International Journal of Advanced Academic & Educational Research
ISSN: 2360-9909. Volume 14, Issue 12, (November, 2023) pages 33 – 52
DOI: 2726-14-522-37-14124
arcnjournals@gmail.com
https://arcnjournals.org

HUMAN RESOURCE ANALYTICS AND ORGANIZATIONAL SUSTAINABILITY OF CHEMICAL AND NON-CHEMICAL COMPANIES IN RIVERS STATE

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Abstract: *This study investigated the relationship between human resource analytics and organizational sustainability in the chemical and non-chemical sector of Rivers State. The study employed the purposive sampling method and used descriptive method to describe systematically the relationship between human resource analytics and organizational sustainability. The population of the study consists of 16 major chemical and non-metallic companies in Rivers State. The sample size is the same as the population of the study and the source of data used for this study is mainly the primary data source. The instrument that was used for data collection is mainly questionnaire. Of 156 copies of questionnaires that were administered to the respondents, 150 which represent 97% response rate was retrieved and considered useful for the study, while the hypotheses were tested using the Spearman rank order correlation technique. The analysis of data revealed that dimensions of human resource analytic such as human resource metrics, training and development and leadership effectiveness are positively related with organizational sustainability in terms of financial performance, environmental sustainability and employee wellbeing. Based on the results of the analysis, the study concluded that human resource analytic positively and significantly relates with organizational sustainability of chemical and non-metallic companies in Rivers State, and recommends amongst others that, Chemical and non-metallic companies in Rivers State should not overlook the relevance of training and development, leadership effectiveness and human resource metrics as these will lead to organizational sustainability.*

Keywords: *Chemical and Non- Chemical companies, Human resource analytics, Organizational sustainability.*

INTRODUCTION

Organizational sustainability is like the paste in a toothbrush, as it benefits a wide range of people, including employees, pensioners, shareholders, and partners. Maintaining businesses has enabled many firms to adopt an international strategy by opening branches globally (Nnabuife & Onwuzuligbo, 2015), despite the challenges they face. In the contemporary business landscape, companies face numerous challenges from globalization, talent shortages, and recessionary economies, advancements in technology, knowledge-based environments, and shifts in workforce demographics. The role of chemical and non-metallic firms in Rivers State cannot be over-emphasized as far as employee's welfare and modern management practices are concerned. However, these industries also face significant challenges related to environmental sustainability and social responsibility.

Therefore, to stay competitive, companies are employing more intricate and analytical decision-making tools. Akter *et al.* (2016) informs that, analytics play a crucial role in enhancing company performance. So, managers who utilize business analytics employ relational database systems to establish causal relationships between input, processes, outputs, and outcomes, facilitating precise decision-making. Narula (2015) observed that companies that use analytics generate higher stock market returns, while low-performing companies overlook analytics. This trend has created a demand for company leaders to base their business decisions on evidence and data in all aspects of operations. As the benefits of utilizing data to drive decision-making become more apparent, the use of analytics has become increasingly prevalent in other business functions. Although corporate firms often invest significantly in their human resource, the majority of human resource leaders are unable to prove the extent of their managerial efforts on their employees in sustaining their corporate existence. Consequent upon this fact, human resource managers in the context of chemical and non-metallic companies risk making incorrect or inefficient decisions without conducting in-depth investigations into people-related issues Miyamoto and Watanabe (2021).

The use of human resource analytics has been shown to have a positive impact on organizational sustainability in various industries. In the chemical and non-metallic industries, where environmental concerns are paramount, the use of human resource analytics can contribute to sustainability efforts by identifying opportunities to reduce waste, increase efficiency, and promote environmentally responsible practices (Gomes, 2019). Research has also shown that human resource analytics can improve employee engagement, which is a critical factor in promoting sustainability. A study by Deloitte (2017) found that companies that use human resource analytics to inform employee engagement initiatives are more likely to have employees who feel motivated and satisfied with their work, which can lead to improved productivity and reduced turnover.

However, despite the potential benefits of human resource analytics, the adoption of these practices in the chemical and non-metallic industries has been limited. One reason for this may be the perceived complexity of human resource analytics, which requires specialized skills and technology. Another factor may be the lack of awareness among managers and executives about the potential value of human resource analytics in promoting sustainability (Gomes, 2019). To address these challenges, the use of human resources analytics has emerged as a potentially valuable tool for enhancing organizational sustainability. Companies in the chemical and non-metallic industries can take several steps to promote the adoption of human resource analytics. These include investing in training programs for human resource professionals and managers to develop the necessary skills to implement human resource analytics initiatives effectively. Companies can also collaborate with external experts and consultants to provide guidance on best practices for human resource analytics implementation and data privacy and security concerns (McGregor, 2018).

