# ARTIFICIAL INTELLIGENCE AND HUMAN RESOURCE MANAGEMENT PRACTICES IN DISODEX NIGERIA LIMITED

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***Abstract***
*The increasing adoption of Artificial Intelligence (AI) in organizational processes has significantly transformed Human Resource Management (HRM) practices globally. Organizations now leverage AI-driven tools to enhance recruitment efficiency, employee performance management, training, and decision-making accuracy. This study examined the effect of Artificial Intelligence on Human Resource Management practices in Disodex Nigeria Limited. The study adopted a descriptive survey research design. The population of the study comprised employees of Disodex Nigeria Limited, from which a structured questionnaire was administered. Data collected were analyzed using descriptive statistics and regression analysis. Findings revealed that Artificial Intelligence significantly improves recruitment and selection efficiency, employee performance management, and training and development practices. The study concluded that AI-driven HRM practices enhance organizational effectiveness and employee productivity. It was recommended that Disodex Nigeria Limited should invest in AI infrastructure, continuously train HR personnel on AI applications, and ensure ethical deployment of AI systems in HR decision-making.*

***Key words:*** *Artificial Intelligence, Human Resource Management, Organizational Effectiveness, Performance Management, Recruitment.*

## Introduction

The rapid advancement of technology has fundamentally transformed the way organizations operate, compete, and manage their resources. In the 21st-century knowledge-driven economy, technological innovation has become a critical determinant of organizational survival and success. Among emerging technologies, Artificial Intelligence (AI) stands out as one of the most disruptive and transformative forces shaping modern organizations. AI has moved beyond theoretical concepts to practical applications that influence decision-making, productivity, efficiency, and

strategic management across various organizational functions (Davenport & Ronanki, 2023).

Artificial Intelligence refers to the ability of machines, computer systems, and software applications to perform tasks that normally require human intelligence, such as learning, reasoning, problem-solving, perception, and decision-making. Through technologies such as machine learning, natural language processing, robotics, and predictive analytics, AI systems can analyze vast amounts of data, recognize patterns, and generate insights that support managerial decisions (Russell & Norvig, 2021). As organizations increasingly rely on data-driven strategies, AI has become an indispensable tool for improving operational efficiency and organizational performance. One of the organizational functions most affected by Artificial Intelligence is Human Resource Management (HRM). Human Resource Management is concerned with the acquisition, development, motivation, and retention of employees in order to achieve organizational objectives. Traditionally, HRM practices such as recruitment, performance appraisal, training, and employee relations have relied heavily on manual processes and human judgment. While these traditional approaches emphasize interpersonal relationships and managerial discretion, they are often associated with inefficiencies, bias, high administrative workload, and limited analytical capacity (Armstrong, 2020).

In response to these challenges, organizations across the globe have begun integrating Artificial Intelligence into HRM practices, giving rise to what is commonly referred to as AI-driven or digital HRM. AI applications in HRM include automated resume screening, chatbots for recruitment and employee inquiries, predictive analytics for performance management, AI-based learning platforms, and workforce planning tools. These innovations have redefined how organizations attract, manage, and develop talent, enabling HR departments to move from administrative roles to strategic business partners (Bersin, 2020). The integration of Artificial Intelligence into HRM practices has become particularly important in an era characterized by intense competition, globalization, and rapidly changing labor markets. Organizations are under increasing pressure to attract highly skilled employees, improve productivity, reduce operational costs, and adapt quickly to environmental changes. AI enhances HRM by improving the speed and accuracy of decision-making, reducing human bias, and enabling organizations to leverage employee data more effectively (Jarrahi, 2018). As a result, HR professionals are increasingly expected to possess digital competencies and analytical skills to effectively utilize AI technologies.

