
Digitalization of Human Resource Management and its Influence on Employee Productivity of Small and Medium Enterprises (SMEs)

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Abstract

This study examined the effect of Digital Human Resource Management (HRM) practices on employee productivity among Small and Medium-Sized Enterprises (SMEs) in Kano State, Nigeria. The study was motivated by the increasing adoption of digital technologies in business operations and the need to understand how digital HRM practices influence workforce productivity within SMEs. Specifically, the study investigated the effects of e-recruitment, digital training and development, and electronic performance management on employee productivity. A descriptive survey research design was adopted for the study. The target population consisted of 2,645 registered SMEs in Kano State, from which a sample size of 338 SME owners, managers, and HR personnel was selected using purposive sampling techniques. Data were collected through a structured questionnaire, and 314 valid responses were obtained. The data were analyzed using descriptive statistics and multiple regression analysis. The findings revealed that e-recruitment, digital training and development, and electronic performance management all have positive and statistically significant effects on employee productivity among SMEs in Kano State. The study found that digital training and development emerged as the strongest predictor of employee productivity, indicating that technology-driven learning and skill development initiatives significantly enhance employee performance. It recommends that SMEs strengthen the adoption of e-recruitment systems, invest in digital training and development programmes, and implement effective electronic performance management systems to improve workforce productivity, competitiveness, and long-term sustainability.

Keywords: Employee productivity, digital training and development, e-recruitment, electronic performance management, Small and Medium-Sized Enterprises (SMEs)

1. Introduction

The rapid advancement of digital technologies has significantly transformed business operations across the globe, particularly in the management of human resources. Digital Human Resource Management (HRM) has emerged as a critical component of organizational strategy, enabling firms to automate processes, enhance decision-making, and improve workforce efficiency (Genty, Elusope & Semente, 2025; Zhang, et al., 2024; Parry & Strohmeier, 2024). From a broad perspective, digitalization is reshaping how organizations attract, manage, and retain talent, shifting traditional HR practices toward more data-driven and technology-enabled systems. This transformation is especially relevant in the context of Small and Medium-Sized Enterprises (SMEs), which are increasingly leveraging digital tools to remain competitive in dynamic business environments.

In contemporary business settings, digital HRM tools such as cloud-based HR systems, applicant tracking systems (ATS), and employee engagement platforms are widely adopted to streamline recruitment, training, and performance management processes (Genty, Elusope & Semente, 2025; Jimoh, 2025; James, et al., 2023; Muki & Aikh., 2021). These technologies provide SMEs with opportunities to access a broader talent pool, reduce administrative burdens, and improve operational efficiency. However, despite these advantages, the adoption and effective utilization of digital HR tools remain uneven, particularly among SMEs operating in developing economies. Many SMEs face challenges such as limited financial capacity, inadequate technological infrastructure, and insufficient digital skills, which hinder the full realization of the benefits of digital HRM (Genty, et al., 2025; Daba, et al., 2024; Mariam, Set al., 2024).

One of the most critical issues within this context relates to employee productivity (EP), which serves as a key indicator of organizational performance. While digital HRM is expected to enhance productivity through improved efficiency and better talent management, evidence suggests that many SMEs continue to experience low or inconsistent productivity levels due to ineffective implementation of digital systems. In Nigeria, SMEs contribute significantly to employment and economic development, accounting for a substantial proportion of business activities. However, reports indicate that a large percentage of SMEs still operate with minimal digital integration, limiting their ability to optimize workforce performance and achieve sustainable growth. This situation raises concerns about whether digital HRM tools are being effectively utilized to improve employee productivity or whether existing barriers are undermining their impact. SMEs play a significant role in Nigeria's economy, accounting for about 96% of businesses, contributing approximately 48% to the national Gross Domestic Product (GDP), and employing about 84% of the workforce (SMEDAN, 2025). This makes the SME sector highly relevant for examining workforce productivity and digital transformation. In addition, Kano State remains one of the leading states for SME activities and entrepreneurship development in Nigeria, making it an appropriate location for this study.

