

DECISION SUPPORT SYSTEM AND HUMAN RESOURCE MANAGEMENT PRACTICES IN DEPOSIT MONEY BANKS IN RIVERS STATE, NIGERIA

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Abstract

This study examined the relationship between Decision Support System (DSS) and human resource management practices, specifically E-Human Resource Planning (E-HRP) and E-Performance Appraisal (E-PA), in deposit money banks in Rivers State, Nigeria. Adopting an explanatory survey research design, data were collected from 123 respondents drawn from Access Bank Plc, Guaranty Trust Bank Plc, and United Bank for Africa Plc via structured questionnaires. Spearman's rank-order correlation coefficient was employed for hypothesis testing using SPSS Version 22.0. Results revealed significant positive relationships between DSS and E-Human Resource Planning ($r = 0.755$, $p < 0.05$) and between DSS and E-Performance Appraisal ($r = 0.571$, $p < 0.05$). The study concluded that DSS constitutes a critical enabler of advanced human resource management practices in the banking sector. Banks are recommended to invest in robust DSS infrastructure and build HR professionals' capacity to leverage decision analytics for strategic workforce planning and objective performance evaluation.

Keywords: Decision Support System, E-Human Resource Planning, E-Performance Appraisal, Human Resource Management Practices, Deposit Money Banks

Introduction

The transformative impact of information technology on organizational processes has fundamentally redefined how human resource management (HRM) functions are conducted across industries. In the banking sector particularly, where operational complexity, regulatory scrutiny, and talent competition are perennially intense, the adoption of digital management tools has become imperative for strategic effectiveness. Among these tools, the **Decision Support System (DSS)** has emerged as a powerful enabler of evidence-based managerial decision-making. DSS are interactive software platforms designed to synthesize organizational data, analyze complex variables, and generate actionable intelligence for managerial decisions — particularly those involving semi-structured and unstructured problems that require analytical judgment rather than routine processing (Power, 2002; Turban et al., 2011). In deposit money banks, DSS have been deployed to support a broad spectrum of operational and strategic decisions ranging from credit risk assessment and financial projections to workforce analytics and talent management (Majed et al., 2016; Troy et al., 2025). The integration of DSS into human resource management functions represents a critical development in the quest for more efficient, data-driven, and strategically aligned HR practices in Nigeria's banking institutions.

Human Resource Management Practices (HRMP) encompass the constellation of strategic activities through which organizations recruit, develop, motivate, and retain their human capital. In today's technologically driven banking environment, effective HRMP must be undergirded by digital infrastructure capable of generating real-time insights into workforce dynamics, performance patterns, and developmental needs (Bondarouk & Ruël, 2013; Strohmeier, 2007). Two particularly critical dimensions of HRMP are **E-Human Resource Planning (E-HRP)** — the use of information technology to forecast, analyze, and manage future human resource needs — and **E-Performance Appraisal (E-PA)** — the digital process of evaluating employee performance using technology-based systems. These two practices are foundational to organizational effectiveness because accurate workforce planning ensures the right people are in the right roles at the right time, while

systematic performance appraisal drives accountability, development, and reward alignment (Lengnick-Hall & Moritz, 2003; Sharma & Gupta, 2020). The extent to which DSS supports these functions in Nigerian deposit money banks remains empirically underdeveloped, thereby motivating the present inquiry.

Despite the documented global importance of DSS in enhancing HR decision-making, evidence from Nigerian banking contexts — particularly in Rivers State — remains sparse and inconclusive. Olatunji and Adeyemi (2021) established that management information systems significantly improve HR decision-making in Nigerian banks, but did not isolate the unique contributions of DSS. Khan and Khan (2021) demonstrated that MIS tools improve workforce planning and recruitment in financial institutions, though their study lacked specificity regarding DSS as a discrete predictor. Ibrahim and Musa (2022) showed that HRIS-based systems enhance employee satisfaction but did not adequately address planning and appraisal dimensions. The broader literature on e-HRM (Parry & Tyson, 2011; Lengnick-Hall & Moritz, 2003; Strohmeier, 2007) establishes the conceptual importance of digital HR systems, yet targeted empirical evidence on how DSS specifically drives E-HRP and E-PA in Nigerian deposit money banks is conspicuously absent. This gap is particularly significant given the unique operational environment of Rivers State — characterized by oil-sector-driven economic volatility, infrastructural challenges, and intense inter-bank competition for talent — which may mediate how DSS tools are adopted and utilized in HR functions.