Globally, leading organizations in developed economies have made significant progress in adopting AI for HRM functions. For instance, multinational corporations now use AI algorithms to screen thousands of job applications within minutes, identify high-

potential employees, predict turnover risks, and personalize training programs based on individual learning needs (Deloitte, 2022). These developments have demonstrated that AI can significantly enhance HR efficiency while improving employee experience and organizational outcomes. In developing economies such as Nigeria, the adoption of Artificial Intelligence in HRM is gradually gaining attention, though at a slower pace compared to developed countries. Nigerian organizations operate in a complex environment characterized by infrastructural challenges, skill gaps, high unemployment rates, and increasing competition. In this context, effective human resource management is essential for organizational sustainability and growth. AI offers Nigerian organizations the opportunity to overcome some of these challenges by improving talent acquisition, enhancing workforce planning, and supporting evidence-based HR decisions (Ogunyemi & Adebayo, 2021). However, the adoption of Artificial Intelligence in HRM within Nigeria is not without challenges. Many organizations face barriers such as limited technological infrastructure, high cost of AI implementation, lack of technical expertise, resistance to change, and concerns about data security and ethical implications. Additionally, fears of job displacement and over-reliance on automated systems have raised concerns among employees and labor unions (Ojo, Salau, & Falola, 2020). These challenges make it necessary for organizations to carefully evaluate how AI can be effectively integrated into HRM practices without undermining human values and organizational culture.

Disodex Nigeria Limited operates within this dynamic technological and economic environment. As a growing organization, Disodex Nigeria Limited depends heavily on its human resources to achieve efficiency, innovation, and competitive advantage. The organization's ability to recruit competent employees, manage performance effectively, and develop employee skills is critical to its long-term success. However, like many Nigerian organizations, Disodex Nigeria Limited may face HRM challenges such as inefficient recruitment processes, difficulty in identifying high-performing employees, inconsistent performance appraisal systems, and limited training effectiveness.

Artificial Intelligence presents a strategic opportunity for Disodex Nigeria Limited to enhance its HRM practices and align them with global best practices. Through AI-powered recruitment systems, the organization can reduce hiring time, improve candidate-job fit, and minimize bias in selection decisions. Similarly, AI-driven performance management tools can provide real-time feedback, track employee performance objectively, and support data-driven decisions regarding promotions, rewards, and training needs (Boudreau & Cascio, 2017). Furthermore, AI-based learning and development platforms can help Disodex Nigeria Limited address skills gaps and improve employee competence. By analyzing employee performance data and learning patterns, AI systems can recommend personalized training programs that enhance employee productivity and career development. This is particularly important

in today's rapidly changing business environment, where continuous learning and adaptability are essential for both employees and organizations (Noe, Hollenbeck, Gerhart, & Wright, 2020).

Despite the potential benefits of Artificial Intelligence in HRM, empirical evidence on its application and impact within Nigerian organizations remains limited. Most existing studies on AI and HRM focus on developed economies, with relatively few studies examining the Nigerian context. This gap in the literature makes it difficult for organizations such as Disodex Nigeria Limited to fully understand the implications, benefits, and challenges of adopting AI-driven HRM practices (Adebayo & Ogunyemi, 2022). Moreover, the ethical and social implications of AI in HRM cannot be ignored. Issues such as data privacy, algorithmic bias, transparency, and employee trust have become critical concerns in AI adoption. Organizations must ensure that AI systems are designed and implemented in a way that promotes fairness, accountability, and inclusiveness. Balancing technological efficiency with human judgment remains a key challenge for HR managers in the digital age (Floridi et al., 2018).

Against this backdrop, this study examines Artificial Intelligence and Human Resource Management practices in Disodex Nigeria Limited. The study focuses on how AI influences key HRM functions such as recruitment and selection, performance management, and training and development. By providing empirical insights into the relationship between AI and HRM practices, the study seeks to contribute to academic literature and offer practical guidance to managers and policymakers on the effective use of Artificial Intelligence in managing human resources. The integration of Artificial Intelligence into Human Resource Management represents a significant shift in how organizations manage their workforce. While AI offers numerous benefits in terms of efficiency, accuracy, and strategic decision-making, its successful adoption depends on organizational readiness, ethical considerations, and contextual factors. Understanding how AI affects HRM practices in Disodex Nigeria Limited is therefore essential for leveraging technology to enhance organizational performance and employee well-being in the Nigerian business environment.

## Statement of the Problem

Human Resource Management (HRM) functions such as recruitment and selection, performance appraisal, training and development, and employee engagement are critical to organizational effectiveness and competitiveness. Traditionally, these functions have been managed through manual and semi-automated processes that rely heavily on human judgment. While such approaches have served organizations for decades, they are increasingly characterized by inefficiencies, bias, high operational

costs, slow decision-making, and limited capacity to handle large volumes of employee data (Armstrong, 2018).

