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Digital Human Resource Management and Organizational Performance: The Role of E-Recruitment and E-Compensation in Nigeria's Banking Sector

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Abstract

This study examines the impact of digital human resource management practices specifically e-recruitment and e-compensation on organizational performance in Nigeria's banking sector. Drawing on the Resource-Based View (RBV), Technology Acceptance Model (TAM), and Socio-Technical Systems Theory (SST), the study provides an integrated theoretical framework linking digital HR practices to organizational outcomes. A descriptive cross-sectional survey design was adopted, with data collected from 351 employees selected from a population of 2,700 bank staff using stratified random sampling. Data were analyzed using descriptive statistics and multiple regression analysis. Findings reveal that e-recruitment ($\beta = 0.640$, $p < .05$) and e-compensation ($\beta = 0.424$, $p < .05$) both significantly predict organizational performance. Organizational performance was operationalized using operational efficiency, employee productivity, and service delivery effectiveness. The strong effect of e-recruitment supports the Resource-Based View by enhancing the quality of human capital, while the effectiveness of e-compensation aligns with the Technology Acceptance Model through improved system usability and perceived fairness. The study concludes that digital HRM practices significantly enhance organizational performance and recommends increased investment in digital recruitment and compensation systems within Nigeria's banking sector

***Keywords**: e-HRM, e-recruitment, e-compensation, organizational performance, digital HR systems*

INTRODUCTION

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Digital transformation has become a defining feature of contemporary organizational strategy, fundamentally reshaping how institutions operate, compete, and deliver value. In the 21st-century knowledge economy, organizations increasingly rely on digital technologies to enhance efficiency, improve decision-making, and achieve sustainable competitive advantage. Among organizational functions, human resource management (HRM) has experienced one of the most significant transformations through the adoption of electronic human resource management (e-HRM) systems. These systems integrate web-based technologies into HR processes such as recruitment, compensation, performance management, and employee engagement, thereby shifting HRM from a largely administrative function to a strategic partner in organizational performance.

Globally, the adoption of e-HRM has accelerated due to rapid technological advancements, globalization, and the increasing need for organizations to remain agile and data-driven. Digital HR systems enable real-time information processing, reduce operational costs, enhance transparency, and support evidence-based decision-making. As noted in the literature, e-HRM facilitates automation of routine HR tasks, allowing HR professionals to focus on strategic functions such as talent management and organizational development (Bondarouk & Brewster, 2016; Marler & Parry, 2016). Consequently, organizations that effectively deploy digital HR technologies are better positioned to optimize workforce capabilities and improve overall performance outcomes.

In developing economies, particularly Nigeria, the relevance of digital HR transformation is even more pronounced. Nigeria's banking sector, which is one of the most technologically advanced and highly regulated sectors in the country, has been at the forefront of adopting digital innovations. Competitive pressures, regulatory requirements, cybersecurity concerns, and the need to manage a diverse and dynamic workforce have compelled banks to embrace e-HRM systems. Digital recruitment platforms, automated payroll systems, and HR information systems are now widely used across major Nigerian banks to streamline operations and enhance service delivery.

Despite these advancements, the implementation and outcomes of e-HRM in Nigeria remain uneven and underexplored. While some studies report positive impacts of digital HR practices on efficiency and organizational performance, others highlight persistent challenges such as inadequate digital infrastructure, low levels of digital literacy, resistance to technological change, and concerns over data security (Wege et al., 2019; Kundu & Gahlawat, 2022; Olatunji & Ajayi, 2023). These mixed findings suggest that the relationship between e-HRM and organizational performance is complex and context-dependent, requiring further empirical investigation.

More importantly, much of the existing research tends to treat e-HRM as a broad construct without disaggregating its specific components. This limits a deeper understanding of how particular digital HR practices contribute to performance outcomes. Among the various dimensions of e-HRM, e-recruitment and e-compensation are particularly critical because they directly influence workforce quality, employee motivation, and organizational efficiency. E-recruitment determines the caliber of human capital entering the organization, while e-compensation affects employee satisfaction, retention, and productivity. However, empirical studies examining the individual and combined effects of these dimensions especially within the Nigerian banking sector remain limited.

