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The Influence of Human Resource Management on Employee Performance in the Digital Era

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ABSTRACT
The rapid development of digital technology has significantly changed Human Resource Management (HRM) practices. This study aims to analyze the influence of digital HRM practices specifically digital recruitment, technology-based training, and information system supported performance management on employee performance in the digital era. This study uses a quantitative approach through a survey of 120 employees in the information technology services sector in Jakarta. Data analysis was carried out using multiple linear regression to determine the extent to which each digital HRM variable influences performance. The results of the study indicate that all three digital HRM practices have a positive and significant effect on employee performance. Digital recruitment accelerates the process of searching for and selecting more appropriate candidates. Technology-based training increases flexibility and learning effectiveness. Meanwhile, digital performance management allows for more transparent, accurate, and real-time evaluations. Overall, the three variables explain 67% of the variation in employee performance.

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INTRODUCTION

Human Resource Management (HRM) is one of the strategic pillars in managing human assets to achieve organizational goals. In the context of increasingly competitive global competition, the role of HRM is no longer limited to personnel administration, but has evolved into proactive and data-driven resource management (Dessler, 2020). The digital transformation that has occurred in recent decades has brought significant changes to work practices, including in the field of HRM. Companies are required to integrate digital technology into every managerial process, from recruitment to employee performance evaluation (Ulrich et al., 2019).

In the digital era, flexibility and efficiency are the keywords in HR management. The recruitment process is now widely carried out online through digital platforms that allow for extensive and fast candidate searches (Breaugh, 2017). Likewise, employee training is shifting from conventional methods to online models (e-learning), which are more cost-effective and can be tailored to individual needs (Salas et al., 2015). Performance management systems have also evolved through the use of data-driven applications and software, which enable real-time monitoring, feedback, and performance evaluation (Aguinis, 2019).

Especially in the information technology services sector, digitalization has become an integral part of daily operations. Employees in this sector are faced with dynamic and technology-based work demands, so that the implementation of digital HRM is not only an option, but a strategic need to maintain productivity and job satisfaction (Marler & Parry, 2016). Therefore, this study aims to explore the relationship between the implementation of digital HRM practices including digital recruitment, technology-based training, and application-based performance management and improved employee performance.

Through a quantitative approach, this study is expected to provide theoretical and practical contributions in the development of modern HRM strategies that are responsive to technological changes and the needs of today's labor market.

LITERATURE REVIEW

Human Resource Management (HRM)

Human Resource Management (HRM) is a critical organizational function responsible for managing people to achieve strategic objectives. According to Mathis and Jackson (2010), HRM involves the planning, organizing, directing, and controlling of activities related to the workforce. These activities include recruitment, selection, training and development, compensation, and performance management. Modern HRM practices aim not only to fulfill administrative needs but also to align human resources with the long-term goals of the organization (Dessler, 2020). A well-structured HRM system helps organizations attract and retain talent, develop employee capabilities, and foster a culture of high performance (Armstrong & Taylor, 2017).

The Digital Era and HRM Transformation

The emergence of digital technologies has significantly reshaped traditional HRM practices. In today's digital era, organizations are increasingly adopting technologies such as artificial intelligence (AI), machine learning, cloud computing, and data analytics to enhance the efficiency and effectiveness of HR functions (Marler & Parry, 2016).

One of the most prominent shifts is seen in recruitment practices. Traditional recruitment methods have given way to digital recruitment, where AI algorithms are used to screen resumes, match job seekers with job requirements, and even conduct initial interviews using chatbots (Breaugh, 2017). This not only accelerates the recruitment process but also helps in minimizing bias and improving candidate-job fit.

Training and development have also undergone a transformation. E-learning platforms now allow employees to access training materials anytime and anywhere, promoting continuous learning and skills development (Salas et al., 2015). Online training can be personalized based on individual learning styles and job requirements, making it more effective than one-size-fits-all training programs.