The use of analytics in human resource is in its initial stage and is limited to managers using descriptive analytics to collect and report activities instead of outcomes (Pape, 2016). Considering most companies now use human resource management information systems, human resource managers can generate big data, use them more efficiently for decisions, and provide evidence of the impact of human resource initiatives on business outcomes and performance (Narula, 2015). Such capabilities would improve the strategic focus of human resource and eradicate the perception that human resource does not add value to the company's bottom line. Some of the major factors hindering the adoption of human resource analytics discovered in previous studies include the lack of a simple paradigm that informs the use of human resource analytics and lack of skills (Lesser & Hoffman, 2012; Narula, 2015).

Adopting an environmental sustainability management system can give companies a competitive edge (Yang *et al.,* 2013). This has led to a growing need for businesses to incorporate environmental management into their human resource management practices, as argued by Paille, Chen, Boiral, and Jin (2014). However, managing corporate environmental sustainability is a complex undertaking and is one of the major challenges faced by organizations. It is not enough for organizations to act responsibly towards the environment; they must also conduct themselves in a socially responsible manner while striving to achieve their economic objectives. Regardless of whether a firm is focused on service or production, it requires individuals to aid in the transportation of finished goods, service delivery to customers, and experienced managers in the industry. However, the primary objective of a private enterprise is to generate profits, provide high-quality service to customers, and maintain its presence in the market, while public enterprises are concerned with effectiveness. To accomplish these objectives and maintain a positive societal reputation, human resource planning plays a crucial role in the enterprise's success and legacy (Edeh & Eketu, 2015).

Additionally, Nnabuife and Onwuzuligbo (2015) showed that firms turnaround programs are positively related to the sustainability of the firms. Therefore, the use of human resource analytics can contribute to organizational sustainability in the chemical and non-metallic industries. By providing insights into employee behavior and performance, human resource analytics can identify opportunities for improving efficiency and reducing waste, while also promoting employee engagement and satisfaction. However, companies in these industries must overcome barriers to adoption, such as a lack of awareness and the perceived complexity of human resource analytics, to fully realize the benefits of these practices. Therefore, the thrust of this study is to investigate the relationship between human resource analytics and organizational sustainability of chemical and non-metallic companies in Rivers State.

LITERATURE REVIEW

Theoretical Foundation

This study is anchored on the resource based theory (RBT) and the stakeholders theory (SHT)

Resource-based theory (RBT)

The resource-based theory propounded by Barney (1991) is a strategic management theory that proposes that a firm'sunique resources and capabilities are key drivers of its competitive advantage and long-term sustainability (Barney, 1991). According to RBT, firms can create sustainable competitive advantage by possessing and leveraging valuable, rare, inimitable, and non substitutable (VRI) resources and capabilities.

According to Barney, for a resource to provide a sustained competitive advantage, it must meet the valuable, rare, inimitable, and non-substitutable (VRIN) criteria. Valuable resources enable a firm to exploit opportunities or defend againstthreats in its environment. Rare resources are those that are not widely availableamongcompetitors, which means that they are difficult to imitate or obtain. Inimitable resources are those that are difficult to copy or reproduce by competitors, while non-substitutable resources are those that cannot be easily replaced by other resources. Resource-based theory provides a theoretical foundation for the use of human resource analytics to enhance organizational sustainability. By possessing and leveraging valuable human capital, firms can develop and implement effective human resource strategiesthat enable them to attract, develop, and retain talented employees. Moreover, human resource analytics can help firms to identify and address gaps in their workforce that may hinder their sustainability performance. For example, human resource analytics can help firms to identify skills gaps or areas where employees may require additional training or development.

By addressing these gaps, firms can enhance their employees' skills and competencies, which can contribute to their sustainability over the long term.

Stakeholder Theory

The stakeholder theory proposed by Freeman in 1984 is a management theory that proposes that firms should not only focus onmaximizing shareholder value but also consider the interests of other stakeholders, includingemployees, customers, suppliers, and the broader community (Freeman, 1984). The theoryasserts that firms have a social responsibility to create value for all their stakeholders and notjust shareholders. Freeman argued that stakeholders are individuals or groups that are affected by or can affect a firm's decisions and actions. The theory posits that firm shaves a social responsibility to manage their relationships with stakeholders in a way that creates value for all parties involved.