This study therefore investigates the relationship between DSS and two key HRMP dimensions — E-Human Resource Planning and E-Performance Appraisal — in deposit money banks in Rivers State, Nigeria. Grounded in the Resource-Based View (RBV) of the firm, which theorizes that unique organizational capabilities including technology-enabled HR systems constitute sources of sustainable competitive advantage (Barney, 1991; Bhatt & Grover, 2005), the study argues that DSS adoption constitutes a strategic HR resource. The findings are expected to provide context-specific empirical evidence for banking practitioners, HR policy-makers, and academic scholars, and to contribute to the emerging literature on digital HRM in developing economy banking sectors. The study further responds to the urgent need identified by Gbadamosi and Adisa (2024) and the International Policy Brief (2025) for localized empirical investigations of technology-HRM interactions in African banking institutions.

Statement of the Problem

The deposit money banking sector in Rivers State, Nigeria, is confronted with persistent human resource management challenges that impede organizational effectiveness and competitive performance. Foremost among these is the inadequate utilization of advanced management information system tools — particularly Decision Support Systems — in critical HR processes such as workforce planning and performance appraisal. Many banks in the region continue to rely on semi-automated or manual HR processes that are neither accurate, efficient, nor responsive to the rapidly evolving demands of the financial industry (Chukuigwe, 2022; International Policy Brief, 2025). While there is growing global recognition of DSS as a transformative tool for HR decision-making, empirical evidence on its specific influence on E-Human Resource Planning and E-Performance Appraisal in the Nigerian banking sector remains exceptionally limited.

A further dimension of the problem is the disconnect between the theoretical potential of DSS and its actual implementation in HR departments of deposit money banks in Rivers State. Although banks in the region have invested in general information technology infrastructure, the targeted deployment of DSS for strategic HR purposes — particularly for workforce forecasting, scenario modeling, and performance analytics — remains underdeveloped (Olatunji & Adeyemi, 2021; Khan & Khan, 2021). Without effective DSS integration, HR managers are compelled to make critical workforce planning and appraisal decisions in the absence of comprehensive, real-time data, leading to errors in manpower forecasting, subjective performance evaluations, and misalignment between human capital strategies and organizational goals (Islam et al., 2025). This situation

represents a significant research gap that the present study seeks to address by generating localized empirical evidence on the DSS–E-HRP and DSS–E-PA relationships in Rivers State deposit money banks.

Literature Review

Conceptual Review of Decision Support System (DSS)

Decision Support Systems are interactive, computer-based information systems that assist organizational decision-makers in utilizing data and models to identify and solve problems and make decisions (Power, 2002; Turban et al., 2011). Unlike Transaction Processing Systems (TPS) that merely record routine transactions, DSS are designed specifically for analytical tasks and typically support semi-structured and unstructured problems requiring managerial judgment. The core architecture of DSS includes three subsystems: a data management component that stores and retrieves relevant organizational data; a model management component that provides access to analytical models including financial, statistical, simulation, and optimization models; and a user interface component that enables managers to interact with the system and interpret outputs (Georgiana et al., 2018; Prachi et al., 2015).

Hakimpoor et al. (2018) classified DSS into three principal typologies: communication-driven DSS, model-driven DSS, and document-driven DSS. Communication-driven DSS facilitates group decision-making through electronic communication platforms such as video conferencing, groupware, shared workspaces, and bulletin boards; model-driven DSS provides managers with access to analytical models for simulation, financial modeling, and optimization; and document-driven DSS manages, retrieves, and analyzes unstructured textual or document-based data to support decisions (Galipalli et al., 2012). In the banking sector, DSS tools are applied extensively for credit analysis, risk modeling, portfolio management, customer profitability assessment, and increasingly for human resource management analytics (Majed et al., 2016; Troy et al., 2025). The capacity of DSS to synthesize large data sets, simulate decision scenarios, and generate structured reports makes it particularly valuable for HR functions that require evidence-based decision-making.