Although existing studies have explored digital HRM practices in large organizations, there remains a significant gap in the literature regarding SMEs, particularly in developing economies like Nigeria (Strohmeier, 2020). Most prior research has focused on technological adoption at a general level, with limited attention given to how digital HR tools specifically influence employee productivity outcomes in SMEs. Additionally, there is insufficient empirical evidence on the long-term implications of digital HRM adoption in areas such as employee engagement, organizational culture, and competitive advantage (Pal., et al., 2026; Adias, 2025; Akpa, et al., 2025). This gap underscores the need for more context-specific research that examines the relationship between digital HRM practices and employee

productivity within SMEs. The importance of this study is further reinforced by the increasing reliance on digital technologies in the modern workplace, particularly following the COVID-19 pandemic, which accelerated digital transformation across industries (Brynjolfsson et al., 2020). For SMEs, the ability to effectively implement digital HRM practices can determine not only their operational efficiency but also their survival and competitiveness in an increasingly digital economy (Garg et al. 2025; Kurniasari et al., 2025; Skaf et al., 2024). Understanding how digital HR tools influence employee productivity is therefore essential for providing practical insights that can guide SMEs in optimizing their HR functions. Therefore, this study focuses on examining the effect of digital HRM practices on employee productivity in SMEs in Kano State, Nigeria. Specifically, the study seeks to determine how digital tools (e-recruitment systems, digital training and development and electronic performance management) influence employee productivity within the SME sector. The set to formulate the following hypotheses:

- i. H_1 : *E-recruitment systems have a significant positive effect on employee productivity among SMEs.*
- ii. H_2 : *Digital training and development have a significant positive effect on employee productivity among SMEs.*
- iii. H_3 : *Electronic performance management have a significant positive effect on employee productivity among SMEs.*

2. Literature Review

2.1 Conceptual framework

Digital HRM, also known as electronic HRM (e-HRM), refers to the use of digital technologies, software systems, and online platforms to perform traditional HR functions such as recruitment, training, performance appraisal, payroll administration, employee engagement, and workforce planning. It involves the transformation of HR activities from manual and paper-based processes into automated and technology-driven systems that improve efficiency and decision-making. According to Adias (2025) digital HRM transformation in Nigeria has significantly improved talent management, employee performance, and workforce well-being through the adoption of AI-driven recruitment systems, electronic appraisal systems, and workforce analytics dashboards. Similarly, Ruiz et al. (2024) define digital HR strategy as the integration of HR processes with digital technologies to improve firm performance, operational efficiency, and strategic workforce management. Digital HRM is particularly important for SMEs because it helps reduce operational costs, improves HR efficiency, strengthens employee management, and enhances organizational competitiveness despite limited financial and human resources (James et al., 2023; Mariam et al., 2024).

McCollum (2001) explained that it is an undeniable fact that productivity of an organization depends upon the satisfaction level of its workforce and even more, on the compensation of employees. As a result, there has been a great interest in the assessment of compensation variables of employee as they impact on productivity. Employee productivity refers to the efficiency and effectiveness with which employees perform assigned responsibilities in achieving organizational goals within a specific period. It reflects the relationship between employee output and the resources used to produce that output. Employee productivity is a major determinant of organizational success because it affects profitability, competitiveness, sustainability, and long-term growth. In SMEs, where resources are often limited, employee productivity becomes even more critical for business survival and

expansion.