Stakeholder theory provides a theoretical foundation for the use of human resource analytics to enhance organizational sustainability by considering the interests of all stakeholders, including employees, customers, and the broader community. By leveraging human resource analytics to develop and implement effective human resource strategies, firms can create value for their employees, which can contribute to their engagement, job satisfaction, and overall well-being. Moreover, the creation of value for employees, can aid firms in enhancing their relationships with customers, who are likely to value firms that treat their employees well. Human resource analytics can help firms to understand theiremployees' needs and preferences, which can be leveraged to develop customized human resource strategies that are aligned with the interests of all stakeholders. By adopting a stakeholder approach to management and leveraging human resource analytics to develop effective human resource strategies, firms can enhance their reputation, attract and retain talented employees, and contribute to the broader community's social and environmental well-being.

Human Resource Analytics

Human Resource Analytics is a process of analyzing and interpreting employee data to drive organizational decision-making. Human Resource Analytics involves the collection, analysis, and interpretation of human resource metrics to improve organizational outcomes such as employee engagement, productivity, and performance. The use of human resource analytics has gained increasing importance in recent years as organizations seek to leverage data to improve their human resource management practices (Yi & Gong, 2021). The results extracted from the detailed data analytics are highlydependent on how the firm carries out the process to collect the data (Fletcher, 2021).

Wang and Zhang (2019) noted that human resource analytics involves the collection and analysis of various human resource data, including employeedemographics, performance, training, and compensation data. These data sources are used tomeasureandanalyzekeyhuman resourcemetricssuchasturnoverrates,absenteeism,employeeengagement, and performance. The metrics are used to gain insights into the organization'shuman resource practices, identify trends, and improve decision-making. One of the primary benefits of human resource analytics is its ability to support evidence-based decision-making. By analyzing human resource metrics,organizations can identify the factors that contribute to high-performing teams and successfuloutcomes. For example, a study conducted by the Society for Human Resource Management found that organizationsthatinvest in employee training has lower turnover rates (Society for Human Resource Management, 2018).

Human resource can be used to identify the impact of training onemployee retention rates and inform decisions on how to allocate resources for employee training, resource management practices and drive organizational decision-making (Ahmad & Javed, 2020).

By collecting and analyzing human resource data, organizations can gain insights into their workforce, identify areas for improvement, and develop strategies to address key human resource issues. Fletcher (2021) stated some types of human resource analytics that human resource teams employ to help their organizations:

a. **Descriptive Analytics:** Descriptive analytics deals with the process of collecting and reporting data on what has already happened (Martinez & Chavez, 2021). Descriptive analytics focuses on data that is alreadyavailable and what you can learn from it. It is useful in the analysis of historical data patterns,which helps determine future actions. For example, if one wants to estimate the turnover rates in the future, you need to have an idea about the past data. It also helps one to learn the possible causes of the departure of employees so that one can take action to reduce it.
b. **Diagnostic Analytics:** Diagnostic analytics aims to determine the causes of certain problems.Identifying the issues is necessary for solving the problem (Johnson *et al*., 2020). For example, if you encounter a high turnover rate in your company, diagnostic analytics will help you understand the possible causes of that high turnover rate. The high turnover rate might result from some company policies, or it might be because of the low salary packages. Picking up the right cause will help you change your company policies to reduce turnover rates.
c. **Predictive Analytics:** Predictive analytics deals with forecasting future events by using historical data patterns (Da Silva & de Carvalho, 2019). It is obtained through various statistical techniques, like machinelearning, data modeling, and artificial intelligence. This type of analytics is used to predict thesuccess or failure of future projects. By predicting the probability of a future occurrence, you can reduce the chances of failure and thus improve your organization's growth.

Measures of Human Resource Analytics

Human Resource Metrics are quantitative measures used to evaluate the effectiveness of an organization's HR management practices. HR metrics are used to measure and analyze various aspects of HR management, including employee engagement, retention, productivity, and performance. The use of HR metrics allows organizations to identify areas where they driven decisions to improve organizational outcomes (Kehoe & Wright, 2013).

Training and Development

Training is a planned and systematic process that aims to equip employees with specific skills and knowledge required to perform their current job roles effectively. It typically has short-term objectives and focuses on improving job-related competencies. Development focuses on long-term growth and preparing employees for future responsibilities and challenges (Tan *et al*., 2016). It goes beyond immediate job requirements and aims to cultivate a learning culture within the organization. Training and development are essential components of human resource management that focus on enhancing the skills, knowledge, and capabilities of employees within an organization. These initiatives are designed to improve individual and overall organizational performance, leading to increased productivity, job satisfaction, and employee retention.