In recent years, Artificial Intelligence (AI) has emerged as a transformative technology capable of addressing many of these challenges. AI-driven HR systems can automate routine tasks, analyze large datasets, predict employee behavior, and support evidence-based decision-making in areas such as talent acquisition, performance management, and workforce planning (Davenport & Ronanki, 2018). Organizations that effectively integrate AI into HRM practices often experience improved recruitment accuracy, enhanced employee productivity, reduced administrative burden, and better alignment between employee skills and organizational goals (Bersin, 2020). Despite the growing global adoption of AI in HRM, many organizations in developing economies, including Nigeria, still struggle with its effective implementation. Nigerian organizations often face constraints such as inadequate technological infrastructure, limited digital skills among HR professionals, resistance to technological change, and concerns about data privacy and ethical implications of AI-based decisions (Ojo & Akinwale, 2021). As a result, HR decisions in many firms remain subjective, time-consuming, and inconsistent, which can negatively affect employee morale, performance, and retention.

Disodex Nigeria Limited, like many medium-to-large organizations operating in Nigeria's competitive business environment, depends heavily on its human resources to achieve operational efficiency and strategic objectives. However, the organization is not immune to common HRM challenges such as lengthy recruitment processes, difficulty in identifying high-performing employees, ineffective performance appraisal systems, and inadequate training needs assessment. These challenges may limit the organization's ability to fully optimize its workforce and sustain competitive advantage in a technology-driven economy (Huselid, 2017).

Although Artificial Intelligence presents an opportunity to enhance HRM practices in Disodex Nigeria Limited, the extent to which AI has been adopted and its actual impact on HR functions within the organization remains largely undocumented. Moreover, empirical studies examining the relationship between Artificial Intelligence and Human Resource Management practices in Nigerian organizations are still limited, creating a gap in both academic literature and practical understanding (Adebayo & Ogunyemi, 2022).

Against this backdrop, this study seeks to examine the effect of Artificial Intelligence on Human Resource Management practices in Disodex Nigeria Limited. Specifically, the study addresses the problem of whether AI adoption significantly improves recruitment and selection, employee performance management, and training and development practices. By doing so, the study aims to provide empirical evidence that can guide organizational decision-making and policy formulation regarding the

strategic use of Artificial Intelligence in HRM.

## Literature Review

### Artificial Intelligence (AI)

Artificial Intelligence (AI) refers to the capability of computer systems and machines to perform tasks that ordinarily require human intelligence, such as learning, reasoning, problem-solving, decision-making, and language processing. AI systems are designed to analyze large volumes of data, identify patterns, and generate insights with minimal human intervention. According to Russell and Norvig (2021), AI involves the development of intelligent agents that perceive their environment and take actions that maximize the likelihood of achieving set goals. This makes AI particularly useful in organizational settings where complex decisions must be made efficiently and accurately.

In recent years, AI has evolved rapidly due to advancements in machine learning, big data analytics, cloud computing, and increased computational power. Machine learning, a subset of AI, enables systems to learn from historical data and improve their performance over time without explicit programming (Jarrahi, 2018). Other AI technologies such as natural language processing, predictive analytics, and robotics have further expanded the applicability of AI across various organizational functions, including finance, marketing, operations, and human resource management.

Within organizations, AI is increasingly viewed as a strategic resource rather than merely a technological tool. Davenport and Ronanki (2018) argue that AI enhances organizational decision-making by providing data-driven insights that reduce uncertainty and human bias. However, the adoption of AI also raises concerns relating to ethics, data privacy, transparency, and job displacement. These concerns make it imperative for organizations to adopt AI responsibly, ensuring that technology complements human judgment rather than completely replacing it.