2.2 Empirical Review

Akpa et al. (2025) investigated electronic HRM adoption and employee productivity in Nigerian DMB and found that e-HRM significantly improves employee productivity. This indicates a strong positive relationship between digital HR systems and workforce output. Rose and Isyaka (2025) also found that electronic performance management significantly improves employee efficiency and job performance in Nigerian banks. Ololade et al. (2023) found that manpower planning, succession planning, and performance appraisal systems significantly predict positive employee behavioral outcomes. Genty et al. (2025) reported that HRIS recruitment tracking and workforce analytics significantly improve operational efficiency, reduce wastage, and enhance employee productivity among ICT firms in Nigeria. Zhang et al. (2024) found that digital HR practices significantly improve digital transformation, innovative work behavior, and employee productivity. Alexandro (2025) found that while general technology adoption and digital training alone do not significantly improve productivity, HR analytics, AI systems, and innovative recruitment strategies significantly enhance employee performance and organizational competitiveness. Nyathi and Kekwaletswe (2022) suggested that e-HRM improves both employee and organizational performance, with employee productivity acting as a mediating factor for business success. Despite these findings, there remains limited empirical evidence focusing specifically on SMEs in Kano State, Nigeria, particularly regarding how specific digital HRM tools influence EP.

2.3 Theoretical Review

Today, there is a growing need for digitalisation of HRM and employee productivity particularly among SMEs around the world. This led to the proposition of many theories and models. The linkages between the social exchange theory (SET) and Resource Based theory (RBV) was used as the bases for this study. The SET is widely used for most of the studies on organizational commitment, organizational citizenship behaviour and employee productivity, as it is an economic model of human behaviour (Wikhamn & Hall, 2012; Adil, 2016). According to proponents of the theory, all human connections are formed through subjective cost-benefit analysis and alternative comparison. The SET is primarily concerned with organizations to create such exchange relationships that are helpful in establishing systems within the organizations. The SET was used in this study as the theory examines reciprocity. The employees of an organization strive to work hard in order to be productive toward achieving the overall aims of their organization. They are intelligent and committed, as they try to measure their gain and loss in carrying out those activities. The theory is applicable for this study, because it addresses the conceptualization that digitalization of HRM leads to employee Productivity. This study also employed RBV theory developed by Barney (1991). The theory argues that organizations achieve sustainable competitive advantage through valuable, rare, inimitable, and non-substitutable resources. According to the RBV, organizations contain an exceptional bundle of resources and that acquiring these and in addition to the organizations' capacity to make effective utilization of them provide an avenue through which they can provide superior value (Barney, 1991).

Human resources and digital capabilities are considered strategic organizational assets under this theory. Digital HRM practices such as HR analytics, digital recruitment systems, HRIS, and performance management platforms become valuable resources when they

improve EP and organizational performance. Alexandro (2025), Ruiz et al. (2024) and Aslam et al. (2023) support this perspective by showing that innovative HRM practices and digital capabilities improve labor productivity, innovation, and SME competitiveness. RBV is relevant to this study as SMEs that effectively adopt digital HRM practices can use these systems as strategic resources for improving employee productivity and gaining competitive advantage. The theoretical framework explains the relationship between the independent variables (Digital HRM practices) and the dependent variable (Employee Productivity).