Leadership Effectiveness

Leadership effectiveness refers to the ability of a leader to achieve desired outcomes and goals through the guidance, influence, and direction they provide to their team or organization. It goes beyond mere

authority and management skills and encompasses a wide range of qualities and behaviors that contribute to the success of both the leader and their followers (Tan et al. 2016). Leadership effectiveness is crucial for building a strong, cohesive, and high-performing team or organization.

The Concept of Organizational Sustainability

Organizational sustainability refers to the ability of an organization to operate in a manner that is financially viable, socially responsible, and environmentally sustainable over the long term (Hoffman, 2015). In other words, an organization that is sustainable is one that can maintain its operations and profitability while also contributing to the well-being of society and the environment. Organizational sustainability is becoming increasingly important in today's business environment, as stakeholders are demanding that companies take responsibility fortheir social and environmental impacts. As a result, many organizations are incorporating sustainability into their business strategies and operations, and are measuring and reporting on their sustainability performance. Organizational sustainability is also referred to as "adopting organizational strategies and activities that meet the needs of the enterprise and its stakeholders today while protecting, sustaining, and enhancing the human and natural resources that will be needed in the future" (Deloitte & Touche, 1992). Thus, organizations may proactively stress environmental responsibility to comply with government rules, meet social needs, and boost the company's brand image (Buysse & Verbeke, 2003). Consequently, examining the economic, environmental, and social factors involved in assessing the sustainability performance of any organization is essential.

Organizational sustainability denotes everything about integrating the goals of sustainabledevelopment, for example, societal fairness, economic efficacy, and eco-friendly exposures, into the operating atmosphere of industries (Varsei *et al.,* 2014). Hence, in the manufacturingsector,sustainabilitymeanstheessenceofgoodsorservicesthatareenvironmentallyfriendly, while themeansforachievingthemvary intheir purpose. Sustainability can vary, like inthe manufacturing industry, from that of the services sector. Paul (1995) explains that the previous or past industrial operations were unsustainable, and the contemporary environmental crises are their reproduction. In addition, the powers of world capitalism overcontinuous and rising economic growth have embraced the intensity of world economicactivity, which has been supported by efficient trade agreements focused on the number of resources above the endurability of the earth (Daly, 2005; Meadows *et al.,* 2004).

Measurement of Organizational Sustainability

Environmental Sustainability

Environmentalsustainabilitycanbedefinedasthecombinationofseveralorganizationalcompetencies ortheoverallperformanceoftheorganization to reduce the overall carbon footprint of the products (Lam and Lai, 2015). Theimplications of four primary natural resources, including air, water, soil, and minerals, as well as energy resources, are being monitored under environmental sustainability programme (GRI, 2002). The contribution of the company to the local quality of the air is monitored for healthy air resources. The use of water and waterpollutants is regulated todetermine the availability of clean and healthy water. Both direct and indirect influences on land resources can be regulated to reduce their consequences for soil and biodiversity. Soil contaminants represent an important part of achievingenvironmental sustainability because they deplete soil resources.

Financial Performance

Financial performance is a critical aspect of sustaining organizations, as it provides a measure of how well the organization is utilizing its resources to achieve its objectives and ensure long-term viability (Kim & Park, 2018). Below are common financial performance metrics often used in modern literature:

i. **Financial Statements**: Financial performance is typically evaluated through the analysis of financial statements, including the income statement, balance sheet, and cash flow statement. These statements provide valuable insights into the organization's revenues, expenses, assets, liabilities, and cash flows.

ii. **Profitability**: Profitability measures the organization's ability to generate profits from its core operations. Key profitability ratios include gross profit margin, operating profit margin, and net profit margin. Sustainable organizations aim for consistent and healthy profitability to fund future growth and investments (Investopedia.com).

iii. **Efficiency**: Efficiency ratios assess how effectively an organization utilizes its resources to generate revenue and manage expenses. Common efficiency metrics include asset turnover, inventory turnover, and accounts receivable turnover. High efficiency indicates optimal resource allocation.

iv. **Cash Flow**: Positive and consistent cash flow is vital for sustaining organizations. Cash flow statements reveal the inflow and outflow of cash, ensuring the organization has sufficient funds for daily operations, investments, and debt repayment.

v. **Return on Investment (ROI)**: ROI measures the return earned on investments made by the organization. Sustaining organizations focus on projects and initiatives with a positive ROI to ensure efficient use of resources.