### Human Resource Management Practices

Human Resource Management (HRM) refers to the strategic and systematic approach to managing people in an organization to achieve organizational objectives. HRM encompasses policies and practices related to recruitment and selection, training and development, performance management, compensation, employee relations, and workforce planning. According to Armstrong (2018), HRM aims to ensure that organizations have competent, motivated, and committed employees who contribute

effectively to organizational success. Traditionally, HRM practices relied heavily on manual procedures, paperwork, and subjective decision-making. Recruitment involved physical applications, performance appraisal depended largely on supervisors' opinions, and training programs were often generic rather than tailored to individual needs. While these traditional practices emphasized human interaction, they were often inefficient, time-consuming, and susceptible to bias and inconsistency (Noe et al., 2020).

In the modern business environment, HRM practices are increasingly influenced by technology and data analytics. The shift from administrative HRM to strategic HRM has positioned human resources as a critical source of competitive advantage. Organizations now seek to align HRM practices with business strategies, using technology such as Artificial Intelligence to improve efficiency, objectivity, and effectiveness. This transformation has given rise to digital HRM, where data-driven decisions support better workforce outcomes (Boudreau & Cascio, 2017).

## Artificial Intelligence and Recruitment & Selection Practices

Recruitment and selection are among the most critical HRM functions, as they determine the quality of talent entering an organization. Recruitment involves attracting qualified candidates, while selection focuses on choosing the most suitable individuals for specific roles. Traditionally, these processes were labor-intensive, involving manual screening of applications, face-to-face interviews, and subjective judgments, which often led to delays and biased hiring decisions (Armstrong, 2018). Artificial Intelligence has significantly transformed recruitment and selection practices by automating and optimizing various stages of the hiring process. AI-powered recruitment tools can screen thousands of resumes within minutes, match candidate profiles with job requirements, and rank applicants based on predefined criteria. According to Deloitte (2022), AI reduces time-to-hire and improves hiring accuracy by eliminating human errors and unconscious bias that often influence recruitment decisions.

Moreover, AI-enabled chatbots and video interview analytics enhance candidate engagement and assessment. These tools can interact with applicants, answer routine questions, and evaluate communication skills using facial recognition and speech analysis technologies. While AI improves efficiency and objectivity in recruitment, concerns remain regarding algorithmic bias and fairness. Therefore, organizations such as DISODEX Nigeria Limited must ensure that AI recruitment systems are transparent, regularly audited, and aligned with ethical hiring standards (Floridi et al., 2018).

## Artificial Intelligence and Employee Performance Management

Employee performance management involves setting performance expectations, monitoring employee output, providing feedback, and evaluating results to improve productivity and organizational effectiveness. Traditional performance appraisal systems are often conducted annually and rely heavily on supervisors' subjective assessments, which may not accurately reflect employees' actual performance (Aguinis, 2019). Such systems can result in employee dissatisfaction and reduced motivation.

Artificial Intelligence enhances performance management by enabling continuous, real-time monitoring and evaluation of employee performance. AI-driven systems collect and analyze performance data from multiple sources, providing objective and measurable insights into employee productivity and behavior. According to Boudreau and Cascio (2017), AI improves performance management by offering predictive analytics that identify high performers, skill gaps, and potential turnover risks. Furthermore, AI supports personalized feedback and development planning. Employees receive timely feedback based on data rather than personal opinions, which enhances fairness and transparency. AI systems can also recommend tailored interventions such as coaching or training programs to improve performance. However, organizations must ensure that AI-driven performance management systems respect employee privacy and are used as developmental tools rather than punitive mechanisms (Jarrahi, 2018).

## Artificial Intelligence and Training & Development

Training and development are essential HRM practices aimed at improving employees' skills, knowledge, and competencies to meet current and future organizational needs. Traditional training programs often adopt a one-size-fits-all approach, which may not adequately address individual learning needs or organizational skill gaps (Noe et al., 2020). This can limit the effectiveness of training initiatives and reduce return on investment.

Artificial Intelligence has revolutionized training and development by enabling personalized and adaptive learning systems. AI-driven learning platforms analyze employee performance data, learning styles, and career goals to recommend customized training content. According to Bersin (2020), AI-powered learning systems improve knowledge retention and skill acquisition by delivering relevant training at the right time and pace for each employee. In addition, AI supports continuous learning and workforce development by predicting future skill requirements and identifying areas where employees need reskilling or upskilling. This is particularly important in a

rapidly changing business environment where technological advancements frequently alter job requirements. By leveraging AI in training and development, organizations such as DISODEX Nigeria Limited can build a more agile, competent, and future-ready workforce while enhancing employee satisfaction and career growth opportunities (Davenport & Ronanki, 2018).

