

DIGITAL-BASED HUMAN RESOURCE MANAGEMENT TRANSFORMATION IN ENHANCING EMPLOYEE PERFORMANCE AND ENGAGEMENT IN THE ERA OF FLEXIBLE WORK

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Article Info

Received: Sep 2, 2025

Revised: Nov 5, 2025

Accepted: Dec 10, 2025

Online Version: Feb 25, 2026

Abstract

Digital transformation in human resource management (HRM) has become a strategic issue alongside the expansion of flexible work arrangements and the growing performance demands placed on public sector organizations. This shift requires organizations not merely to adopt technology for administrative purposes, but also to ensure that HRM digitalization contributes sustainably to employee productivity and job satisfaction. This study aims to examine the effect of digital HRM transformation on employee work productivity and job satisfaction, as well as to explain the underlying mechanisms of this relationship through the lenses of the Ability Motivation Opportunity (AMO) framework and Self-Determination Theory (SDT). The study employed a quantitative approach using a survey design. The research sample consisted of 98 employees from public service institutions in East Java, selected through quota random sampling to ensure adequate representation across work units. Data were collected using a five-point Likert-scale questionnaire and analyzed the results indicate that digital HRM transformation is perceived at a high level and has a positive and significant effect on both employee productivity and job satisfaction. These findings suggest that HRM digitalization strengthens employees' abilities and work opportunities while simultaneously fulfilling basic psychological needs, namely autonomy, competence, and relatedness. The study concludes that strategically designed digital HRM transformation plays a critical role in enhancing employee performance and engagement, particularly within the context of flexible work arrangements in the public sector.

Keywords: Job Satisfaction, Public Sector, Work Productivity

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Journal Homepage

<https://research.adra.ac.id/index.php/jmf>

How to cite:

Mohyi, A. (2026). Digital-Based Human Resource Management Transformation in Enhancing Employee Performance and Engagement in the Era of Flexible Work. *Journal Markcount Finance*, 4(1), 77–93. <https://doi.org/10.70177/jmf.v4i1.3090>

Published by:

Yayasan Adra Karima Hubbi

INTRODUCTION

The development of digital technology has fundamentally transformed the way organizations manage human resources. This transformation is no longer limited to the adoption of technology based administrative systems; rather, it has evolved into a strategic approach that influences nearly all aspects of human resource management (HRM), ranging from workforce planning to performance management and employee engagement. In the context of modern organizations facing rapid, complex, and uncertain changes in the work environment, digital HRM has become a crucial instrument for ensuring organizational effectiveness while simultaneously sustaining employee performance (Fatimah, 2025).

Changes in the work landscape have become increasingly evident with the growing prevalence of flexible work arrangements, such as remote work, hybrid work models, and more adaptive working hours. These models have expanded rapidly alongside advances in information technology and organizational experiences in responding to global disruptions that necessitated large-scale adjustments in work practices. Under such conditions, organizations are required to develop HRM systems that are not only administratively efficient but also capable of supporting employee performance and maintaining engagement, even when work interactions do not consistently occur in physical settings. Accordingly, digital-based HRM transformation has emerged as a strategic response to the dynamics of the flexible work era (Sanjaya et al., 2024).

Digital HRM transformation encompasses the utilization of various technologies, including human resource information systems, online recruitment platforms, digital learning systems, application-based performance appraisal tools, as well as human resource data and analytics. The adoption of these technologies enables organizations to manage employee data in a more systematic, accurate, and real-time manner, thereby facilitating more rational and evidence-based decision-making processes. From this perspective, HRM is no longer positioned merely as a support function but rather as a strategic partner that directly contributes to the achievement of organizational objectives (Laelawati & Yulianah, 2025).

With regard employee performance, digital HRM transformation offers opportunities to establish performance management systems that are more objective and transparent. Performance is no longer assessed solely based on physical presence or the number of hours worked, but instead emphasizes target achievement, output quality, and tangible contributions to organizational goals. This approach aligns with the characteristics of flexible work arrangements, which prioritize results orientation and individual accountability. Through digital systems, organizations can continuously monitor performance outcomes and provide more timely and constructive feedback to employees (Retno et al., 2025).

Beyond performance, employee engagement represents a critical factor in determining long-term organizational success. Engagement reflects the extent to which employees feel psychologically connected to their work and the organization in which they are employed. In flexible work settings, the risk of declining employee engagement becomes more pronounced due to reduced direct social interaction and the potential emergence of emotional distance between employees and the organization (Suwaji et al., 2024). Therefore, digital HRM transformation must be designed not only to enhance efficiency but also to create work experiences that foster a sense of belonging and strengthen employee commitment.