Furthermore, there is a notable gap in the integration of theoretical perspectives in explaining the e-HRM performance relationship. Many prior studies rely on single-theory explanations, which may not fully capture the systemic, strategic, and behavioral dynamics of digital HR adoption. This study addresses this limitation by integrating Social Systems Theory (SST), which emphasizes organizational interdependence and

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system integration; the Resource-Based View (RBV), which highlights the strategic value of digital HR capabilities; and the Technology Acceptance Model (TAM), which explains user adoption of digital systems. This multi-theoretical approach provides a more comprehensive understanding of how e-HRM practices influence organizational performance.

Against this backdrop, the present study investigates the effects of e-recruitment and e-compensation on organizational performance in Nigeria's banking sector. Specifically, it seeks to provide empirical evidence on how these digital HR practices contribute to efficiency, productivity, and strategic alignment within organizations. By focusing on a key sector in a developing economy, the study offers context-specific insights that enrich the global discourse on digital HRM.

Research Objectives

This study is guided by the following objectives:

1) To examine the effect of e-recruitment on organizational performance in Nigeria's banking sector.
2) To determine the effect of e-compensation on organizational performance in Nigeria's banking sector.

Hypotheses

H1: E-recruitment has a significant positive effect on organizational performance.

H2: E-compensation has a significant positive effect on organizational performance.

LITERATURE REVIEW

Underlying Theory

This study is grounded on three interrelated theoretical perspectives—Social Systems Theory (SST), the Resource-Based View (RBV), and the Technology Acceptance Model (TAM)—which collectively explain how digital human resource management (e-HRM) practices such as e-recruitment and e-compensation contribute to organizational performance in Nigeria's banking sector. These theories provide systemic, strategic, and behavioral foundations for understanding the effectiveness of digital HRM.

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Social Systems Theory (SST)

Social Systems Theory (SST), developed by Ludwig von Bertalanffy (1956), posits that organizations operate as open, interconnected systems in which various subsystems interact to maintain stability, adaptability, and performance. HRM functions—particularly recruitment and compensation—constitute critical subsystems that directly influence the efficiency and responsiveness of the broader organizational system. When these HR subsystems are digitized, they interact more seamlessly with finance, operations, and IT systems, thereby enhancing transparency, reducing administrative bottlenecks, and facilitating timely decision-making (Beadles-II, Lowery, & Johns, 2015). In this study, SST explains how the integration of digital HR processes reinforces organizational coordination and adaptability, ultimately strengthening performance within Nigeria's banking institutions.

Resource-Based View (RBV)

The Resource-Based View (RBV), introduced by Barney (1991), emphasizes that firms achieve sustained competitive advantage when they develop and deploy valuable, rare, inimitable, and non-substitutable resources. In the context of e-HRM, digital technologies and the human capital that deploys them constitute strategic assets that help organizations optimize employee productivity, strengthen recruitment outcomes, and enhance compensation fairness. E-recruitment systems enable banks to attract high-quality talent more efficiently, while e-compensation systems improve equity and accuracy in reward administration—both of which enhance organizational performance. RBV therefore frames e-HRM technologies not merely as administrative tools but as strategic enablers that transform HR processes into sources of competitive advantage.

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), developed by Davis (1989), explains how users' acceptance of technology is shaped by two primary factors: perceived usefulness and perceived ease of use. The success of e-HRM initiatives depends on the willingness and ability of employees to adopt digital systems for recruitment, payroll, and related HR activities. When employees perceive digital HR platforms as beneficial, intuitive, and reliable, their adoption increases, leading to improved efficiency and organizational outcomes (Eneizan, Mostafa, & Alabboodi, 2018). In this study, TAM helps explain how user attitudes and digital literacy influence the effectiveness of e-recruitment and e-compensation in driving performance improvements.

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Integrated Theoretical Proposition

Collectively, SST, RBV, and TAM provide a comprehensive theoretical foundation for the study. SST emphasizes the importance of systemic integration, RBV highlights the strategic value of digital HR resources, and TAM captures the behavioral dimensions of technology adoption. Together, these theories suggest that when digital HR subsystems are strategically deployed, technologically accepted, and systemically integrated, they significantly enhance organizational performance. This integrated framework supports the study's empirical argument that e-recruitment and e-compensation are essential digital HR mechanisms that strengthen organizational performance in Nigeria's banking sector.