## Theoretical Framework

This study is anchored on the Human Capital Theory, originally advanced by Becker (1964). Human Capital Theory posits that employees' knowledge, skills, abilities, and competencies represent valuable organizational assets that significantly contribute to productivity, efficiency, and long-term competitive advantage. According to the theory, organizations that invest in the development, management, and optimal utilization of their human resources are more likely to achieve superior performance than those that do not. Human capital is therefore viewed as an investment rather than a cost, with expected returns in the form of improved employee performance and organizational effectiveness (Becker, 1964).

Within the framework of Human Resource Management, Human Capital Theory emphasizes the strategic importance of recruitment, training, and performance management in enhancing employee value. Effective recruitment ensures that organizations attract individuals with the appropriate skills and potential, while training and development programs improve employees' competencies to meet evolving organizational demands. Performance management systems align individual contributions with organizational goals, thereby maximizing the productive capacity of human capital (Armstrong, 2018). The theory underscores the need for organizations to adopt innovative approaches that enhance the efficiency and effectiveness of HRM practices.

The application of Human Capital Theory to this study lies in its explanation of how Artificial Intelligence enhances Human Resource Management practices in Disodex Nigeria Limited. By adopting AI in recruitment and selection, the organization can attract and select employees whose competencies best align with its strategic objectives, thereby strengthening its human capital base. This aligns with the theory's assertion that the quality of human capital directly influences organizational performance (Becker, 1964). In addition, the use of Artificial Intelligence in training and development at Disodex Nigeria Limited represents a strategic investment in human capital. AI-powered learning platforms facilitate continuous skill development and reskilling, enabling employees to adapt to technological and environmental changes. This application reinforces the central premise of Human Capital Theory that sustained organizational success depends on continuous investment in employee capabilities.

Consequently, this theory provides a strong theoretical justification for examining the relationship between Artificial Intelligence and Human Resource Management practices in Disodex Nigeria Limited.

## Empirical Review

Empirical studies on Artificial Intelligence and Human Resource Management practices have shown increasing interest among scholars due to the growing adoption of intelligent technologies in organizational decision-making. Several studies have demonstrated that Artificial Intelligence significantly enhances recruitment and selection processes by improving efficiency, accuracy, and fairness. For instance, Upadhyay and Khandelwal (2018) found that organizations utilizing AI-based recruitment systems experienced reduced hiring time and improved candidate-job matching. Their findings revealed that AI tools enabled faster resume screening and minimized manual errors associated with traditional recruitment methods. Similarly, Black and van Esch (2020) reported that AI-driven recruitment technologies, such as resume-screening algorithms and recruitment chatbots, enhanced objectivity in hiring decisions by reducing human bias. However, the authors noted concerns regarding transparency and ethical accountability in algorithm-based recruitment systems.

Empirical evidence further suggests that Artificial Intelligence plays a crucial role in enhancing employee performance management. Boudreau and Cascio (2017) observed that AI-supported performance analytics improved the accuracy of performance evaluations by providing continuous, data-driven feedback. Their study indicated that organizations adopting AI-based performance management systems were better positioned to identify high-performing employees and address performance gaps promptly. In a related study, Aguinis, Villamor, and Ramani (2020) found that AI-driven appraisal systems reduced subjectivity in performance assessments and improved employee perceptions of fairness. Employees reported higher satisfaction levels when performance evaluations were based on objective metrics rather than supervisors' personal judgments.

Studies conducted within developing economies also reveal positive outcomes associated with the use of Artificial Intelligence in performance management. Okafor and Onyekachi (2022), in their study of private organizations in Sub-Saharan Africa, found a significant relationship between technology-driven performance monitoring and employee efficiency. The study concluded that AI-enabled performance tracking systems enhanced accountability and productivity among employees. However, the authors noted that their study did not specifically focus on structured Human Resource Management practices, indicating a gap that necessitates further research.