Theoretically, the relationship between digital HRM practices, employee performance, and engagement can be explained through several key conceptual frameworks. Self-

Determination Theory, proposed by Deci & Ryan (2013), emphasizes that intrinsic motivation develops optimally when individuals' basic psychological needs for autonomy, competence, and relatedness are fulfilled. In the context of digital HRM, technology-supported flexible work systems have the potential to enhance employee autonomy in managing how and when work is performed, strengthen competence through access to digital learning opportunities, and maintain relatedness through communication and collaboration platforms. The fulfillment of these needs ultimately contributes to improved employee performance and engagement (Apriyanto et al., 2025; Junaidi, 2025).

In addition, the Ability Motivation Opportunity (AMO) Theory provides a relevant framework for understanding how HRM practices influence employee performance. This theory posits that optimal performance is achieved when employees possess adequate abilities, strong motivation, and sufficient opportunities to contribute (Yatminiwati & Hidayat, 2025). Digital HRM transformation supports the development of abilities through online training and technology-based competency development, enhances motivation through transparent performance appraisal and reward systems, and expands opportunities for participation through flexible work arrangements and digital collaboration. Thus, digital HRM can be viewed as a mechanism that simultaneously integrates all three AMO elements (Sosiady & Ermansyah, 2025).

Furthermore, the advancement of HR Analytics has increasingly reinforced the strategic role of digital HRM. HR Analytics enables organizations to quantitatively analyze employee data in order to identify patterns, predict performance, and evaluate the effectiveness of HRM policies. Through this approach, decisions related to human resource management are no longer based solely on intuition but are supported by systematic data analysis. In flexible work contexts, HR Analytics serves as an essential tool for monitoring employee performance and engagement when physical presence in the workplace is not consistently observable (Yulianah, 2024).

Despite the theoretical and empirical evidence highlighting the positive potential of digital HRM transformation, its implementation in practice is not without challenges. Differences in digital literacy levels, resistance to change, and concerns regarding technology-based monitoring may influence employees' perceptions and responses. Therefore, it is essential to empirically examine the extent to which digital HRM transformation genuinely affects employee performance and engagement, particularly within organizations that implement flexible work arrangements.

Based on these considerations, this study adopts a quantitative approach to examine the relationships between digital-based human resource management transformation, employee performance, and employee engagement in the era of flexible work. A quantitative approach is selected as it enables objective measurement of variables and statistical testing of interrelationships. Using structured instruments, this study seeks to provide empirical insights into the extent to which digital HRM practices contribute to improvements in employee performance and engagement.

Conceptually, this study positions digital HRM transformation as the independent variable, while employee performance and employee engagement are treated as dependent variables. The research framework is developed with reference to Self-Determination Theory, AMO Theory, and the concept of HR Analytics as the theoretical foundations for hypothesis formulation. Accordingly, the findings are expected not only to provide empirical evidence but

also to reinforce the relevance of these theories within the context of digitally enabled flexible work (Rahadi & Tawaqal, 2025).

Through this investigation, the study is expected to make a theoretical contribution by enriching the HRM literature, particularly in relation to the integration of digital technology with employee performance and engagement. From a practical perspective, the findings are anticipated to serve as a basis for organizations in designing more focused, data-driven, and employee-oriented digital HRM transformation strategies. In this way, digital HRM transformation is positioned not merely as a response to technological change, but as a sustainable strategy for fostering adaptive and competitive organizations in the flexible work era.

LITERATURE REVIEW

Digital-Based Human Resource Management Transformation

Digital-based human resource management (HRM) transformation is understood as a comprehensive process of change in HRM practices, systems, and roles through the strategic utilization of digital technologies. This transformation goes beyond merely replacing manual procedures with electronic systems; it entails a fundamental shift in how organizations design policies, manage talent, and make data-driven decisions. In contemporary HRM literature, digitalization is positioned as an enabler that allows the HR function to move from an administrative role toward a more strategic role that generates greater value for the organization (Eprianto et al., 2025).

A growing body of studies emphasizes that digital HRM encompasses the integration of technology across core HR functions, including online-based recruitment and selection, digital performance management systems, e-learning-based training and development, and employee data management through Human Resource Information Systems (HRIS). This approach enables organizations to enhance operational efficiency while simultaneously expanding the scope of human resource management in a more adaptive manner. Supported by digital technology, HRM processes become more transparent, measurable, and responsive to changes in the work environment (Anwar et al., 2025).