Conceptual Review of E-Human Resource Planning (E-HRP)

E-Human Resource Planning refers to the application of digital information technologies, software systems, and analytical platforms to forecast, analyze, and manage an organization's current and future human resource needs (Nagendra & Deshpande, 2014). E-HRP involves the use of computerized workforce analytics to perform manpower forecasting, identify skill gaps, model workforce scenarios, plan recruitment pipelines, and guide succession decisions — activities that collectively ensure the right number and type of people are available to execute organizational strategy (Lengnick-Hall & Moritz, 2003; Okafor & Eze, 2020). In the banking sector, E-HRP enables HR managers to anticipate staffing needs in response to branch expansion, regulatory changes, or market dynamics, thereby reducing the risk of talent shortages or surpluses that can compromise service delivery and profitability.

The importance of E-HRP in modern banking organizations is underscored by its capacity to transform HR planning from a reactive, administrative function into a proactive, analytically driven strategic activity (Khan & Khan, 2021; Galadanchi & Saulawa, 2024). Digital HR planning tools — including workforce simulation software, HRIS modules, and analytics dashboards — empower HR managers to draw on historical employee data, external labor market trends, and organizational performance metrics to construct robust workforce scenarios and deployment strategies. Yusuf and Abdullahi (2021) demonstrated that electronic HR systems significantly improve recruitment efficiency, a key component of E-HRP, by enabling targeted talent acquisition and evidence-based selection decisions. Similarly, Okafor and Eze (2020) found that MIS-supported workforce planning enhances HR forecasting accuracy and improves the alignment of human capital strategy with organizational goals in Nigerian banks.

Conceptual Review of E-Performance Appraisal (E-PA)

E-Performance Appraisal involves the digital process of evaluating employee performance using technology-based systems, electronic platforms, and data analytics rather than traditional paper-based or manual methods (Bondarouk & Ruël, 2013; Sharma & Gupta, 2020). Electronic appraisal systems typically include features for digital goal-setting, real-time performance monitoring, online self-assessment, continuous feedback mechanisms, automated rating calculations, and data visualization dashboards that provide objective, transparent, and timely assessments of employee contributions and competencies. In competitive banking environments, E-PA systems are critical for driving performance accountability, identifying high-potential employees, aligning individual goals with organizational strategy, and informing human resource decisions regarding promotions, training investments, and compensation adjustments (Aliyu & Bello, 2022; Adebola & Oladipo, 2023).

The adoption of digital performance appraisal systems in banks has been shown to yield multiple organizational benefits, including reduced appraisal bias, faster feedback cycles, improved manager-employee communication, and enhanced documentation accuracy (Sharma & Gupta, 2020; Wairimu, 2023). Parry and Tyson (2011) established that e-HRM systems, including electronic appraisal tools, significantly improve workforce management by enabling better data analytics and performance-driven decision-making. The integration of DSS into performance appraisal processes — through model-driven analytics that track performance trends, compare individual outputs against benchmarks, and project future performance trajectories — represents a particularly promising avenue for elevating the quality and fairness of HR appraisal in Nigerian banking institutions.

Theoretical Framework

This study is anchored on the Resource-Based View (RBV) theory of the firm, originally articulated by Barney (1991) and subsequently developed by Bhatt and Grover (2005), among others. The RBV posits that organizations achieve sustainable competitive advantage by developing and leveraging unique, valuable, rare, inimitable, and non-substitutable (VRIN) internal resources and capabilities. In the context of this study, DSS — as a management information system capability — constitutes an organizational resource that, when effectively deployed, confers competitive advantage through enhanced decision-making speed, accuracy, and strategic insight in HR processes (Bhatt & Grover, 2005). The theory supports the proposition that DSS investment in E-HRP and E-PA not only improves operational HR efficiency but also translates into superior workforce planning outcomes and more objective performance management systems that drive organizational competitiveness.

The study is further informed by the Diffusion of Innovation Theory (Rogers, 2003), which explains how organizations adopt and integrate technological innovations into their operational systems. The theory identifies key factors — including relative advantage, compatibility, complexity, trialability, and observability — that determine the speed and extent of technology adoption. Applied to DSS adoption in HR functions of Nigerian deposit money banks, the theory helps explain why some banks have more fully integrated DSS into E-HRP and E-PA processes than others, and how organizational characteristics such as size, management support, and technology policy mediate the extent of adoption and utilization.