Electronic Human Resource Management (e-HRM)

Electronic Human Resource Management (e-HRM) refers to the digital integration of HR activities through web-based and technology-enabled platforms designed to improve efficiency, data accuracy, and strategic decision-making (Bondarouk & Brewster, 2016). The shift from traditional paper-based HRM to digital HRM has been driven by technological advancements, globalization, and the need for organizations to operate with greater agility and precision. E-HRM supports automation across recruitment, compensation, performance management, and learning and development, enabling HR departments to transition from administrative functions to strategic contributors (Marler & Parry, 2016).

Globally, the COVID-19 pandemic accelerated digital HR adoption as organizations sought online tools for workforce planning, remote hiring, payroll administration, and employee engagement (Kundu & Gahlawat, 2022). In developing economies, including Nigeria, e-HRM is increasingly recognized as a catalyst for service delivery improvement, cost reduction, and workforce optimization (Rahman & Adeniran, 2021). However, challenges such as limited digital literacy, infrastructure constraints, and resistance to technological change continue to influence implementation outcomes (Olatunji & Ajayi, 2023)

E-Recruitment and Organizational Performance

E-recruitment involves using digital platforms such as online portals, organizational websites, LinkedIn, job boards, and artificial intelligence algorithms to attract, screen, and hire candidates (Parry & Wilson, 2021). Globally, empirical studies show that e-recruitment enhances recruitment speed, reduces administrative burden, lowers hiring costs, and improves the overall quality of talent sourced, particularly in technology-driven sectors (Kaur & Goyal, 2023). Advanced e-recruitment systems use

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AI-driven screening tools capable of analyzing applicant profiles, predicting job fit, and minimizing human bias in decision-making.

In Africa and Nigeria, e-recruitment has been found to reduce nepotism, increase merit-based hiring, and improve transparency in recruitment processes (Adegbite & Abiola, 2020). Nigerian banks, in particular, rely heavily on digital recruitment portals for graduate trainee programs, specialist hiring, and large-volume recruitment cycles. The efficiency and fairness associated with e-recruitment contribute to organizational performance by improving workforce quality, enhancing job-role matching, and reducing turnover caused by poor fit (Rahman & Adeniran, 2021). However, challenges such as unreliable internet access, digital fraud, and algorithmic biases may hinder full optimization of digital hiring platforms.

E-Compensation and Employee Productivity

E-compensation refers to digital systems that automate salary processing, benefits administration, incentives, and reward management. These systems ensure accuracy, consistency, and transparency in compensation decisions (Stone et al., 2015). Organizations using e-compensation benefit from reduced payroll errors, enhanced compliance with financial regulations, real-time payroll reporting, and improved workforce trust in remuneration systems (Ahmad & Ibrahim, 2021).

Studies across Asia and Europe show that automated compensation platforms contribute to employee motivation, organizational justice, and performance, while reducing internal fraud and administrative delays (Pandey & Gaur, 2022). In the Nigerian banking industry, e-compensation is integral to meeting regulatory standards, managing large workforce payrolls, and maintaining financial accuracy across branches and subsidiaries. Banks using digital payroll platforms report improved efficiency, fewer salary disputes, and increased employee satisfaction—factors that collectively enhance productivity and organizational performance.

Nevertheless, issues such as cyber security threats, errors in system configuration, and resistance to new technologies may affect user acceptance and system effectiveness. This reinforces TAM’s assertion that perceived usefulness and ease of use determine the successful adoption of HR technologies (Davis, 1989).

E-HRM and Organizational Performance Nexus

The relationship between e-HRM and organizational performance has been widely studied internationally. Empirical evidence shows that digital HR systems improve operational efficiency, enhance communication flows, strengthen decision-making, and support innovation (Hosain, 2022). Strategic-level research indicates that

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when HR technologies are aligned with business goals, they enhance HR's involvement in organizational strategy and contribute to competitive advantage (Marler & Parry, 2016).

Schiemann et al. (2023) found that e-HRM enhances organizational agility, service delivery quality, and workforce productivity. However, in developing economies, findings remain mixed due to variations in infrastructure, digital skills, cultural perceptions, and leadership support (Olatunji & Ajayi, 2023). Some organizations experience improved performance, while others face barriers that offset technological benefits.