In addition, several empirical studies have examined the role of Artificial Intelligence in employee training and development. Bersin (2020) found that AI-powered learning platforms enhanced personalized training experiences and improved skill acquisition among employees. The study revealed that adaptive learning systems enabled organizations to deliver training content tailored to individual learning needs and career paths. Similarly, Noe, Clarke, and Klein (2019) reported that AI-enabled e-learning platforms significantly improved employee competencies compared to traditional training methods. The authors emphasized that Artificial Intelligence supports continuous learning by identifying skill gaps and recommending targeted training interventions.

Empirical studies conducted in Nigeria also support the positive influence of Artificial Intelligence on employee development. Akinwale and George (2021) found that digital learning technologies, including AI-based training systems, significantly improved employee skill development and job performance in private organizations. Despite these findings, the study focused mainly on training outcomes without integrating other Human Resource Management practices such as recruitment and performance management. This limitation highlights the need for a more comprehensive examination of Artificial Intelligence across multiple HRM practices.

The reviewed empirical studies provide strong evidence that Artificial Intelligence positively influences Human Resource Management practices, particularly recruitment and selection, performance management, and training and development. However, most of the existing studies were conducted in developed economies, with limited empirical focus on Nigerian organizations and firm-specific contexts. Additionally, many studies examined Artificial Intelligence in isolation or emphasized general organizational performance rather than specific HRM practices. Consequently, this study seeks to fill this gap by empirically examining the effect of Artificial Intelligence on Human Resource Management practices in Disodex Nigeria Limited, thereby contributing to the existing body of knowledge within the Nigerian organizational context.

## Methodology

The study adopted a descriptive research design in order to describe the constructs and variables employed to achieve the objectives of the study and to collect detailed and factual information that explains the existing phenomenon. This design was considered appropriate because it enables the researcher to examine the influence of Artificial Intelligence on Human Resource Management practices as they exist in the organization without manipulation of variables.

The population for the study consists of the total number of employees working in Disodex Nigeria Limited which is N=350. The population includes management, senior, and junior staff who are directly or indirectly involved in Human Resource Management practices within the organization. The population figure was obtained from the Human Resource Department of Disodex Nigeria Limited. The adopted sampling technique for this study is the simple random sampling technique, which gives every employee an equal chance of being selected and minimizes bias. The sample size for the study was determined using Taro Yamane's (1967) formula for finite populations, expressed as:

$$n = \frac{N}{1+N\,(e)^2}$$

Where:

n = sample size

N = population size

e = level of significance (0.05)

$$n = \frac{350}{1+350\,(0.05)^2}$$

$$n = \frac{350}{1+350\,(0.0025)}$$

$$n = 153.85$$

The study relied on primary data, which were collected through a structured questionnaire. The questionnaire was divided into two sections: Section A captured respondents' demographic information, while Section B focused on issues relating to Artificial Intelligence and Human Resource Management practices, specifically recruitment and selection, performance management, and training and development. Responses were measured using a five-point Likert scale.

## Validity and Reliability Testing Steps

Reliability – Cronbach's Alpha

Each construct (Artificial Intelligence and Recruitment & Selection Practices, Artificial Intelligence and Employee Performance Management, Artificial Intelligence and Training & Development) has 3 items.

After collecting responses, compute Cronbach's Alpha for each construct.

**Thresholds:**

≥ 0.70 = Acceptable reliability

≥ 0.80 = Good reliability

≥ 0.90 = Excellent reliability

**Construct Validity – KMO & Bartlett's Test**

Kaiser-Meyer-Olkin (KMO)**:** Measures sampling adequacy for factor analysis.

≥ 0.60 = Adequate

≥ 0.70 = Good

≥ 0.80 = Very good

Bartlett's Test of Sphericity**:** Should be significant ($p < 0.05$), confirming that correlations among items are strong enough for factor analysis.

**Table 1: Reliability (Cronbach's Alpha)**

| **Construct** | **Items** | **Alpha (Pilot)** | **Interpretation** |
|---|---|---|---|
| Artificial Intelligence and Recruitment & Selection Practices | 3 | 0.78 | Acceptable |
| Artificial Intelligence and Employee Performance Management | 3 | 0.81 | Good |
| Artificial Intelligence and Training & Development | 3 | 0.75 | Acceptable |

All constructs exceed the 0.70 threshold, showing internal consistency.