Nevertheless, digital HRM transformation cannot be separated from organizational readiness and the capabilities of the human resources involved. Several studies indicate that the success of such transformation is strongly influenced by organizational culture, top management support, and the digital competencies of both employees and HR practitioners. In the absence of adequate readiness, technology adoption may instead generate resistance and uneven utilization (Shaddiq & Irpan, 2023). Therefore, the literature highlights the importance of a holistic approach that integrates technological, human, and organizational dimensions in a balanced manner.

The Era of Flexible Work and Its Implications for HRM

The era of flexible work represents a paradigm shift that positions flexibility in time, location, and work methods as integral components of organizational strategy. This work model has evolved alongside advances in digital technology that enable work activities to be conducted without rigid spatial and temporal constraints. Within HRM literature, flexible work is viewed as a response to organizational demands for efficiency as well as employees' needs for work life balance (Arifah et al., 2025).

The implementation of flexible work arrangements carries significant implications for HRM practices. Employee management can no longer rely on conventional supervisory mechanisms, but instead requires systems that emphasize trust, accountability, and results orientation. In this context, digital-based HRM transformation serves as a fundamental foundation that enables organizations to manage employees effectively despite diverse and non-uniform work patterns. Digital technology functions as a connector between organizations and employees, while also ensuring the continuity of work processes (Lumapouw et al., 2024).

Despite its potential benefits, flexible work also introduces new challenges, particularly in relation to coordination, communication, and employee engagement. The literature suggests that without adequate HRM systems, flexible work arrangements may weaken team cohesion and diminish employees' psychological attachment to the organization (Susilowati et al., 2025). Accordingly, digital-based HRM plays a critical role in designing policies, systems, and practices that sustain performance and engagement amid increasing work flexibility.

Employee Performance from a Digital HRM Perspective

Employee performance constitutes a key indicator of organizational success and remains a central focus of HRM research. Conceptually, performance is understood as the extent to which individual work outcomes contribute to the achievement of organizational objectives. In increasingly digital and flexible work environments, the notion of performance has shifted from an emphasis on physical presence toward the attainment of outputs and the quality of work results (Odebode & Ogunbayo, 2025).

Digital HRM literature underscores that technology enables performance management to be conducted in a more systematic and continuous manner. Digital performance appraisal systems allow organizations to establish clear performance indicators, monitor progress in real time, and provide faster and more relevant feedback. This approach is considered more compatible with flexible work characteristics, which require clarity of targets and individual accountability (Kuswara & Yulianah, 2025).

However, several studies caution that the use of digital systems in performance evaluation must be balanced with a human-centered approach. Performance is not determined solely by numerical indicators and metrics, but is also shaped by psychological, social, and contextual factors. Consequently, effective digital HRM is characterized by its ability to integrate quantitative data with a deep understanding of employees' conditions and needs.

Employee Engagement in a Digital Work Environment

Employee engagement refers to the level of emotional attachment, commitment, and active participation employees exhibit toward their work and organization. In organizational literature, engagement is regarded as a critical factor influencing performance, job satisfaction, and employee retention. In the era of flexible work, employee engagement has become increasingly complex due to reduced face-to-face interaction and growing reliance on technology (Munir et al., 2024).

Several studies indicate that digital-based HRM can play a dual role in shaping employee engagement. On the one hand, digital technologies can strengthen communication, collaboration, and access to information, thereby supporting engagement. On the other hand, excessive or poorly managed technology use may lead to digital fatigue and feelings of isolation. For this reason, the literature emphasizes the importance of designing digital HRM systems that are oriented toward employee experience (Shofwani et al., 2025).

In this context, internal communication platforms, digital feedback systems, and technology-based development programs are viewed as essential instruments for sustaining employee engagement. When employees feel supported, heard, and provided with opportunities for growth, their level of engagement tends to increase even within flexible work arrangements (Andestari et al., 2024). Thus, employee engagement is influenced not merely by the presence of technology, but by how organizations employ it within HRM practices.

Self-Determination Theory in the Context of Digital HRM

Self-Determination Theory (SDT), proposed by Deci & Ryan (2013), offers a strong theoretical foundation for understanding the relationship between HRM practices and employee behavior. The theory posits that intrinsic motivation develops when three basic psychological needs autonomy, competence, and relatedness are fulfilled. Within HRM literature, SDT is frequently used to explain how work environments influence employee motivation and performance (Deci & Ryan, 2000).

In the context of digital-based HRM, the fulfillment of autonomy needs can be facilitated through flexible work systems that grant employees greater discretion over how and when they perform their work. Competence needs are supported through access to digital training and learning opportunities that enable continuous skill development. Meanwhile, relatedness needs can be met through communication and collaboration platforms that maintain social interaction in digital work settings (Ryan & Deci, 2020).