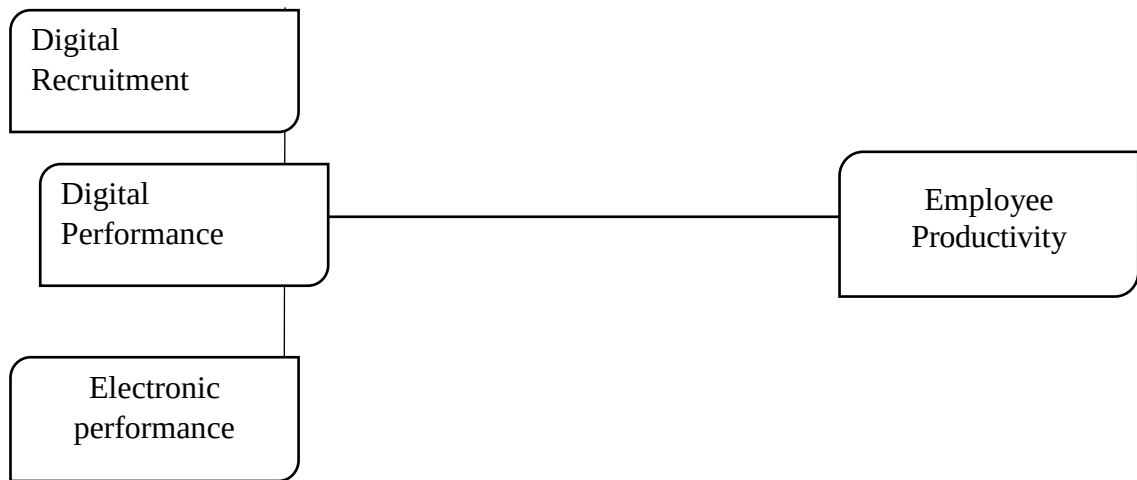


Figure 1: Conceptual Model (2026)
Source: Author (2026)

3. Method and Materials

Descriptive survey research design was selected as it describes the characteristics of a group (HRM digitalisation and employee productivity) involved in this study. The descriptive survey method was appropriate for this study since the study aimed at analyzing and describing the relationship between HRM digitalisation and employee productivity. The target population comprises all registered retail SMEs operating in Kano Metropolis. According to the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN, 2026), the number of registered SMEs in Kano State as at 2026 stood at 2,645. This figure is derived from the National MSME Survey and serves as the official baseline for registered enterprises. The study focuses on the micro enterprises within major commercial hubs. These include businesses in textiles, electronics, foodstuff, cosmetics, household goods, manufacturing and general merchandise. The population frame is obtained from the Kano Chamber of Commerce, Industry, Mines and Agriculture (KACCIMA) directory and updated SMEDAN listings.

For the purpose of this study, the sample size consists of SME owners, managers, HR personnel in Kano State, Nigeria. Therefore, the sample size can be determined using Krejcie and Morgan (1970). According to SMEDAN listings there are two thousand, six hundred and forty-five (2645) SMEs in Kano out of which 338 SME owners, managers, HR personnel formed the sample size of the study based on Krejcie and Morgan (1970) sample size determination Table. The study used purposive sampling technique in dealing with the sample size of the study. This study will adopt quota purposive sampling technique. By this technique, the sampling is confined to specific types of people who can provide the desired information. Thus, SME owners, managers, HR personnel that actually owned business

enterprises in Kano State form the sample of the study. Specifically, managers of businesses are the main respondents of the study.

The data was collected by means of a self-administered questionnaire. The modified five-point Likert scale validated questionnaire were adapted from similar studies on the constructs and employee productivity. For the purpose of scoring the responses made by the respondents, a 5 - point Likert Scale rating of: Strongly Disagree 1 to Strongly Agree 5 were employed. Although some studies favour other Likert scales such as four, six, seven and ten (Lingappa, Rodrigues & Shetty, 2023; Polori, 2021; Leung, Mukerjee & Thurik, 2020; Mozumdar, et al., 2020), Scales with a midpoint were thought to provide better and more accurate results (Zainudin, 2014). Malhotra (2006) is of the view that increasing the number of scales to seven or nine does not guarantee a better reliability test because it requires time and effort and may confuse and anger respondents. Hence, this current study used a five-point Likert scale. This is also in line with evidence from previous studies (Shetty, Fitzsimmons & Anand, 2023; Dixit, et al., 2023; Kawai & Kazumi, 2021; Sajuyigbe & Fadeyibi, 2017). Furthermore, the multiple regression analysis was used to determine the effect of the independent variable HR digitalization (e-recruitment, digital training and development and electronic performance), on the dependent variable (employee productivity). All data processing was carried out using SPSS version 27.

3.1 Measures

Employee productivity refers to the level of efficiency and effectiveness with which employees perform their assigned tasks and responsibilities in achieving organizational goals within a given period. In light of the foregoing explanation, the 6-item scale used to gauge employee productivity and modified from the study of Tangen (2005). The scale has a reliability score of 0.866.