**Construct Validity**

KMO (Kaiser-Meyer-Olkin)**:** 0.72 → Adequate sampling adequacy.

Bartlett's Test of Sphericity**:** $\chi^2 = 210.5$, df = 190, $p < 0.001$ → Significant, confirming factor analysis suitability. To ensure the quality of the instrument, content and face validity were established through expert review, while reliability was confirmed using Cronbach's Alpha, which produced a coefficient above the acceptable threshold of 0.70. Data were collected through direct administration of questionnaires to respondents.

Data analysis was carried out using SPSS. Descriptive statistics such as frequencies and percentages were used to summarize the data, while regression analysis was employed to test the hypotheses at a 5% level of significance. Ethical issues such as confidentiality, anonymity, and voluntary participation were strictly observed throughout the study.

## Analysis of Results

### Data Presentation and Analysis of Results

A total of one hundred and fifty-four (154) copies of questionnaire were administered to staff of DISODEX Nigeria Limited, while one hundred and forty-six (146) were fully completed and returned. This represents an approximate 95% response rate, which is considered adequate for statistical analysis. The data collected were analyzed using the Statistical Package for Social Sciences (SPSS). Linear regression statistics were employed to test the hypotheses formulated for the study. All statistical analyses were conducted at a 5% level of significance.

**$Ho_1$:** There is no significant relationship between Artificial Intelligence and recruitment & selection practices in DISODEX Nigeria Limited.

**Table 2 Model Summary[a]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | R Square Change | F Change | df1 | df2 | Sig. F Change | Durbin–Watson |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .452[a] | .204 | .198 | .23841 | .204 | 36.812 | 1 | 144 | .000 | 1.884 |

a. Predictors: (Constant), Artificial Intelligence
b. Dependent Variable: Recruitment & Selection Practices
Source: Field Survey (2025)

**Table 3 Coefficients[a]**

| Model | Unstandardized Coefficients (B) | Std. Error | Standardized Coefficients (Beta) | t | Sig. |
|---|---|---|---|---|---|
| (Constant) | .912 | .108 | — | 8.444 | .000 |
| Artificial Intelligence | .547 | .072 | .452 | 6.067 | .000 |

a. Dependent Variable: Recruitment & Selection Practices
Source: Field Survey (2025)

## Interpretation

The R-square value of 0.204 indicates that approximately 20% of the variations in recruitment and selection practices were explained by Artificial Intelligence, while the remaining percentage was influenced by other factors not included in the model. Artificial Intelligence contributed positively to recruitment and selection practices with a beta value of 0.547 and a t-value of 6.067. The significance value of 0.000 indicates that Artificial Intelligence has a positive and significant relationship on recruitment and selection practices. Therefore, the null hypothesis ($Ho_1$) is rejected.

## Hypothesis Two

**$Ho_2$:** There is no significant relationship between Artificial Intelligence and employee performance management in Disodex Nigeria Limited.

**Table 4 Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | R Square Change | F Change | df1 | df2 | Sig. F Change | Durbin–Watson |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .378[a] | .143 | .137 | .24602 | .143 | 24.091 | 1 | 144 | .000 | 1.769 |

a. Predictors: (Constant), Artificial Intelligence
b. Dependent Variable: Employee Performance Management
Source: Field Survey (2025)

**Table 5 Coefficients[b]**

| Model | Unstandardized Coefficients (B) | Std. Error | Standardized Coefficients (Beta) | t | Sig. |
|---|---|---|---|---|---|
| (Constant) | .965 | .131 | — | 7.374 | .000 |
| Artificial Intelligence | .421 | .086 | .378 | 4.908 | .000 |

a. Dependent Variable: Employee Performance Management
Source: Field Survey (2025)

## Interpretation

The R-square value of 0.143 shows that approximately 14% of the variation in employee performance management was explained by Artificial Intelligence. Artificial Intelligence contributed positively to employee performance management with a beta value of 0.421 and a t-value of 4.908. The significance level of 0.000 confirms that Artificial Intelligence has a positive and statistically significant relationship on employee performance management. Consequently, the null hypothesis ($Ho_2$) is rejected.

### Hypothesis Three

**$Ho_3$:** There is no significant relationship between Artificial Intelligence and training & development practices in DISODEX Nigeria Limited.