In Nigeria, scholars report that e-HRM contributes to efficiency, transparency, and improved HR outcomes, particularly in banking and telecommunications sectors (Wege et al., 2019; Rahman & Adeniran, 2021). Yet, there is limited empirical research focusing on how specific e-HRM dimensions such as e-recruitment and e-compensation predict organizational performance. This gap is especially notable given the rapid digitalization of HR processes within Nigerian banks.

Although existing studies provide valuable insights into the role of digital HR systems in organizational outcomes, several gaps remain evident in the literature. First, there is limited empirical research in Nigeria, particularly within the banking sector, despite its high level of digital transformation compared with other industries. Much of the existing evidence is drawn from Western or Asian contexts, making it difficult to generalize findings to the Nigerian environment. Second, prior studies often examine e-HRM as a broad construct rather than analyzing specific dimensions such as e-recruitment and e-compensation, which limits understanding of the unique contribution of each HR function to organizational performance. Third, there is a lack of integrated theoretical frameworks capable of explaining the systemic, strategic, and behavioral mechanisms through which digital HRM affects performance. Only a few studies combine theories such as SST, RBV, and TAM to provide a holistic explanation of digital HR adoption. Fourth, contextual factors such as digital literacy levels, infrastructural constraints, user acceptance, and organizational culture remain underexplored in Nigerian banking institutions, despite evidence that these factors significantly influence technology adoption outcomes. Finally, institutional variations among banks—such as differences in digital readiness and investment levels have not been adequately examined in relation to e-HRM effectiveness. These gaps underscore the need for the present study, which empirically investigates the effects of e-recruitment and e-compensation on organizational performance using a multi-theoretical approach within the Nigerian banking context.

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METHODOLOGY

Research Design

A descriptive cross-sectional survey design was adopted for this study, as it allows for the collection of quantitative data at a single point in time to examine relationships among variables (Creswell & Creswell, 2018).

Population and Sampling

The population comprised 2,700 employees of selected commercial banks in Nigeria. A sample size of 351 respondents was determined using Yamane's (1967) formula. Stratified random sampling technique was employed to ensure adequate representation across different job categories.

Instrumentation

Data were collected using a structured questionnaire designed to measure e-recruitment, e-compensation, and organizational performance. The measurement items were adapted from validated scales in prior studies (Stone et al., 2015; Parry & Wilson, 2021).

Validity and Reliability

Content validity was ensured through expert review. Reliability of the instrument was confirmed using Cronbach's alpha, with an overall coefficient of 0.87, indicating high internal consistency.

Data Analysis

Data were analyzed using Statistical Package for Social Sciences (SPSS) version 24. Descriptive statistics (mean and standard deviation) and multiple regression analysis were employed. Diagnostic tests were conducted to ensure that assumptions of normality, linearity, homoscedasticity, and absence of multi-collinearity were satisfied.

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Table 1:
Operational Definition of Variables

Variable	Definition	No. of Items	Sources
E-Recruitment	use of digital platform For attracting, screening and selecting employees	6	Stone et. al. (2015), Parry & Wilson (2021_
E-Compensation	Use digital system for payroll, benefits and reward management	5	Stone et al. (2015)
Organizational performance	Efficienct, productivity and service effectiveness of the organization	5	Parry & Wilson (2021)

RESULTS

Demographic Profile of Respondents

Table 2:
Demographic Characteristics of Respondents

Variable	Category	Frequency	Percentage (%)
Gender	Male	198	56.4
	Female	153	43.6
Marital status	Single	142	40.5
	Married	209	59.5
Job category	Management	96	27
	Supervisory	128	36.5
	Operationa;	127	36.1

Table 2 shows that the majority of respondents were male (56.4%), while females accounted for 43.6%. Most respondents were married (59.5%), suggesting workforce stability. The distribution across job categories indicates adequate representation, with supervisory staff forming the largest group (36.5%).

Descriptive Statistics of Study Variables

Table 3:
Mean and Standard Deviation

Variable	Mean	Standard Deviation
E-Recruitment	4.12	0.68
E-Compensation	3.95	0.72
Organizational Performance	4.08	0.64

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Table 3 indicates high mean scores across all variables, suggesting strong agreement among respondents regarding the effectiveness of digital HR practices. E-recruitment recorded the highest mean (4.12), indicating its strong influence, followed by organizational performance (4.08). The relatively low standard deviations show consistency in responses.

