into a strategic, data-driven, employee-experience-oriented, and organisation-sustainability-focused function. HRM now serves as the link between technology, people, and business objectives, making its success crucial to an organisation's competitiveness amidst digital disruption. Consequently, organisations seeking to survive and thrive must position HR as a key partner in the digital

transformation process, rather than merely a supporting administrative unit. This role is increasingly vital as the future of organisations will be heavily determined by the ability of people and technology to work in harmony.

HRM Strategies for Improving Employee Performance

Human Resource Management (HRM) strategies play a vital role in enhancing employee performance, as an organisation's success is largely determined by the quality of its people management. In an era of increasingly fierce competition, organisations can no longer rely solely on technology and capital; they must also ensure that their workforce possesses high levels of competence, motivation, and engagement (Prassl, 2018). Therefore, HRM strategies must be designed in an integrated manner to create a working environment that supports productivity, efficiency, and innovation. This demonstrates that HRM is not merely a support function, but a strategic instrument for driving the achievement of organisational targets.

One of the key HRM strategies for improving employee performance is competency-based recruitment (Tran & Nguyen, 2022). Effective recruitment ensures that the organisation secures employees who align with the role's requirements, the workplace culture, and current competency demands. When the selection process is carried out correctly, the risk of a mismatch between the job and the employee's capabilities can be minimised, thereby optimising both individual and team performance (Vermeulen & Von Solms, 2002). Thus, recruitment is not merely an administrative process to fill vacant positions, but also a strategic step that influences the organisation's long-term performance.

The next crucial strategy is the development of competencies through continuous training and education. Amidst rapid changes in technology and work patterns, employees must continually update their skills to keep pace with the organisation's needs. Well-designed training programmes can enhance employees' knowledge, technical skills, and adaptability, making them better prepared to face workplace challenges (Bondarouk et al., 2017). Furthermore, relevant training also boosts employees' self-confidence and commitment to the organisation, as they feel valued and given opportunities to grow.

Transparent and continuous performance management is another strategy proven to be effective in improving employee performance. A clear appraisal system helps employees understand the organisation's expectations, the targets to be achieved, and the success indicators used. Regular feedback enables employees to address shortcomings swiftly and develop more productive work behaviours (A.-C. Wu & Kao, 2022). In this context, HRM acts as a bridge between organisational goals and individual achievements so that the evaluation process is not merely a formality, but genuinely drives performance improvement.

The provision of fair compensation and rewards is also a key strategy in improving employee performance. Employees who feel that their contributions are properly valued tend to demonstrate higher levels of loyalty, work ethic, and productivity. A performance-based compensation system can encourage employees to work harder because there is a clear link between work outcomes and the rewards received (Kartiko & Gultom, 2026). In addition to salary, non-financial rewards such as recognition, promotion, and flexible working arrangements can also strengthen employees' work motivation.

Employee engagement is an HR strategy that is attracting increasing attention as it has been shown to be closely linked to performance. Employees who are emotionally and psychologically engaged in their work are typically more enthusiastic, responsible and highly committed to the organisation's goals. HRM can enhance engagement through open communication, participation in decision-making, and the creation of a supportive and inclusive work environment (Iswahyudi, 2025). Thus, engagement strategies not only improve job satisfaction but also contribute directly to work output and quality.

HRM strategies must also focus on career development so that employees have a clear path for growth within the organisation. When employees see that the organisation provides opportunities for promotion, job rotation, or career progression, they will be more motivated to deliver their best performance. Effective career planning helps organisations retain top talent whilst reducing unnecessary turnover (X. Wu et al., 2022). Consequently, career management is not only beneficial for employees but also represents a long-term investment for the organisation.

Effective internal communication is a crucial foundation in HRM strategies to enhance employee performance. Without clear communication, employees will struggle to understand work targets, policy changes, or their managers' expectations. HRM needs to establish a two-way communication system that allows information to flow quickly and accurately from management to employees and vice versa (Iswahyudi, 2025). Good communication also helps resolve conflicts, improve work coordination, and create a healthier organisational atmosphere, thereby having a positive impact on performance.