Empirical Review

Hossain, Arefin, and Urme (2025) investigated the relationship between strategic HRM practices and organizational performance in financial institutions across the Asia-Pacific region. Using a quantitative survey approach with 290 respondents, the study found that digital HR systems — including DSS-enabled analytics — significantly enhanced workforce planning and performance evaluation, thereby improving organizational productivity and financial outcomes. The study recommended that banks integrate advanced analytical tools into their core HR functions, though it did not specifically isolate DSS as a predictor nor focus on Nigerian banking contexts.

Galadanchi and Saulawa (2024) examined the effectiveness of HRM practices in Nigerian banking, surveying 230 bank employees across selected commercial banks. The study found that technology-supported HR planning and performance appraisal positively influenced employee satisfaction and organizational productivity. However, the study's broad national scope and lack of focus on DSS as a specific MIS dimension represented gaps that the current investigation seeks to address.

Ahmed, Khuwaja, and Khooharo (2024) assessed the impact of HRM practices on organizational performance in the banking sector, finding that technology-driven HR systems significantly enhanced employee performance and organizational effectiveness. The study recommended the adoption of digital decision-support tools for HR functions but did not provide empirical evidence on the DSS-E-HRP or DSS-E-PA relationships in the Nigerian context.

Chali and Lakatos (2024) conducted a systematic review of the relationship between HRM practices and financial performance in organizations, concluding that digital HR technologies including decision support analytics enhance efficiency across recruitment, training, and performance management functions. The review's broad scope and absence of localized banking data from Rivers State represent significant gaps addressed by the present study.

Aliyu and Bello (2022) examined the effect of HRIS on employee performance in Nigerian banks, focusing on Lagos-based institutions. Using correlation analysis, the study found that HRIS improves workforce planning, recruitment efficiency, and objective performance appraisal. The study's exclusive Lagos focus and absence of DSS-specific analysis create the geographical and analytical gap addressed by this study.

Wairimu (2023) investigated the influence of HRIS on employee performance in the Kenyan banking sector, establishing that HRIS improved planning, record accuracy, and performance monitoring. The Kenya-specific context and absence of DSS focus signal the need for evidence from Nigerian banking institutions such as those in Rivers State.

Islam, Rahman, and Karim (2023) examined the role of e-HRM systems in improving organizational performance in financial institutions, finding that e-HRM tools enhance employee engagement, recruitment efficiency, and managerial decision-making. The study's general financial institution focus and lack of specific DSS dimensionalization reinforce the need for the current investigation.

Khan and Khan (2021) conducted an empirical investigation into the impact of MIS on HR decision-making in financial institutions, demonstrating that MIS tools significantly improve HR planning, recruitment, and decision-making quality in banking organizations. The study's broad MIS focus — without isolating DSS — and absence of Port Harcourt-specific evidence represent gaps the present study addresses.

Olatunji and Adeyemi (2021) investigated the effect of MIS on employee productivity in Nigerian banks, finding that digital communication platforms and data management tools enhanced communication efficiency, productivity, and HR decision quality. The absence of Rivers State-specific evidence and DSS-specific analysis are gaps addressed in this study.

Yusuf and Abdullahi (2021) demonstrated that electronic HR systems significantly reduce recruitment time and improve candidate selection quality in banking institutions, establishing a positive relationship between digital HR adoption and recruitment efficiency. The study's general banking focus without DSS-specific or Rivers State-specific analysis motivates the present inquiry.

Okafor and Eze (2020) found that MIS adoption significantly enhances workforce planning and HR forecasting accuracy in Nigerian banks, improving strategic staffing decisions and organizational alignment. The general Nigerian banking scope and absence of DSS as a distinct predictor represent analytical gaps this study fills.

Sharma and Gupta (2020) demonstrated that digital HR systems significantly improve performance evaluation processes in Indian banking, with electronic appraisal systems enabling more accurate performance tracking, reduced administrative workload, and improved HR

operational efficiency. The India-specific context underscores the need for Nigerian banking evidence provided by this study.

Bondarouk and Ruël (2013) comprehensively examined the strategic value of e-HRM systems in modern organizations, finding that electronic HR platforms significantly improve HR service delivery, communication, and employee data management. The study provided theoretical grounding for e-HRM research but its broad organizational scope and dated context necessitate contemporary, context-specific studies such as the present one.