In addition, the use of Human Resource Information Systems (HRIS) has revolutionized how HR departments store, manage, and analyze employee data. HRIS platforms facilitate the automation of payroll, attendance tracking, performance reviews, and compliance reporting, thereby improving accuracy and reducing administrative burden (Kavanagh et al., 2014). These systems also support data-driven decision-making by providing real-time insights into workforce trends and needs.

Employee Performance

Employee performance is a key metric for evaluating organizational success. It is typically measured based on effectiveness, efficiency, productivity, and job satisfaction (Robbins & Judge, 2013). Performance is influenced by a variety of factors, including employee motivation, competence, organizational culture, leadership style, and the fairness of the performance evaluation system (Campbell et al., 1993).

Digital HRM practices can positively impact employee performance by enhancing communication, enabling real-time feedback, and offering clear performance metrics. For example, performance management systems integrated with HRIS allow managers to track employee goals, provide feedback regularly, and identify training needs promptly (Aguinis, 2019). Moreover, the increased transparency and accessibility of digital platforms can foster a sense of trust and fairness, which in turn improves employee engagement and performance (Pulakos et al., 2015).

Overall, the literature suggests that the strategic integration of digital technologies in HRM practices can lead to enhanced employee performance and organizational effectiveness. However, successful implementation requires alignment with organizational culture and careful consideration of employee needs and expectations.

METHODOLOGY

This research adopts a quantitative approach with a survey method to examine the impact of digital Human Resource Management (HRM) practices on employee performance in the information technology (IT) service sector. The quantitative method is chosen due to its ability to test hypotheses, quantify relationships between variables, and provide statistical generalization of results (Creswell, 2014).

Research Design

The research employs a cross-sectional design, where data were collected at a single point in time to assess the influence of multiple HRM practices—namely digital recruitment, technology-based training, and performance management systems—on employee performance. This type of design is suitable for identifying patterns and correlations without manipulating study variables (Bryman, 2016).

Population and Sampling

The target population consists of employees working in IT service companies in Jakarta, Indonesia. A purposive sampling technique was employed to select respondents who are actively involved in or affected by HRM processes within their organizations. A total of 120 respondents were selected from five different IT companies. Purposive sampling allows researchers to focus on specific characteristics relevant to the study objectives, especially when a random sample is not feasible (Etikan, Musa, & Alkassim, 2016).

Data Collection Instrument

Data were collected using a structured questionnaire consisting of closed-ended questions measured on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The questionnaire was divided into four sections: demographic information, digital recruitment practices, technology-based training, digital performance management, and employee performance indicators. The items in the questionnaire were adapted and modified from validated instruments used in previous studies (e.g., Aguinis, 2019; Salas et al., 2015; Kavanagh et al., 2014).

To ensure reliability and validity, a pilot test was conducted with 20 respondents prior to full data collection. Cronbach's alpha was calculated to assess the internal consistency of the questionnaire items, with all constructs exceeding the acceptable threshold of 0.70 (Nunnally & Bernstein, 1994).

Data Analysis Techniques

The collected data were analyzed using multiple linear regression analysis with the help of SPSS software. This statistical technique is employed to determine the strength and significance of the relationship between multiple independent variables (digital HRM practices) and the dependent variable (employee performance). Multiple regression is appropriate when the goal is to predict the value of a dependent variable based on the value of two or more independent variables (Hair et al., 2010).

RESEARCH RESULT

This study utilized multiple linear regression to examine the impact of digital HRM practices—namely digital recruitment, technology-based training, and digital performance management—on employee performance. Preliminary diagnostics confirmed the suitability of the data for regression analysis, as assumptions of normality, linearity, multicollinearity, and homoscedasticity were met (Hair et al., 2010).

Regression Analysis

The results demonstrated that each of the digital HRM variables significantly contributed to employee performance. Digital recruitment showed a significant positive effect ($\beta = 0.34$, $p < 0.05$), aligning with Breaugh (2017) who noted that online recruitment enhances job-person fit and organizational appeal. Technology-based training exhibited a stronger influence ($\beta = 0.41$, $p < 0.01$), supporting Salas et al. (2015), who emphasized the role of e-learning in improving skill acquisition. The strongest influence was observed in digital performance management ($\beta = 0.52$, $p < 0.01$), echoing Aguinis (2019), who stressed the value of continuous and data-driven performance feedback systems.