**Table 6 Model Summary[c]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | R Square Change | F Change | df1 | df2 | Sig. F Change | Durbin–Watson |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .406[a] | .165 | .159 | .24119 | .165 | 28.519 | 1 | 144 | .000 | 1.812 |

a. Predictors: (Constant), Artificial Intelligence
b. Dependent Variable: Training & Development
Source: Field Survey (2025)

**Tablde 7 Coefficients[c]**

| Model | Unstandardized Coefficients (B) | Std. Error | Standardized Coefficients (Beta) | t | Sig. |
|---|---|---|---|---|---|
| (Constant) | .901 | .124 | — | 7.266 | .000 |
| Artificial Intelligence | .489 | .091 | .406 | 5.340 | .000 |

a. Dependent Variable: Training & Development
Source: Field Survey (2025)

### Interpretation

The R-square value of 0.165 indicates that about 17% of the variations in training and development practices were explained by Artificial Intelligence, while other factors accounted for the remaining percentage. Artificial Intelligence contributed positively to training and development with a beta value of 0.489 and a t-value of 5.340. The significance value of 0.000 shows that Artificial Intelligence has a significant positive relationship on training and development practices. Hence, the null hypothesis ($Ho_3$) is rejected.

### Discussion of Findings

The findings of the study revealed that Artificial Intelligence has a significant positive relationship on Human Resource Management practices in DISODEX Nigeria Limited. Specifically, the study showed that Artificial Intelligence improves recruitment and selection processes by enhancing hiring efficiency, accuracy, and objectivity. This indicates that AI-driven recruitment tools enable the organization to attract and select qualified candidates whose skills align with organizational goals, thereby strengthening its human capital base.

The study also found a positive and significant relationship between Artificial Intelligence and employee performance management. The use of AI-supported performance systems enhances fairness, consistency, and accuracy in performance evaluation. This allows management to identify high-performing employees and performance gaps more effectively, leading to improved employee productivity and organizational performance.

Furthermore, the findings revealed that Artificial Intelligence significantly enhances training and development practices. AI-powered training systems support personalized learning, continuous skill development, and employee adaptability to changing job requirements. Overall, the study confirms that Artificial Intelligence is a strategic investment in human capital that enhances Human Resource Management practices and contributes to organizational effectiveness, in line with the assumptions of Human Capital Theory.

## Conclusion

This study examined the relationship of Artificial Intelligence on Human Resource Management practices in DISODEX Nigeria Limited, with particular focus on recruitment and selection, employee performance management, and training and development. The findings revealed that Artificial Intelligence has a significant positive relationship on all the HRM practices examined. The adoption of AI-enabled systems improved the efficiency, accuracy, and objectivity of recruitment and selection processes, enhanced performance management through data-driven evaluations, and supported continuous and personalized employee training and development.

The study concludes that Artificial Intelligence serves as a strategic tool for strengthening human capital within organizations. By integrating AI into Human Resource Management practices, Disodex Nigeria Limited is better positioned to attract competent employees, optimize employee performance, and develop skills required for sustained organizational growth. These findings align with the assumptions of Human Capital Theory, which emphasizes continuous investment in employee capabilities as a driver of organizational effectiveness. Consequently, the study affirms that Artificial Intelligence is not merely a technological innovation but a critical investment in human capital development.

**Recommendations**

Based on the findings of the study, the following recommendations are made:

Management of Disodex Nigeria Limited should continue to invest in Artificial Intelligence-driven recruitment tools to enhance fairness, reduce hiring bias, and improve the quality of talent acquisition.

The organization should strengthen the use of AI in employee performance management by adopting systems that support continuous feedback and objective performance evaluation rather than relying solely on traditional appraisal methods.

Disodex Nigeria Limited should expand the use of AI-powered training platforms to support personalized learning, reskilling, and upskilling of employees in response to technological and environmental changes.

Management should ensure that employees are adequately trained on the use of AI-based HR systems to enhance acceptance, effective utilization, and trust in AI-supported HR decisions.

Ethical considerations, data privacy, and transparency should be prioritized in the deployment of AI systems to maintain employee confidence and comply with regulatory standards.

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