The literature indicates that when digital HRM practices are designed in alignment with SDT principles, employees are more likely to demonstrate higher levels of performance and engagement. Conversely, when digitalization is implemented in a controlling manner with limited participation, employees' intrinsic motivation may be undermined. Thus, SDT provides an important perspective for assessing the quality of digital HRM implementation.

AMO Theory and Its Relationship with Performance and Engagement

Ability Motivation Opportunity (AMO) Theory is a widely used conceptual framework in HRM research to explain how HR practices influence employee performance. The theory suggests that optimal performance is achieved when employees possess adequate abilities, strong motivation, and opportunities to contribute meaningfully (Apriadi & Kuswara, 2025).

In digital HRM literature, technology-based transformation is viewed as having the potential to strengthen these three elements simultaneously. Employee abilities are enhanced through technology enabled training and broader access to information. Motivation is reinforced through transparent, data-driven performance appraisal and reward systems. Meanwhile, opportunities to contribute are expanded through flexible work arrangements and cross-team digital collaboration (Indroputri & Sanjaya, 2024).

A number of studies demonstrate that HRM practices aligned with AMO principles affect not only performance but also employee engagement. When employees feel capable, motivated, and given opportunities to contribute, their engagement with the organization tends to increase. Accordingly, AMO Theory provides a relevant theoretical basis for examining the impact of digital HRM transformation on employee performance and engagement.

HR Analytics as a Support for HRM Decision-Making

HR Analytics represents a data-driven approach that has gained increasing attention in HRM literature. This approach emphasizes the use of data and statistical analysis to understand employee behavior, predict performance, and evaluate the effectiveness of HRM policies.

Within the context of digital transformation, HR Analytics is regarded as a key element that strengthens the strategic role of HRM (Septiadi & Ramdani, 2024).

The literature suggests that HR Analytics enables organizations to identify the relationships between digital HRM practices and employee performance and engagement outcomes in a more objective manner. Through appropriate data analysis, organizations can design more accurate and evidence-based policies. However, the use of HR Analytics also requires adequate analytical competencies and careful attention to ethical considerations and employee data privacy (Ismail et al., 2025).

RESEARCH METHOD

This study was designed using a quantitative approach with the objective of examining the relationships among variables in an objective and measurable manner. This approach was selected because it allows for empirical testing of the influence of digital transformation in human resource management on employee performance and well-being through statistical analysis. The research employs an explanatory design, aiming to elucidate the causal relationships among the variables under investigation within the context of public service delivery.

The research was conducted in the Province of East Java, focusing on public service institutions at the district level. These included 16 sub district offices as well as the Department of Population and Civil Registration (Dinas Kependudukan dan Pencatatan Sipil/Disdukcapil), including the Public Service Mall. The selection of this research site was based on the consideration that these institutions have begun to implement various forms of digital-based services, making them a relevant setting for examining the implementation of digital transformation in human resource management.

The sampling technique employed in this study was quota random sampling. Through this method, the number of respondents was predetermined based on quotas assigned to each institution, after which respondents were randomly selected within each organizational unit. This approach was intended to maintain sample proportionality while ensuring adequate representation from each institution. A total of 98 employees participated in the study, drawn from the 16 sub-district offices and Disdukcapil, including the Public Service Mall. The allocation of respondents was determined by considering the number of employees in each institution to ensure that the data reflected actual empirical conditions.

Data were collected using a survey method through the distribution of structured, closed-ended questionnaires. The research instrument was developed based on indicators representing the variables of digital transformation in human resource management, work productivity, and job satisfaction. Each statement in the questionnaire was measured using a five-point Likert scale, ranging from strongly disagree to strongly agree. This scale was employed to capture variations in respondents' perceptions and attitudes in a more accurate and systematic manner.

Prior to further data analysis, the quality of the research instrument was assessed through validity and reliability testing. Validity testing was conducted using internal validity analysis through the Pearson Product Moment correlation. This test aimed to determine the extent to which each questionnaire item accurately measured the intended construct by examining the relationship between item scores and total scores. An item was considered valid if its correlation coefficient met the established significance criteria.

Subsequently, reliability testing was performed using Cronbach's Alpha to assess the internal consistency of the research instrument. The instrument was deemed reliable if the Cronbach's Alpha coefficient indicated an acceptable level of reliability, thereby confirming its suitability as a stable measurement tool in quantitative research.