Digital recruitment measure developed by Zhang and Li (2010) was adopted in this study using five-point likert scale ranging from 1-representing Strongly disagree to 5-representing Strongly agree. This instrument consisted of 5 items. The reliability for the items reported have the coefficient above 0.78. Digital training and development (DTD) was measured using 5-items adapted from Noe, Clarke, and Klein (2014). The items here were meant to tap information regarding the degree at which respondents agree or disagree with statements about firms' digital training and development. Each component is measured on a 5-point Likert scale in this current study. For this digital training scale, Cronbach's alpha reliability was 0.855. The 5-item of scale were used to measure the electronic performance. For this scale, Cronbach's alpha reliability was 0.867. The scales were adapted from Pulakos (2009).

4. Results

The respondents in this study answered five demographic questions about their gender, status, highest level of academic qualifications, nature of business, employee, and service length on the survey questionnaire. As indicated in Table1, this section summarizes their general frequency distribution on several demographic items

Table 1: Socio-Demographic Characteristics of the Respondents

Demographic Variable	Category	Sample (n = 314)	
		Frequency	Percentage (%)
Status	Single	81	25.8
	Married	233	74.2
	Total	314	100
Educational Qualifications	O' Level	30	9.6
	Diploma/NCE	150	47.8
	BSc	109	34.7
	Postgraduate	12	3.8
	Other Specify	13	4.1
	Total	314	100.0
Nature of Business	Manufacturing	82	26.1
	Service	139	44.3
	Wholesale	49	15.6
	Retailing	35	11.1
	Other specify	9	2.9
	Total	314	100
Employee	Less than 5 staff	78	24.8
	5 – 10	157	50.0
	11-20	47	15.0
	21 and above	32	10.2
		314	100
Experience	Less than 5 years	101	32.2
	5-10 years	163	51.9
	11-15 years	33	10.5
	16 years and above	17	5.4
Total		314	100

Source: Field Survey (2026)

The demographic profile of the respondents is presented in Table1. The Table shows that, of the respondents 25.8% (81) are single, while 74.2% (233) are married. This implies that majority of the respondents that participated in this study are married. The Table also shows the level of education of the respondents which 30 of the respondents are O' level holders (9.6%), 150 (47.8%) of the respondents are Diploma/NCE holders, 109 respondents are BSc holders (34.7%), 12 respondents are postgraduate (3.8%) while 13 (4.1%) of the respondents are other specify that are not listed above. The highest number of respondents possessed Bachelor of Science and Diploma/NCE qualifications. The Table also indicates that 82 (26.1%) of the respondents are into manufacturing, 139 (44.3%) of the respondents have

engaged into service and 49(15.6%) into wholesale. The Table also shows that 35 (11.1%) of the respondents are retailers while 9(2.9%) of the respondents engage in other specify activities not mentioned. Table 4.2 also indicated that the respondents with less than 5 employees are 78(24.8%), 157(50%) with 5- to 10 staff, 47(15%) with 11-20 staff while 32(10.2%) of the respondent engaged a total of 21 and above employee. The Table also indicates that 101 (32.2%) of the SMEs owners have experience of less than 5 year, 163 (51.9%) of the respondents have experience of between 5 to 10 years. The Table also shows that 33 (10.5%) of the respondents have experience of between 11 to 15 years, and 17 (5.4%) respondents have experience of 16 years and above as SMEs owners.

4.1 Regression Results and Hypothesis Testing

The regression coefficient was used to show the relative importance of each of the independent variables is collectively regressed against the dependent variable to explain the variance in it. The size of each regression coefficient shows how much an increase in one unit in independent variable affect the dependent variable taking in to consideration. Multiple regression analysis is conducted to determine the relationship between the dependent and independent variables. The results as indicated in table 2 with predictors that were significant, $R^2 = 0.495$, Adjusted $R^2 = 0.492$ and F value = 154.466. The multiple correlation coefficients between the predictors and the criterion variable were 0.495; the predictor accounted for approximately 49.5% of the variance in the EP.