The use of technology such as the Human Resource Information System (HRIS) is a key strategy in modern HRM to improve the efficiency and accuracy of HR management (Tran & Nguyen, 2022). HRIS helps to speed up administrative processes, facilitate access to employee data, and support information-based decision-making. With integrated digital systems, HR can save time and effort, allowing it to focus more on employee development strategies and performance improvement (A.-C. Wu & Kao, 2022). Therefore, technology is not merely a tool, but also a strategic instrument for strengthening the effectiveness of HR functions.

A healthy organisational culture also significantly influences the success of HRM strategies in improving employee performance. HRM has a responsibility to foster a work culture that supports collaboration, integrity, learning, and results-orientation. When the organisational culture is strong and positive, employees will find it easier to align with the company's objectives and demonstrate productive work behaviour (Hossain et al., 2025). Consequently, HRM strategies must include the establishment of work values and norms capable of fostering the creation of outstanding performance.

Effective leadership is a key supporting factor in the implementation of HRM strategies that impact employee performance (Hutagaluh & Aslan, 2019). Leaders who can provide direction, feedback, and set an example will help employees work in a more focused and disciplined manner. HRM plays a role in developing leadership programmes so that managers can manage teams effectively, particularly in rapidly changing work environments (Ghedabna et al., 2024). With strong leadership, HRM strategies will be easier to implement and yield tangible results in terms of performance improvement.

Workplace flexibility has become an increasingly relevant strategy for improving employee performance, particularly following the rise of hybrid and remote working models. When employees are given flexibility in managing their working hours and location, they tend to be more focused, comfortable, and able to maintain a better work-life balance. HRM must be able to manage flexibility policies whilst maintaining productivity and accountability to ensure optimal results are achieved (Dragu & Lupu, 2021). This strategy demonstrates that performance is not always improved through strict control, but also through trust and adaptive work arrangements.

Effective HRM strategies must also consider employee well-being, as physical and psychological conditions significantly influence performance. Employees who are healthy, safe, and feel supported will be better able to work optimally compared to those experiencing stress or excessive fatigue. HRM can support well-being through occupational health programmes, psychological support, work-life balance, and a safe and comfortable working environment (Conte & Siano, 2023). Thus, attention to well-being is not merely a form of social concern, but part of a sustainable performance improvement strategy.

Overall, HRM strategies for improving employee performance must be designed in an integrated manner, ranging from recruitment, training, performance management, compensation, engagement, career development, communication, technology, culture, leadership, work flexibility, to employee well-being. Each strategy complements the others and cannot stand alone, as employee performance is influenced by various interrelated factors. Therefore, organisations need to position HR as a strategic partner capable of designing policies based on data, employee needs, and long-term business objectives. With this approach, HR can make a tangible contribution to creating productive, competent, and highly competitive employees.

Conclusion

Human Resource Management plays a vital role in enhancing employee performance in the digital age, as HRM no longer functions merely as an administrator of personnel affairs but has evolved into a strategic partner for the organisation. Technological changes demand that HRM be able to adapt to the use of digital systems, data management, and employee skills development so that the organisation remains competitive. Consequently, an organisation's success in the digital age is largely determined by HRM's ability to manage people effectively and efficiently.

Furthermore, appropriate HR strategies—such as competency-based recruitment, digital training and development, continuous performance appraisal, fair compensation, and enhanced employee engagement—have been proven to drive productivity and work quality. HR also plays a role in fostering a work culture that is adaptive, flexible, and supportive of innovation, enabling employees to perform at their best. In this context, technology serves as a supporting tool that strengthens the role of HRM in building a work environment that is more responsive to change.

Therefore, HRM is a key factor in improving employee performance in the digital age. Organisations need to make HRM a central part of their corporate development strategy to be able to face the challenges of digital transformation. If managed well, HRM is not only capable of improving individual employee performance but also of strengthening the organisation's overall competitiveness and sustainability.

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