Parry and Tyson (2011) investigated outcomes of e-HRM implementation across various organizations, establishing that electronic HR systems improve HR operational efficiency, workforce analytics capabilities, and overall HR service delivery quality. The study's broad organizational scope and absence of Nigerian banking context validate the need for this study.

Strohmeier (2007) examined the adoption and effectiveness of e-HRM technologies, finding that organizations implementing digital HR systems experienced significant reductions in administrative workload, improved employee record management, and enhanced HR service delivery. The study provided early foundational evidence for e-HRM but its dated and general scope necessitate contemporary, sector-specific studies.

Lengnick-Hall and Moritz (2003) established that electronic HRM systems significantly improve workforce planning and employee data management by enabling faster, more accurate HR decisions. The study's foundational status and lack of Nigerian banking application validate the need for contemporary localized empirical evidence.

Ibrahim and Musa (2022) found that MIS-based HR systems significantly enhance HR service delivery and employee satisfaction in financial institutions by enabling faster HR request processing, improved record access, and reduced bureaucratic delays. The study's general financial institution focus and absence of DSS-specific analysis represent gaps addressed here.

Rahman and Ahmed (2022) established that MIS adoption significantly improves employee engagement and communication in the banking sector by providing digital platforms for information sharing and employee participation. The general banking focus and lack of DSS-E-HRP and DSS-E-PA specificity validate this study's contribution.

Adebola and Oladipo (2023) demonstrated that MIS adoption enhances HR planning, performance appraisal, and career development processes in Nigerian deposit money banks, with digital HR tools improving manpower analytics and appraisal objectivity. The absence of Rivers State-specific analysis and the non-isolation of DSS as a predictor are gaps addressed by the current investigation.

Bony and Fatema (2024) investigated the impact of HRIS on financial profitability in Bangladeshi commercial banks, finding that HRIS improves productivity, efficiency, and profitability by reducing administrative workload and enhancing data-driven HR decision-making. The Bangladesh context and lack of DSS focus reinforce the value of Nigerian banking evidence provided by the current study.

Chukuigwe (2022) conducted an empirical study on HRIS utilization and HRM practices in Nigerian deposit money banks in Rivers State, establishing a significant positive relationship between HRIS adoption and HRM practice effectiveness. While Chukuigwe's study focused specifically on HRIS, it did not address DSS as a distinct predictor of E-HRP and E-PA, which the present study addresses.

Based on the review of empirical studies and the identified gaps in the literature, the following null hypotheses were formulated to guide the study:

H₀₁: There is no significant relationship between Decision Support System and E-Human Resource Planning in deposit money banks in Rivers State, Nigeria.

H₀₂: There is no significant relationship between Decision Support System and E-Performance Appraisal in deposit money banks in Rivers State, Nigeria.

Methodology

The study adopted an explanatory survey research design anchored on a positivist philosophical orientation, which is appropriate for investigating and establishing correlational relationships between defined predictor and criterion variables through empirical, quantitative methods (Bryman, 2012; Saunders et al., 2012). The positivist stance was adopted because the study seeks to objectively examine the relationship between Decision Support System — as a dimension of Management Information System — and two specific measures of Human Resource Management Practices, namely E-Human Resource Planning and E-Performance Appraisal, in the formal organizational context of deposit money banks in Port Harcourt, Rivers State, Nigeria. The population of the study comprised all managerial staff (branch managers, operations managers, human resource managers, customer relations managers, and information technology managers) of the twenty-six (26) deposit money banks confirmed to be operating in Rivers State, Nigeria, as at the 2024 Central Bank of Nigeria register, yielding a total accessible population of 260 managerial staff based on a conservative estimate of 10 key managerial staff per bank. Applying the Krejcie and Morgan (1970) sample size determination table for a population of 260 at 95% confidence level and $\pm 5\%$ margin of error, a sample size of 150 respondents was determined. Three banks — Access Bank Plc (19 branches), Guaranty Trust Bank Plc (15 branches), and United Bank for Africa Plc (16 branches) — were purposively selected based on their high branch network density, documented adoption of advanced MIS systems, and confirmed willingness to grant research access; three key managerial staff (branch manager, operations manager, and HR/IT manager) per branch were purposively selected, yielding a sample of 150 respondents across 50 branches. The primary instrument was a structured questionnaire designed on a four-point Likert scale (Very Great Extent = 4; Great Extent = 3; Moderate Extent = 2; Low Extent = 1), validated for face and content validity by the supervisor and two HRM experts, and confirmed to have Cronbach alpha reliability coefficients ranging from 0.761 to 0.794, all exceeding the 0.70 benchmark (Nunnally, 1978). Of 150 copies of the questionnaire administered, 123 copies were retrieved (82% response rate), and these formed the basis of data analysis. Mean and standard deviation were used for univariate analysis; Spearman's rank-order correlation coefficient (ρ) was employed for bivariate hypothesis testing at 0.05 level of significance using SPSS Version 22.0. Spearman's ρ was selected as the non-parametric measure most appropriate for ordinal Likert-scale data, providing robust measurement of monotonic relationships between ranked variables (Zeb-Obipi, 2007).