Table 2: Results of Regression Analysis

Variables	B	Standardized Beta (β)	t-value	p-value	Tolerance	VIF
Constant	0.624	-	3.145	.002	-	-
E-recruitment	0.352	0.056	2.697	0.006	0.981	1.020
Digital training and dev	0.287	0.451	8.043	0.000	0.917	1.091
Electronic Performance	0.411	0.490	16.730	0.000	0.925	1.081
F value	154.466					
F Sig.	0.000					
R2	0.495					
Adj. R2	0.492					
Durbin-Watson	1.613					

Source: Field Survey (2026)

Dependent Variable: Employee Productivity

Note: *: $p < 0.05$; **: $p < 0.01$; ***: $p < 0.001$

The above regression model result can therefore be specified as follows:

$$EP = \beta_0 + \beta_1 E - R_1 + \beta_2 DT_2 + \beta_3 EP_3 + \varepsilon$$

$$EP = \beta_0 + \beta_1 0.056_1 + \beta_2 0.451_2 + \beta_3 0.490_3 + \varepsilon$$

Table 2 shows that all of the three predicting variables are found to have significant relationship with employee productivity; E-recruitment ($t = 2.697$, $p < 0.006$); Digital training and development ($t = 8.043$, $p < 0.000$); electronic performance ($t = 16.730$, $p < 0.000$). Therefore, to reject the null hypothesis, the P value has to be lower than 0.05 i.e. $p < 0.05$ at 95% (Torres-Reyna, 2014). Consequently, the three null hypotheses were rejected (H_{01} , H_{02}

and Ho₃). Below are three hypotheses that have been formulated for this research study and how each was tested as follows:

The hypothesis one of the study stated that e-recruitment does not significantly affect employee productivity (EP) SMEs in Kano State. The regression coefficient of the model is positive ($\beta=0.056$, $t= 2.697$, $P<0.006$) significant at only 5%. This indicates a significant positive effect of e-recruitment on employee productivity (EP) of SMEs in Kano State. The result shows that the effect between e-recruitment and employee productivity is statistically significant ($p<0.05$). The coefficient shows how much change in e-recruitment occurs in corresponds to the change in EP. The beta value coefficient for the relationship between the e-recruitment and EP was 0.056, which means that for each unit increase of e-recruitment; EP would have a 0.056-unit change. Hence, null hypothesis 1 was not supported. Therefore, it is found that e-recruitment has significant positive effect on EP of SMEs in Kano State. It can be concluded that there is significant relationship between e-recruitment and EP, so the null hypothesis 1 is rejected.

Hypothesis 2 examines that digital training and development does not significantly affect employee productivity (EP) SMEs in Kano State. The coefficient value is positive ($\beta=0.451$, $t= 8.043$, $P=0.000$). This indicates that there is a significant positive effect between digital training and EP as the p-value is 0.000 which is below the alpha value of 0.05. The coefficient shows how much change in digital training occurs in corresponds to the change in EP. The coefficient for the relationship between the digital training and EP was 0.451, which means that for each unit increase of digital training; EP would have a 0.451-unit change. Therefore, it can be concluded that there is significant relationship between the digital training and employee productivity (EP) of SMEs in Kano State. Therefore, the null hypothesis 2 is found to be contrary to the empirical results, hence it is rejected.

The hypothesis three that electronic performance does not significantly affect employee productivity (EP) SMEs in Kano State. Table 1 shows that the effect between electronic performance and EP is statistically significant. The regression coefficient of the model is positive ($\beta=0.490$, $t= 16.730$, $P<0.000$) significant at only 5%. This indicates a positive and significant effect between electronic performance and employee productivity (EP) of SMEs in Kano State. The coefficient shows how much change in electronic performance occurs in corresponds to the change in EP. The coefficient for the effect between the electronic performance and EP was 0.490, which means that for each unit increase of electronic performance; EP would have a 0.490-unit change. Hence, hypothesis 3 was also not supported. So, it can be inferred that there is significant relationship between electronic performance and EP among SMEs in Kano State. The null hypothesis 3 is therefore rejected.