Regression Coefficients Table

Table 1. Regression Coefficients Results

Variable	Standardized Coefficient (β)	p-value
Digital Recruitment	0.34	< 0.05
Technology-Based Training	0.41	< 0.01
Digital Performance Management	0.52	< 0.01

Source: Data Process SPSS

Model Summary

The overall regression model was statistically significant ($F (3, 116) = 78.21$, $p < 0.001$), and the R^2 value was 0.67, indicating that 67% of the variance in employee performance was explained by the digital HRM practices. This result suggests a strong predictive relationship (Cohen, 1988), validating the theoretical framework that positions HR digitalization as a driver of organizational performance (Stone & Dulebohn, 2013; Kavanagh et al., 2014).

DISCUSSION

The findings of this study underscore the pivotal role of digital transformation in Human Resource Management (HRM) practices in enhancing employee performance within the information technology service sector. The positive and significant effect of digital recruitment indicates that integrating technology into the hiring process not only streamlines candidate selection but also improves the quality of hire. This is consistent with Breaugh (2017), who argued that digital recruitment tools can enhance organizational fit and attract a broader talent pool by leveraging data-driven screening methods.

Furthermore, technology-based training was found to significantly boost employee performance. This supports the research of Salas et al. (2015), who

noted that e-learning platforms allow for greater accessibility, self-paced learning, and reduced training costs, which collectively improve learning outcomes. The flexibility offered by digital training aligns with the needs of a modern, dynamic workforce that demands continuous upskilling without the constraints of traditional in-person formats.

Most notably, digital performance management systems had the strongest effect on employee performance. These systems, often supported by HRIS and analytics platforms, enable more objective, transparent, and real-time evaluations. According to Aguinis (2019), continuous performance tracking and feedback systems improve accountability, motivation, and alignment with organizational goals.

Overall, these findings affirm the theoretical proposition that technological integration into HRM functions serves as a strategic enabler in improving organizational efficiency and workforce engagement (Stone & Dulebohn, 2013). As the digital era continues to reshape workplace dynamics, organizations that effectively adopt and leverage HR technologies are likely to maintain a competitive advantage in talent management and organizational performance.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

This study investigated the impact of digital Human Resource Management (HRM) practices on employee performance in the information technology services sector. The results revealed that digital recruitment, technology-based training, and digital performance management each have a significant and positive influence on employee performance. The integration of digital tools in HR functions was found to improve the efficiency, objectivity, and responsiveness of HR processes, thereby enhancing employee productivity and job satisfaction.

The regression model demonstrated a strong explanatory power, with 67% of the variation in employee performance accounted for by the digital HRM practices examined. These findings support the notion that adopting digital solutions in HRM is a critical success factor for organizations navigating the demands of the digital era. The research also aligns with existing literature that highlights the transformative potential of HR technology in fostering strategic human capital development.

Recommendations

In light of these findings, organizations, particularly those in technology-driven industries, are encouraged to further invest in and expand their digital HRM infrastructure. It is recommended that:

1. Recruitment processes be enhanced through AI-driven screening tools and online assessments to ensure better candidate-job fit.
2. Training programs incorporate modular e-learning platforms that support personalized learning paths and continuous development.
3. Performance management systems be digitized to enable real-time feedback, clear goal tracking, and data-informed decision-making.

Future research should consider longitudinal studies across different sectors and countries to gain a broader understanding of the long-term impact of digital HRM on organizational outcomes.

ADVANCED RESEARCH

Although this study provides meaningful insights into the influence of digital HRM practices on employee performance, several areas remain open for further exploration. Future research could adopt a longitudinal design to examine the sustained effects of digital HRM implementation over time, particularly how digital transformations influence employee retention, innovation, and organizational agility.