Results

Descriptive Statistics

Table 1 presents the descriptive statistics of Decision Support System, E-Human Resource Planning, and E-Performance Appraisal across 123 valid respondents.

Table 1: Descriptive Statistics of Study Variables (N = 123)

Variable	N	Min.	Max.	Mean	Std. Deviation
Decision Support System (DSS)	123	1.00	4.00	3.6520	.33173
E-Human Resource Planning (E-HRP)	123	1.00	4.00	3.5410	.38076
E-Performance Appraisal (E-PA)	123	1.00	4.00	3.6896	.52117

Source: SPSS Output, 2026.

Table 1 reveals that DSS recorded the highest mean score of 3.6520 (SD = .33173), indicating that deposit money banks in Rivers State adopt and utilize Decision Support Systems to a great extent. E-Performance Appraisal followed with a mean score of 3.6896 (SD = .52117), the highest among the HRM practices measured, suggesting that electronic performance appraisal is the most robustly implemented e-HRM practice in the sampled banks. E-Human Resource Planning recorded a mean of 3.5410 (SD = .38076), also indicating implementation to a great extent. The

high mean scores across all three variables confirm that both DSS and the HRM practices under investigation are well-established in the sampled deposit money banks in Rivers State.

Bivariate Analysis and Hypothesis Testing

Table 2 presents the Spearman's rho correlation matrix between Decision Support System and the two measures of Human Resource Management Practices — E-Human Resource Planning and E-Performance Appraisal — for the 123 respondents.

Table 2: Spearman's Rho Correlation between DSS and HRM Practices (N = 123)

Variables		DSS	E-HRP	E-PA
Decision Support System (DSS)	Correlation Coefficient	1.000	.755**	.571**
	Sig. (2-tailed)	.000	.000	.000
	N	123	123	123
E-Human Resource Planning (E-HRP)	Correlation Coefficient	.755**	1.000	.565**
	Sig. (2-tailed)	.000	.000	.000
	N	123	123	123
E-Performance Appraisal (E-PA)	Correlation Coefficient	.571**	.565**	1.000
	Sig. (2-tailed)	.000	.000	.000
	N	123	123	123

** . Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS Output, 2026.

Hypothesis 1 (H_{01} : There is no significant relationship between DSS and E-Human Resource Planning): Table 2 reveals a correlation coefficient (r) of 0.755 between DSS and E-Human Resource Planning, with a significance value of 0.000 which is less than the alpha level of 0.05. Therefore, the null hypothesis H_{01} is rejected and the alternate hypothesis accepted. This implies that there is a strong, significant positive relationship between Decision Support System and E-Human Resource Planning in deposit money banks in Rivers State, Nigeria. The strong coefficient ($r = 0.755$) places this relationship in the great/strong relationship category (0.6–0.7 threshold exceeded), indicating that greater DSS adoption is associated with substantially more effective electronic workforce planning practices.

Hypothesis 2 (H_{02} : There is no significant relationship between DSS and E-Performance Appraisal): Table 2 reveals a correlation coefficient (r) of 0.571 between DSS and E-Performance Appraisal, with a significance value of 0.000, which is less than the alpha level of 0.05. Therefore, the null hypothesis H_{02} is rejected and the alternate hypothesis accepted. This implies that there is a significant moderate-to-strong positive relationship between Decision Support System and E-Performance Appraisal in deposit money banks in Rivers State, Nigeria. The coefficient ($r = 0.571$) falls in the moderately strong relationship range, confirming that DSS adoption meaningfully enhances the quality and effectiveness of electronic performance evaluation practices.