Validity and Reliability Analysis

Table 4:
Reliability Statistics

Variable	Number of items deleted	Cronbach's Alpha if item deleted	Overall Cronbach Alpha
E-Recruitment	6	0.81-0.85	0.85
E-Compensation	5	0.79-0.83	0.83
Organizational performance	5	0.84-0.88	0.88

Table 4 shows that all constructs have Cronbach's alpha values above the recommended threshold of 0.70, indicating high reliability. The "alpha if item deleted" values confirm that no item significantly reduces internal consistency, thus all items were retained.

Regression Assumption Tests

To ensure the validity of the multiple regression analysis, key statistical assumptions normality, linearity, multi-collinearity, and homoscedasticity were tested prior to hypothesis testing.

Table 5:
Normality Test (Skewness and Kurtosis)

Variable	Skewness	Kurtosis
E-Recruitmet	-0.412	-0.285
E-Compensation	-0.365	-0.198
Organizational Performance	-0.298	-0.254

The skewness and kurtosis values fall within the acceptable range of ±1, indicating that the data are approximately normally distributed. This confirms that the normality assumption required for regression analysis is satisfied.

Linearity was assessed using scatterplots of standardized residuals against predicted values. The plots indicated a linear relationship between the independent variables (e-recruitment and e-compensation) and the dependent variable (organizational

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performance), with no evidence of systematic patterns or curvilinear relationships. The absence of non-linear patterns confirms that the linearity assumption is satisfied.

Table 6:
Multi-collinearity Statistics

Variable	Tolerance	VIF
E-Recruitment	0.65	1.45
E-Compensation	0.724	1.38

The Variance Inflation Factor (VIF) values are below the threshold of 5.0, and tolerance values are above 0.10, indicating no multicollinearity among the independent variables. This confirms that each predictor contributes uniquely to the model. Homoscedasticity was assessed using a scatterplot of standardized residuals against standardized predicted values. The plot showed a random distribution of residuals without any funnel-shaped or patterned structure. The random spread of residuals indicates constant variance, confirming that the assumption of homoscedasticity is satisfied.

Summary of Assumption Tests

All diagnostic tests confirm that the assumptions underlying multiple regression analysis are satisfied:

- Data are normally distributed
- Relationships between variables are linear
- No multi-collinearity exists among predictors
- Residuals exhibit constant variance (homoscedasticity)
- These results validate the use of multiple regression analysis for hypothesis testing in this study.

Hypothesis Testing (Multiple Regression Analysis)

Table 7:
Regression Results

Variable	Beta (β)	Std. Error	t-stat	Sig.	VIF
Constant	-	-	-	-	-
E-Recruitment	0.640	0.041	15.84	0.000	1.45
E-Compensation	0.424	0.040	10.61	0.000	1.38

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Model Summary	Value
R Square	0.64
Adjusted R Square	0.63
F-Statistics	156.72
P-Value	0.000

Table 7 presents the results of the multiple regression analysis conducted to examine the extent to which e-recruitment and e-compensation predict organizational performance in Nigeria's banking sector.

Preliminary diagnostic tests confirmed that all regression assumptions were satisfied. The Variance Inflation Factor (VIF) values were below 2.0, indicating no multicollinearity, while residual analysis confirmed homoscedasticity and normality.

The results show that e-recruitment has a significant positive effect on organizational performance ($\beta = 0.640$, $t = 15.84$, $p < 0.05$). This indicates that improvements in digital recruitment practices significantly enhance organizational outcomes. The relatively high beta value suggests that e-recruitment is the strongest predictor in the model.

Similarly, e-compensation also has a significant positive effect on organizational performance ($\beta = 0.424$, $t = 10.61$, $p < 0.05$). This implies that effective digital compensation systems improve employee satisfaction, operational accuracy, and overall productivity.

The model explains 64% of the variance in organizational performance ($R^2 = 0.64$), indicating strong explanatory power. The F-statistic (156.72, $p < 0.05$) confirms that the overall model is statistically significant.

Hypotheses Decision

H1: E-recruitment → Organizational Performance → Supported
H2: E-compensation → Organizational Performance → Supported

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DISCUSSION

This study investigated the effects of e-recruitment and e-compensation on organizational performance in Nigeria's banking sector. The findings reveal that both dimensions of electronic human resource management (e-HRM) exert significant positive effects on organizational performance, with e-recruitment emerging as the stronger predictor. These results reinforce the growing consensus that digital HR practices are critical drivers of organizational efficiency and strategic performance in modern institutions.