Data analysis was carried out in two stages, namely descriptive and inferential analysis. Descriptive analysis was used to provide an overview of respondents' characteristics and general response patterns for each research variable. Through this analysis, the study identified the level of digital transformation implementation, work productivity, and job satisfaction among employees in the examined public service institutions.

To examine the relationships among variables, this study employed path analysis using multiple regression techniques with the assistance of SPSS software. Path analysis enabled the identification of both direct and indirect effects of digital transformation in human resource management on employee productivity and job satisfaction. These relationships were conceptualized within the research framework, which served as the basis for testing the proposed analytical model.

The results of the path analysis are expected to provide a more comprehensive understanding of the role and contribution of digital technology in human resource management to enhancing employee performance and well-being. From a practical perspective, the findings are anticipated to serve as a reference for public service institutions in East Java Province in formulating more effective, sustainable, and service-oriented digital transformation policies aimed at improving the quality of public service delivery.

RESULTS AND DISCUSSION

Respondent Characteristics

The respondents in this study consisted of 98 employees drawn from various public service units across East Java Province, particularly from 16 sub-districts as well as the Department of Population and Civil Registration (Disdukcapil), including the Public Service Mall. The diversity of organizational units involved provides a relatively comprehensive overview of human resource conditions within public service institutions that have begun to implement digitally based work systems and management practices.

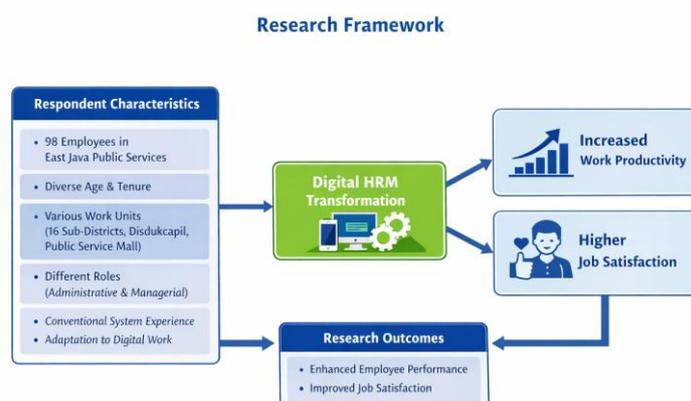


Figure 1. Conceptual Research Framework

From a demographic perspective, the respondents exhibited diverse characteristics in terms of age, length of service, and organizational placement. This variation reflects differences in work experience and levels of adaptation to changes in work systems driven by digital transformation. Employees with longer tenure generally possess strong experience with conventional work systems, whereas those with relatively shorter tenure tend to adapt more quickly to the use of digital technologies. These differences constitute an important contextual factor in understanding respondents' perceptions of digital-based human resource management transformation.

In terms of unit distribution, respondents were proportionally spread across the respective sub-districts and related agencies. This distribution pattern indicates that the study was not concentrated on a single organizational unit but instead encompassed multiple work environments with distinct service characteristics. Consequently, the data obtained are able to represent broader empirical conditions regarding the implementation of digital transformation in employee management within the public service sector.

Furthermore, respondent characteristics also reflect varying levels of direct involvement in public service delivery processes. Some respondents are directly engaged in administrative and operational services, while others perform supporting and managerial functions. These role differences influence the intensity of digital system usage and perceptions of the benefits of HRM transformation. Employees directly involved in service delivery tend to experience the impacts of digitalization more tangibly, particularly in terms of work efficiency and service speed.

The diversity of respondent characteristics represents a key strength of this study, as it enables a more objective analysis of the effects of digital HRM transformation on employee productivity and job satisfaction. By involving respondents from diverse backgrounds and organizational units, the study is able to capture the dynamics of HRM digitalization implementation more comprehensively, encompassing perspectives from both long-serving employees and those who have recently joined the organization.

Overall, the composition of respondents reflects the actual human resource conditions within the public service environment of East Java Province. The heterogeneous respondent characteristics provide an adequate foundation for subsequent analyses and strengthen the validity of the research findings in explaining the relationship between digital transformation of human resource management, work productivity, and employee job satisfaction.

Descriptive Analysis of Research Variables

Descriptive analysis was conducted to obtain an initial overview of the condition of each research variable, namely digital transformation of human resource management, work productivity, and employee job satisfaction. This analysis aimed to identify trends in respondents' perceptions of HRM digitalization implementation and its implications for employee performance and work attitudes in the public service environment. The indicators used in the descriptive analysis included the mean and standard deviation values, which provide information on the level of variable achievement and the variability of respondents' responses.