Discussion of Findings

The finding that DSS has a strong positive relationship with E-Human Resource Planning ($r = 0.755$, $p < 0.05$) is consistent with and extends prior empirical evidence from multiple contexts. The result aligns with Hakimpoor et al. (2018), who established that management information systems facilitate the quality of managerial decisions in organizations. The finding also corroborates Majed et al. (2016), who demonstrated that MIS had a significant impact on HRM strategies in the Jordanian banking sector. The strong correlation obtained in the present study suggests that DSS — through its model-driven, communication-driven, and document-driven functionalities — provides HR managers in Rivers State banks with the analytical infrastructure needed for accurate manpower forecasting, scenario-based workforce planning, skill-gap identification, and strategic recruitment

planning. Specifically, model-driven DSS enables HR managers to simulate workforce scenarios under varying conditions (e.g., branch expansion, employee attrition, skills shortages), thereby facilitating proactive, evidence-based planning that reduces the risk of workforce imbalances. This finding advances the work of Khan and Khan (2021), who found that MIS tools improve workforce planning in financial institutions, by demonstrating that DSS specifically — as a discrete MIS dimension — is a particularly potent driver of E-HRP effectiveness in the Rivers State banking context.

The finding that DSS is significantly positively related to E-Performance Appraisal ($r = 0.571$, $p < 0.05$) is equally noteworthy and consistent with extant literature. The result resonates with Sharma and Gupta (2020), who demonstrated that digital HR systems improve employee performance evaluation processes in banking institutions, and with Aliyu and Bello (2022), who found that HRIS adoption improves objective performance appraisal in Nigerian banks. The present finding specifically demonstrates that DSS contributes to the quality of E-PA through its ability to generate comprehensive performance data reports, synthesize multi-dimensional employee performance metrics, and provide HR managers with a data-rich environment for more objective, transparent, and timely appraisal decisions. Communication-driven DSS tools such as electronic feedback platforms and collaborative appraisal workspaces also facilitate continuous, real-time performance feedback between managers and employees — a practice recognized as critical for appraisal effectiveness in modern banking environments (Bondarouk & Ruël, 2013; Parry & Tyson, 2011). The slightly lower coefficient for DSS-E-PA compared to DSS-E-HRP may reflect that performance appraisal in Nigerian banks is influenced by a broader range of factors beyond DSS — including organizational culture, supervisory relationships, and regulatory requirements — that moderate the strength of the technology-appraisal relationship.

Conclusion and Recommendations

This study has provided empirical evidence that Decision Support System is a significant positive predictor of both E-Human Resource Planning ($r = 0.755$, $p < 0.05$) and E-Performance Appraisal ($r = 0.571$, $p < 0.05$) in deposit money banks in Rivers State, Nigeria. The findings establish that DSS adoption — through its model-driven, communication-driven, and document-driven functionalities — materially enhances the quality, accuracy, and strategic effectiveness of electronic HR planning and appraisal processes in the Nigerian banking sector. The strong correlation with E-HRP is particularly significant, affirming that DSS constitutes a strategic organizational resource — consistent with Resource-Based View theory — that empowers HR managers to engage in evidence-based, data-rich workforce planning capable of sustaining competitive advantage. The moderate-to-strong relationship with E-PA further confirms that DSS tools provide the analytical infrastructure for more objective, timely, and comprehensive performance evaluation.

Based on these findings, the following recommendations are made:

1. Management of deposit money banks in Rivers State should prioritize strategic investment in advanced DSS infrastructure specifically configured for HR analytics, including model-driven workforce planning software, communication-driven appraisal portals, and document-driven HR reporting systems.
2. HR departments should build internal capacity for DSS utilization by organizing targeted training programs that equip HR professionals with the competencies to effectively deploy DSS tools for workforce forecasting, scenario modeling, and performance data analysis.
3. Banks should institutionalize DSS-driven quarterly HR planning reviews at the strategic management level to improve manpower forecasting accuracy, reduce skill mismatches, and align human capital strategy with organizational objectives.

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