Moreover, comparative studies across industries (e.g., healthcare, education, manufacturing) could reveal whether the benefits of digital HRM are consistent across different organizational contexts. Investigating mediating variables such as employee engagement, digital literacy, or organizational culture could provide deeper understanding into the mechanisms through which digital HR practices influence performance.

Finally, integrating qualitative methods such as interviews or focus groups could complement the quantitative findings and uncover nuanced employee experiences, especially concerning the adoption of digital tools in HR processes. The role of ethical and data privacy concerns in digital HRM also presents a timely and important avenue for future scholarly investigation.

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REFERENCES

Bondarouk, T., & Ruël, H. (2009). Electronic human resource management: Challenges in the digital era. The International Journal of Human Resource Management, 20(3), 505–514. https://doi.org/10.1080/09585190802707235

Breaugh, J. A. (2017). Talent acquisition: A guide to understanding and managing the recruitment process. SHRM Foundation.

Brynjolfsson, E., & McAfee, A. (2014). The second machine age: Work, progress, and prosperity in a time of brilliant technologies. W. W. Norton & Company.

Caldwell, R. (2003). The changing roles of personnel managers: Old ambiguities, new uncertainties. Journal of Management Studies, 40(4), 983–1004. https://doi.org/10.1111/1467-6486.00363

Dessler, G. (2017). Human resource management (15th ed.). Pearson Education.

Field, A. (2013). Discovering statistics using IBM SPSS statistics (4th ed.). SAGE Publications.

Ghosh, P., Sekiguchi, T., & Fujimoto, Y. (2020). HRM in the era of Industry 4.0: Challenges and future research. Human Resource Management Review, 30(4), 100695. https://doi.org/10.1016/j.hrmr.2019.100695

Huang, J., & Rust, R. T. (2021). Artificial intelligence in service. Journal of Service Research, 24(1), 3–20. https://doi.org/10.1177/1094670520902266

Kavanagh, M. J., Thite, M., & Johnson, R. D. (2014). Human resource information systems: Basics, applications, and future directions (3rd ed.). SAGE Publications.

Marler, J. H., & Boudreau, J. W. (2017). An evidence-based review of HR Analytics. The International Journal of Human Resource Management, 28(1), 3–26. https://doi.org/10.1080/09585192.2016.1244699

Mathis, R. L., & Jackson, J. H. (2010). Human resource management (13th ed.). South-Western Cengage Learning.

Noe, R. A., Hollenbeck, J. R., Gerhart, B., & Wright, P. M. (2020). Fundamentals of human resource management (8th ed.). McGraw-Hill Education.

Parry, E., & Battista, V. (2019). The impact of emerging technologies on work: A review of the evidence and implications for the human resource function. Employee Relations, 41(6), 1271–1285. https://doi.org/10.1108/ER-12-2018-0310

Ployhart, R. E., & Moliterno, T. P. (2011). Emergence of the human capital resource: A multilevel model. Academy of Management Review, 36(1), 127–150. https://doi.org/10.5465/amr.2009.0318

Robbins, S. P., & Judge, T. A. (2013). Organizational behavior (15th ed.). Pearson Education.

Salas, E., Tannenbaum, S. I., Kraiger, K., & Smith-Jentsch, K. A. (2015). The science of training and development in organizations: What matters in practice. Psychological Science in the Public Interest, 13(2), 74–101. https://doi.org/10.1177/1529100612436661

Sekaran, U., & Bougie, R. (2016). Research methods for business: A skill-building approach (7th ed.) Wiley.

Stone, D. L., & Deadrick, D. L. (2015). Challenges and opportunities affecting the future of human resource management. Human Resource Management Review, 25(2), 139–145. https://doi.org/10.1016/j.hrmr.2015.01.003

Strohmeier, S. (2007). Research in e-HRM: Review and implications. Human Resource Management Review, 17(1), 19–37. https://doi.org/10.1016/j.hrmr.2006.11.002

Ulrich, D., Brockbank, W., Johnson, D., Sandholtz, K., & Younger, J. (2008). HR competencies: Mastery at the intersection of people and business. SHRM.