Table 1. Results of Descriptive Analysis of Research Variables

| Variable | Mean | Standard Deviation | Category |
|--------------------------------|-------------|---------------------------|-----------------|
| Digital HRM Transformation (X) | 3.87 | 0.56 | High |
| Work Productivity (Y1) | 3.92 | 0.52 | High |

| | | | |
|--------------------------------|------|------|------|
| Employee Job Satisfaction (Y2) | 3.78 | 0.60 | High |
|--------------------------------|------|------|------|

Based on Table 1, the digital transformation of human resource management variable obtained a mean value of 3.87, which falls within the high category. This result indicates that respondents generally perceive the implementation of HRM digitalization in East Java public service institutions as having been carried out effectively. The use of digital systems in personnel management, performance appraisal, and administrative processes is considered to sufficiently assist employees in performing their tasks more efficiently and effectively.

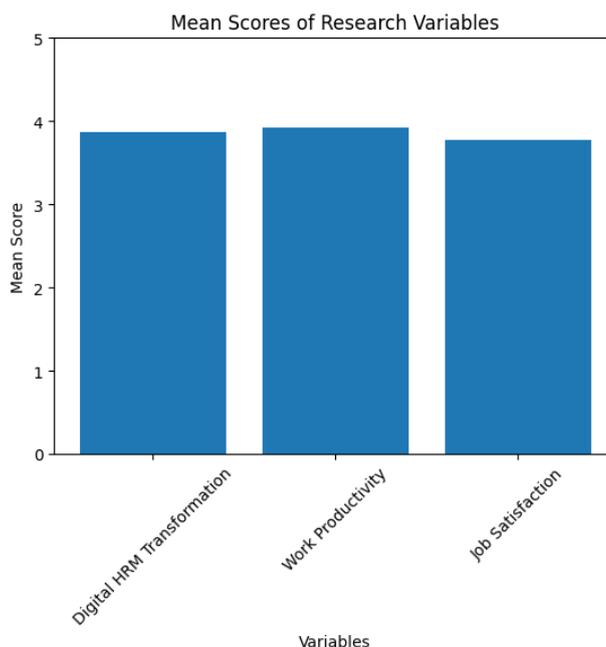


Figure 2. Mean Scores of Research Variables

The work productivity variable recorded the highest mean value among the variables, at 3.92, also classified as high. This finding suggests that employees perceive improvements in work outcomes, including task completion speed, accuracy of results, and the ability to meet predetermined targets. The high level of work productivity can be understood as consequence of digital technology utilization, which facilitates coordination, information access, and more systematic work management.

Meanwhile, employee job satisfaction achieved a mean value of 3.78 and likewise falls within the high category. Although slightly lower than work productivity, this result indicates that the majority employees are satisfied with their current working conditions. Such satisfaction is associated with the ease of work systems, the flexibility provided, and perceptions of organizational support in responding to digitally driven changes. The relatively low standard deviation across all three variables suggests that respondents' answers are fairly homogeneous indicating consistent perceptions of HRM digitalization among employees.

Instrument Validity and Reliability Testing

Validity Test

Validity testing was conducted to ensure that the research instrument accurately measures the intended constructs. The validity test employed the Pearson Product Moment correlation between individual item scores and the total score of each variable. The results indicate that all items for the digital HRM transformation, work productivity, and job satisfaction variables

have correlation coefficients exceeding the r-table value of 0.198 at a 5 percent significance level. Accordingly, all questionnaire items are deemed valid and suitable for data collection.

Reliability Test

Following the confirmation of validity, reliability testing was conducted to assess the internal consistency of the instrument using Cronbach's Alpha coefficient.

Table 2. Results of Instrument Reliability Test

| Variable | Cronbach's Alpha | Interpretation |
|----------------------------|-------------------------|-----------------------|
| Digital HRM Transformation | 0.882 | Reliable |
| Work Productivity | 0.867 | Reliable |
| Job Satisfaction | 0.891 | Reliable |

As shown in Table 2, all variables exhibit Cronbach's Alpha values above the minimum threshold of 0.70. This indicates that the research instrument demonstrates a high level of reliability and consistency in measuring respondents' perceptions. Therefore, the data generated can be considered dependable and appropriate for further statistical analysis.

Classical Assumption Tests

Prior to conducting regression and path analyses, the research data were subjected to classical assumption tests to ensure that the analytical model met the required statistical criteria. The classical assumption tests included normality, multicollinearity, and heteroskedasticity tests. The normality test using the Kolmogorov Smirnov method yielded a significance value of 0.200, which exceeds the 0.05 threshold. This result indicates that the research data are normally distributed and thus meet the requirements for regression analysis.