The significant positive effect of e-recruitment on organizational performance highlights the importance of digital talent acquisition systems in enhancing workforce quality and organizational outcomes. This finding is consistent with prior studies which argue that e-recruitment improves the speed, transparency, and effectiveness of hiring processes. In the Nigerian banking sector, where competition for skilled labor is intense, digital recruitment platforms enable organizations to access a broader talent pool, reduce recruitment costs, and improve job-person fit. The relatively higher beta coefficient for e-recruitment ($\beta = 0.640$) suggests that the quality of human capital acquired through digital means plays a central role in driving organizational success. This supports the argument that recruitment is not merely an administrative function but a strategic activity that shapes long-term performance.

Similarly, the findings demonstrate that e-compensation has a significant positive effect on organizational performance. This underscores the role of digital compensation systems in enhancing employee motivation, trust, and productivity. Automated payroll systems, transparent benefits administration, and real-time compensation management reduce errors, improve fairness, and strengthen employee satisfaction. These outcomes are particularly relevant in the banking sector, where accuracy, compliance, and accountability are critical. The positive relationship between e-compensation and performance aligns with existing literature, which emphasizes that effective reward systems are essential for sustaining employee engagement and organizational effectiveness.

From a theoretical standpoint, the findings provide strong support for the integrated framework adopted in this study. Social Systems Theory, originally proposed by Ludwig von Bertalanffy, is validated as the results demonstrate that digitally enabled HR subsystems enhance organizational coordination and efficiency. The integration of recruitment and compensation systems with other organizational functions facilitates seamless information flow and improves decision-making processes within banks.

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The results also affirm the relevance of the Resource-Based View advanced by Jay Barney, which posits that organizations achieve competitive advantage through valuable and inimitable resources. In this study, e-HRM technologies and digitally competent employees function as strategic assets that enhance organizational performance. The stronger impact of e-recruitment further highlights the strategic importance of acquiring high-quality human capital as a source of sustained competitive advantage.

In addition, the findings are consistent with the Technology Acceptance Model developed by Fred Davis. The positive performance outcomes suggest that employees in Nigeria’s banking sector perceive e-HRM systems as useful and easy to use, leading to higher levels of acceptance and effective utilization. This implies that successful implementation of digital HR systems depends not only on technological infrastructure but also on user perceptions and digital competencies.

The high explanatory power of the model ($R^2 = 0.64$) indicates that e-recruitment and e-compensation jointly account for a substantial proportion of variation in organizational performance. This finding underscores the strategic importance of investing in digital HR systems as a means of enhancing organizational effectiveness. It also suggests that digital transformation in HRM is no longer optional but a necessity for organizations seeking to remain competitive in a rapidly evolving business environment.

However, the findings also highlight the need for supportive organizational conditions. The effectiveness of e-HRM systems depends on factors such as reliable digital infrastructure, employee training, cybersecurity measures, and organizational culture. Without these enabling conditions, the potential benefits of digital HR practices may not be fully realized. This is particularly relevant in developing economies like Nigeria, where infrastructural and skill-related challenges may affect technology adoption.

Overall, this study contributes to the literature by providing empirical evidence from a developing country context and by demonstrating the differential effects of specific e-HRM dimensions on organizational performance. By integrating multiple theoretical perspectives, the study offers a more comprehensive understanding of the mechanisms through which digital HR practices influence organizational outcomes. The findings therefore provide both theoretical and practical insights for scholars, policymakers, and practitioners seeking to leverage digital HRM for improved performance.

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This study demonstrates that digital HRM effectiveness is maximized when technological capability, human capital quality, and user acceptance are simultaneously achieved. This finding reinforces the need for an integrated strategic approach to e-HRM implementation, where organizations do not only invest in digital tools but also ensure alignment with workforce competencies and user acceptance dynamics.

CONCLUSION

This study examined the influence of electronic human resource management (e-HRM), specifically e-recruitment and e-compensation, on organizational performance in Nigeria's banking sector. The empirical findings reveal that both dimensions significantly and positively affect organizational performance, with e-recruitment emerging as the strongest predictor.