4.2 Discussion of Findings

The discussion was facilitated by grouping the hypotheses according to the exogenous and endogenous variables in conjunction with the literature review. The finding of this study revealed that e-recruitment has a significant positive effect on employee productivity among SMEs in Kano State. This implies that the adoption of electronic recruitment systems enhances the ability of SMEs to attract, select, and retain qualified employees whose competencies contribute to improved productivity. The result suggests that the use of online recruitment platforms enables SMEs to streamline the recruitment process, reduce hiring time and costs, and improve the quality of candidates recruited into the organization, thereby leading to higher levels of employee performance and productivity. This finding is consistent with the argument of the RBV, which posits that organizations gain competitive advantage through the acquisition and effective utilization of valuable human resources. E-recruitment

facilitates access to a larger and more diverse talent pool, enabling organizations to identify and recruit individuals with the skills, knowledge, and competencies required to enhance productivity. The findings is also consistent with the previous studies of Oyoru et al. (2025), Bature et al. (2024), Andriyani and Usman (2024), Aggarwal, et al. (2022), Dyke-Ebirika (2021 found that e-recruitment significantly improves organizational performance through enhanced EP, operational efficiency, and service delivery effectiveness in Nigerian organizations. The studies suggested that digital recruitment systems improve the quality of human capital by facilitating more efficient candidate sourcing and selection processes.

The result of the current study indicated that digital training and development (DTD) is positively and significantly related with EP. The result of the current study indicated that DTD positively and significantly related to EP among SMEs in Kano State. This finding implies that the adoption of DTD initiatives enhances employees' knowledge, skills, competencies, and ability to perform their job responsibilities effectively. The result suggests that organizations that invest in technology-enabled learning platforms, online training programmes, virtual workshops, and e-learning systems are more likely to experience improvements in employee efficiency, effectiveness, and overall productivity. The finding is consistent with the SET and RBV which posits that investments in employee education, training, and skill development enhance workers' productive capabilities and contribute to improved organizational performance. DTD provide employees with continuous learning opportunities, enabling them to acquire relevant knowledge and adapt to changing technological and business environments. Consequently, employees become more competent in executing their tasks, resulting in higher productivity levels. The finding corroborates the studies of Adias (2025), Abigail, et al. (2025), Alexandro, (2025), Al-Manei et al. (2024), Nuryanto et al. (2024), Khan et al. (2023), Singh and Sharma (2023), found that digital learning and training initiatives significantly improve employee performance and productivity by enhancing employees' technical competencies, problem-solving abilities, and adaptability to organizational changes. The studies indicated that digital training platforms facilitate flexible and continuous learning, which enables employees to improve their work performance and contribute more effectively to organizational objectives.

The finding of this study shows that electronic performance and management (EPM) significantly affect EP among SMEs in Kano State. This implies that the adoption of electronic performance management systems enhances employees' effectiveness, efficiency, and overall work output. The result suggests that SMEs that utilize digital technologies to monitor, evaluate, and manage employee performance are more likely to achieve higher levels of EP than those relying solely on traditional performance management practices. This finding is consistent with the RBV which posits that employees perform better when clear performance goals, continuous feedback, and regular performance evaluations are provided. EPM systems facilitate real-time monitoring, objective assessment, and timely feedback, enabling employees to understand performance expectations and make necessary improvements. Consequently, employees become more focused, motivated, and productive in accomplishing organizational objectives. The finding is supported by the study of Genty, et al. (2025), Rose and Isyaka, (2025), Alshaikh and Alshurideh (2024), Al-Hiyari et al. (2024), Al-Mamary et al. (2023), Nisar et al. (2023), who found that electronic performance management systems significantly improve employee productivity by enhancing performance monitoring, feedback mechanisms, and employee accountability. The authors argued that digital performance management platforms provide accurate and timely information that assists employees in identifying performance gaps and improving their work outcomes.