The multicollinearity test was conducted to examine potential high correlations among independent variables. The results show that tolerance values are above 0.10 and Variance Inflation Factor (VIF) values are below 10, indicating the absence of multicollinearity in the research model. Heteroskedasticity testing was performed to assess whether residual variances were unequal. The results indicate significance values greater than 0.05, suggesting that the regression model does not exhibit heteroskedasticity. Overall, the classical assumption test results confirm that the data satisfy the necessary conditions for regression and path analysis.

Inferential Analysis and Path Analysis

The Effect of Digital HRM Transformation on Work Productivity

Inferential analysis was conducted to examine the effect of digital transformation of human resource management on employee work productivity. The analysis employed regression techniques by examining beta coefficients, t-values, and significance levels.

Table 3. Regression Test Results of Digital HRM Transformation on Work Productivity

| Independent Variable | β | t-value | Sig. |
|--------------------------------|---------------------------|----------------|-------------|
| Digital HRM Transformation (X) | 0.612 | 7.984 | 0.000 |

Based on Table 3, digital HRM transformation exhibits a beta coefficient of 0.612 with a significance value of 0.000. This result indicates that digital HRM transformation has a positive and statistically significant effect on employee work productivity. The more effectively digital systems are implemented in human resource management, the higher the level of employee productivity achieved.

The Effect of Digital HRM Transformation on Job Satisfaction

In addition to work productivity, this study also examined the effect of digital HRM transformation on employee job satisfaction.

Table 4. Regression Test Results of Digital HRM Transformation on Job Satisfaction

| Independent Variable | β | t-value | Sig. |
|--------------------------------|---------------------------|----------------|-------------|
| Digital HRM Transformation (X) | 0.548 | 6.931 | 0.000 |

The analysis results indicate that digital HRM transformation has a positive and statistically significant effect on employee job satisfaction, with a beta coefficient of 0.548 and a significance level below 0.05. This finding suggests that the implementation of HRM digitalization not only enhances employee performance but also contributes to higher levels of job satisfaction.

Digital Transformation of Human Resource Management and Employee Work Productivity

The findings indicate that digital transformation in human resource management (HRM) has a positive and significant effect on employee work productivity. This result suggests that digitalization no longer functions merely as an administrative support tool but has evolved into a strategic factor shaping how employees perform their work, complete tasks, and achieve organizational performance targets.

In the context of public service organizations in East Java, the implementation of digital systems in HRM is reflected in the use of integrated personnel applications, online based performance appraisal systems, and the utilization of information technology for work planning and reporting. These practices have substantially reduced reliance on manual procedures, which have traditionally constrained work efficiency. Faster and more accurate administrative processes enable employees to allocate their time and energy toward substantive tasks, thereby fostering sustained improvements in productivity.

From the perspective of the Ability Motivation Opportunity (AMO) Theory, the relationship between digital transformation and work productivity can be explained more comprehensively. AMO Theory posits that individual performance emerges from the interaction between employees' abilities, their motivation to work, and the opportunities provided by the work environment. Digital transformation in HRM simultaneously strengthens these three dimensions (Ma, 2023).

In terms of ability, digital systems provide more systematic and accessible informational support for employees. Access to performance data, task-related information, and competency development resources allows employees to enhance their capabilities in a more self directed manner. Moreover, digitalization reduces administrative errors that often disrupt workflow, enabling employees to perform their tasks with greater accuracy and speed.

Regarding opportunity, digital technologies create a more flexible and adaptive work environment. Employees are afforded broader opportunities to collaborate across units, communicate in real time, and adjust work patterns to meet task demands. Such an environment facilitates the optimization of employee roles by significantly reducing structural and bureaucratic barriers.

Meanwhile, the motivation dimension is reinforced through transparent and measurable digital systems. Clearly defined performance indicators and data driven evaluation mechanisms provide objective feedback to employees. This transparency enhances perceptions of fairness and recognition of individual contributions, which in turn strengthens work motivation.

These findings are consistent with prior empirical studies emphasizing the crucial role of HRM digitalization in enhancing organizational productivity, particularly in the public sector, which faces increasing demands for rapid and accountable service delivery. Accordingly, this study confirms that digital transformation in HRM constitutes a critical prerequisite for improving employee productivity, not merely as a technical innovation, but as a systemic shift in performance management practices.

Digital Transformation of HRM and Employee Job Satisfaction from a Self-Determination Theory Perspective

In addition to its impact on productivity, the results also reveal that digital transformation in HRM has a positive and significant effect on employee job satisfaction. This finding indicates that the digitalization of HR management not only enhances work outputs but also contributes to a more positive work experience for employees.