The results demonstrate that digital HR practices enhance efficiency, transparency, and strategic workforce management. E-recruitment improves the quality and speed of talent acquisition, thereby strengthening organizational capacity, while e-compensation enhances payroll accuracy, fairness, and employee motivation. Together, these practices contribute substantially to improved organizational outcomes.

The study also provides empirical support for the integrated theoretical framework. The principles of Ludwig von Bertalanffy's Social Systems Theory are reflected in the improved coordination of HR subsystems through digital integration. The findings further validate the Resource-Based View proposed by Jay Barney, highlighting e-HRM as a strategic resource capable of generating competitive advantage. In addition, the results align with the Technology Acceptance Model developed by Fred Davis, demonstrating that user acceptance plays a crucial role in translating digital HR investments into performance gains.

Overall, the study concludes that e-HRM is not merely a technological upgrade but a strategic tool for enhancing organizational performance in Nigeria's banking industry.

Recommendations

Based on the findings of this study, several practical and policy-oriented recommendations are proposed to enhance the effectiveness of electronic human resource management (e-HRM) in Nigeria's banking sector. First, banks should prioritize investment in robust and integrated digital HR infrastructure. Modern, user-friendly e-HRM systems are essential for improving operational efficiency, ensuring data accuracy, and enabling seamless coordination across HR functions. Such

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investments will not only streamline recruitment and compensation processes but also strengthen overall organizational performance.

Second, there is a critical need to enhance employees' digital competencies through continuous training and capacity-building initiatives. The effectiveness of e-HRM systems largely depends on users' ability to operate them efficiently. Therefore, organizations should implement regular training programs to equip employees with the necessary digital skills, improve system utilization, and reduce resistance to technological change.

Furthermore, banks should integrate HR analytics into their decision-making processes. By leveraging data-driven tools, organizations can make more informed decisions regarding recruitment, compensation, and workforce planning. The use of HR analytics will enable banks to identify performance trends, predict workforce needs, and align HR strategies with organizational goals.

In addition, digital HR platforms should be strategically utilized to promote transparency and fairness in HR processes. E-recruitment systems can help ensure merit-based hiring, while e-compensation systems can enhance equity and consistency in reward management. This will not only reduce bias and inefficiencies but also strengthen employee trust and organizational credibility.

Moreover, given the sensitive nature of HR data, banks must strengthen their cybersecurity frameworks and data protection mechanisms. Effective security systems are necessary to safeguard employee information, prevent data breaches, and maintain the integrity of digital HR platforms. This is particularly important in the banking sector, where data security is a top priority.

Finally, there is a need for supportive regulatory and institutional frameworks to guide the adoption of digital HR practices. Policymakers and regulatory authorities should develop clear guidelines that encourage digital transformation in HRM while ensuring compliance with ethical standards and data protection laws. Such policies will create an enabling environment for the sustainable implementation of e-HRM systems across the banking sector.

Limitations of the Study

Despite the significant contributions of this study, several limitations should be acknowledged. First, the study adopted a cross-sectional research design, which captures data at a single point in time. This limits the ability to establish causal relationships between electronic human resource management (e-HRM) practices and organizational

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performance. Future studies may employ longitudinal designs to better examine causal dynamics over time.

Second, the study focused on selected commercial banks in Nigeria, which may limit the generalizability of the findings to other sectors or geographical contexts. Differences in organizational structure, technological readiness, and institutional frameworks across industries may influence the applicability of the results beyond the banking sector.

Third, the study examined only two dimensions of e-HRM, e-recruitment and e-compensation, while other important components such as e-training, e-performance management, and HR analytics were not included. The exclusion of these variables may restrict a comprehensive understanding of the overall impact of digital HR practices on organizational performance.

Additionally, the study relied on self-reported data obtained through questionnaires, which may be subject to response bias, including social desirability and common method bias. Although efforts were made to ensure anonymity and reliability, such biases cannot be entirely eliminated.

Finally, contextual challenges such as variations in digital infrastructure, employee digital literacy, and organizational culture within Nigerian banks may have influenced the results. These factors were not explicitly controlled for in the study but may play a moderating role in the effectiveness of e-HRM systems.

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Author contributions

All authors contributed to the conceptualization, data analysis, and writing of this manuscript.

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Conflict of interest

The authors declare no conflict of interest.

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