5 Conclusions

Based on the findings of the study, it can be concluded that digital HRM practices significantly contribute to enhancing EP among SMEs in Kano State. The study provides empirical evidence that the adoption of digital technologies in HR functions enables SMEs to improve workforce efficiency, effectiveness, and overall performance. Specifically, the study concludes that e-recruitment significantly improves EP by facilitating the attraction, selection, and retention of qualified employees whose skills and competencies align with organizational needs. Through digital recruitment platforms, SMEs are able to access a wider pool of talent, reduce recruitment costs and time, and improve the quality of hiring decisions. The study further concludes that DTD have a significant positive effect on EP. By providing employees with access to online learning resources, virtual training programmes, and continuous skill development opportunities, organizations enhance employees' knowledge, competencies, and ability to perform their duties effectively. Consequently, employees become more productive and better equipped to respond to changing workplace demands.

In addition, the study concludes that EPM significantly influences EP. The use of digital systems for performance monitoring, evaluation, and feedback promotes accountability, transparency, and continuous performance improvement. Employees who receive timely and objective feedback are more likely to improve their performance and contribute positively to organizational goals. Moreover, the study concludes that the integration of e-recruitment, DTD, and EPM into HRM practices is essential for improving EP among SMEs in Kano State. Therefore, SMEs seeking to enhance their competitiveness, operational efficiency, and long-term sustainability should invest in and effectively utilize digital HRM technologies.

5.2 Implication of the Study

This study contributes to the existing body of knowledge on digital HR management (DHRM) and EP by providing empirical evidence on the influence of e-recruitment, digital training and development, and electronic performance management on EP among SMEs in Kano State. The findings support the assumptions of the SET and RBV theory which posits that investments in employee acquisition, development, and performance management enhance employees' productive capabilities and improve organizational outcomes. The significant relationship between digital training and development and employee productivity reinforces the argument that continuous learning and skill enhancement constitute valuable organizational assets that contribute to superior employee performance.

The findings of this study provide several practical implications for SME owners, managers, human resource practitioners, policymakers, and other stakeholders. First, SME managers should adopt e-recruitment platforms and digital recruitment tools to improve the quality of hiring decisions. By utilizing online job portals, social media recruitment channels, and digital screening systems, organizations can attract a wider pool of qualified candidates and improve employee productivity through better talent acquisition. Second, SMEs should invest in DTD programmes to enhance employees' skills, knowledge, and competencies. Organizations can achieve this by implementing e-learning platforms, virtual workshops, webinars, and online professional development programmes. Such initiatives will improve employee capability, adaptability, and productivity in an increasingly digital business environment. Third, SME owners and managers should implement electronic performance management systems that facilitate continuous performance monitoring, timely feedback, and objective employee evaluations. These systems can improve employee accountability,

motivation, and performance while enabling managers to make informed decisions regarding employee development and reward management.

Furthermore, policymakers and government agencies responsible for SME development should encourage the adoption of digital HRM practices by providing technological infrastructure, training support, and digital literacy programmes for SME operators. Such interventions can accelerate digital transformation among SMEs and contribute to improved workforce productivity and economic growth. The study indicates the importance of integrating digital technologies into HRM functions as a strategic approach to enhancing EP and organizational competitiveness among SMEs in Kano State and Nigeria as a whole.

5.3 Limitation and Suggestions for Further Studies

Based on the findings, limitations, and scope of the present study, the following suggestions are proposed for future research: Future studies should extend the scope of digital human resource management research by examining additional digital HRM practices such as electronic compensation, digital employee engagement, and employee self-service systems. Researchers are also encouraged to investigate the mediating and moderating roles of variables such as employee engagement, job satisfaction, organizational commitment, and organizational culture in the relationship between digital HRM practices and employee productivity. Furthermore, future studies should consider conducting comparative studies across different sectors and geographical regions to enhance the generalizability of the findings. Longitudinal research designs are also recommended to examine the long-term effects of digital HRM practices on employee productivity. Additionally, mixed-methods approaches may be employed to provide deeper insights into the implementation and effectiveness of digital HRM practices. Finally, future researchers should explore the challenges associated with digital HRM adoption among SMEs and examine the role of emerging technologies such as artificial intelligence, big data analytics, and cloud-based HR systems in enhancing employee productivity and organizational performance.

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