To better understand this phenomenon, Self-Determination Theory (SDT), proposed by Deci & Ryan (2013), provides a relevant analytical framework. SDT conceptualizes job satisfaction as consequence the fulfillment of three basic psychological needs: autonomy, competence, and relatedness. The digital transformation of HRM examined in this study demonstrably contributes to meeting these needs.

In terms of autonomy, digitally based work systems provide employees with greater flexibility in determining how and when tasks are completed. Independent access to personnel information systems, performance reporting platforms, and online administrative services reduces employees' dependence on rigid bureaucratic procedures. This condition strengthens employees' sense of control over their work, which, according to SDT, constitutes a fundamental source of intrinsic job satisfaction.

Furthermore, the need for competence is supported through digital technologies. Well structured digital systems help employees understand performance expectations more clearly while providing timely and accurate feedback. Employees can monitor their performance achievements in real time, identify areas for improvement, and experience gradual enhancement of their work capabilities. This sense of effectiveness and mastery reinforces long-term job satisfaction.

With regard relatedness, digital transformation also facilitates interaction and connectivity among employees. Internal communication platforms, online collaboration systems, and cross-unit integration foster more open and participatory working relationships. Although work arrangements have become increasingly flexible and less dependent on physical meetings, employees' sense of connection with colleagues and the organization remains intact (Jamiyati et al., 2025).

Thus, the positive effect of HRM digital transformation on employee job satisfaction can be understood as a psychological process involving the fulfillment of individuals' basic needs. These findings underscore that digitalization designed with careful attention to human factors can create a work environment that is not only efficient but also emotionally and psychologically satisfying.

Integrating AMO and SDT Perspectives in the Era of Flexible Work

Conceptually, the findings demonstrate that digital transformation in HRM serves as a convergence point between structural and psychological approaches to employee performance management. The integration of AMO Theory and Self Determination Theory offers a more

comprehensive understanding of how digitalization simultaneously influences productivity and job satisfaction.

AMO Theory explains the structural mechanisms that enable employees to perform optimally through enhanced abilities, motivation, and opportunities. In contrast, SDT highlights the internal processes through which employees interpret and experience their work within digital systems. In the context of flexible work arrangements, these two perspectives are complementary and inseparable.

Digital transformation in HRM provides the infrastructure necessary for more effective work performance; however, its positive impact on performance can only be sustained when the system also supports employees' psychological needs. Digital systems that overly emphasize control and surveillance may undermine intrinsic motivation, even if they technically improve efficiency (Syafii et al., 2025).

The results indicate that HRM digitalization in public service institutions in East Java tends to reflect a balanced approach. Technology is utilized not only as a performance measurement tool but also as a means of providing support, flexibility, and transparency. This condition fosters a work environment that enhances productivity while maintaining employee job satisfaction.

In the era of flexible work, these findings carry important implications. Organizations must move beyond mere technological investment and ensure that digital transformation aligns with the human dimension of work. The integration of AMO and SDT reinforces the view that the success of HRM digital transformation lies in its ability to balance performance demands with employee well-being.

CONCLUSION

This study demonstrates that digitally based human resource management transformation plays a significant role in enhancing employee productivity and job satisfaction within the public service sector. The implementation of digital systems in HR management is shown not only to strengthen work effectiveness but also to foster a more positive and meaningful work experience for employees.

The findings confirm that digital HRM improves employee performance by enhancing ability, motivation, and opportunity, as articulated in the AMO Theory, while simultaneously fulfilling employees' basic psychological needs autonomy, competence, and relatedness in line with Self-Determination Theory. In this regard, digital HRM transformation functions as both a structural and a psychological mechanism that jointly promotes employee performance and work engagement.

From a practical perspective, these results underscore that the success of digital HRM transformation is not determined solely by technological sophistication, but rather by the extent to which digital systems are intentionally designed to support employee performance and well-being in a balanced manner, particularly within flexible work arrangements.

DECLARATION OF AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

During the preparation of this manuscript, the author(s) used Google Gemini to assist in improving grammar and overall readability of the text. After using this tool, the author(s)

carefully reviewed and edited the content as necessary and take full responsibility for the content of the publication.

AUTHOR CONTRIBUTIONS

Author 1: Conceptualization; Data curation; Investigation; Formal analysis.

DECLARATION OF COMPETING INTEREST

The authors declare that they have no known competing financial interests of personal relationships that could have appeared to influence the work reported in this paper.

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