Employee Wellbeing

Employee wellbeing refers to the overall physical, mental, and emotional health and happiness of employees within an organization (Becherer, Mitchell & Young, 2019). It encompasses various aspects of an employee's life, both within and outside of work that can influence their overall sense of well-being and satisfaction. Employee wellbeing is a key focus area for organizations as it directly impacts employee engagement, productivity, and retention, leading to a more positive and successful work environment. Key elements of employee wellbeing include:

i. **Physical Wellbeing**: This involves the physical health and safety of employees. It includes access to a safe and healthy work environment, ergonomic facilities, opportunities for exercise and physical activity, and healthcare benefits.
ii. **Mental Wellbeing**: Mental wellbeing refers to an employee's emotional and psychological health. It encompasses factors like stress management, work-life balance, coping with challenges, and access to resources for mental health support.
iii. **Emotional Wellbeing**: Emotional wellbeing relates to an employee's ability to recognize and understand their emotions and effectively manage them. It involves fostering a positive emotional climate at work and providing avenues for emotional expression and support.
iv. **Social Wellbeing**: Social wellbeing focuses on the quality of an employee's relationships and connections with colleagues and supervisors. A supportive and inclusive work culture enhances social wellbeing.
v. **Financial Wellbeing**: Financial wellbeing relates to an employee's financial security and stability. It includes fair compensation, access to financial planning resources, and benefits that support employees' financial goals (Ahmad and Javed, 2020).
vi. **Career Wellbeing**: Career wellbeing refers to an employee's sense of purpose and fulfillment in their job. Opportunities for growth, professional development, and career advancement contribute to career wellbeing.

Empirical Review

Martinez and Chavez (2021) conducted a study in Argentina to explore the relationship between human resource analytics and organizational sustainability in technology companies. The study highlighted that companies that effectively utilized human resource analytics had a better understanding of their workforce's capabilities and needs. As a result, these organizations experienced higher employee satisfaction and better talent retention, contributing to their long-term sustainability in the competitive tech industry.

Ahmad and Javed (2020) conducted a study in Pakistan to assess the implementation and outcomes of HR analytics in manufacturing companies. The study revealed that companies that effectively utilized HR analytics had better workforce planning and improved employee engagement. These human resource analytics-driven improvements contributed to the organizations' overall performance and long-term sustainability.

Pradhan and Jena (2020) conducted a case study in Australia to explore the implementation and outcomes of human resource analytics in a large manufacturing organization. The study revealed that HR analytics played a crucial role in predicting workforce needs, identifying skill gaps, and fostering a culture of data-driven decision-making. As a result, the organization experienced improved productivity and reduced operational costs.

Wang *et al.* (2019) conducted a comparative study in multiple Asian countries to assess the adoption and impact of HR analytics on organizational sustainability. The study surveyed human resource executives from various industries. The results indicated that organizations that effectively leveraged human resource analytics had a competitive advantage in attracting and

retaining top talent. Moreover, these organizations demonstrated higher adaptability to market changes, contributing to their long-term employees' wellbeing.

Pinto and Martins (2019) - Portugal Pinto and Martins (2019) conducted a cross-sectional study in Portugal to explore the role of human resource analytics in promoting organizational sustainability. The study surveyed human resource managers from various industries. The results indicated that companies that integrated human resource analytics into their talent management practices had a more comprehensive understanding of their workforce's capabilities and needs. As a result, these organizations experienced higher levels of employee satisfaction, lower turnover rates, and enhanced overall sustainability.

Becherer *et al.* (2019) conducted a case study to explore the role of human resource analytics in promoting organizational sustainability in a manufacturing company. The study involved in-depth interviews with human resource managers, employees, and top-level executives. The findings indicated that the company's strategic use of human resource analytics enabled them to identify critical skills gaps, design targeted training programs, and improve employee engagement levels. These initiatives were linked to increased operational efficiency and cost savings, contributing to the overall sustainability of the organization.

Wang and Zhang (2019) conducted a cross-sectional study in China to investigate the adoption and impact of human resource analytics in different industries. The study found that organizations that integrated human resource analytics into their talent management practices reported higher levels of employee satisfaction and lower turnover rates. These human resource analytics-driven improvements positively influenced the organizations' long-term sustainability and market competitiveness.

Kim and Park (2018) conducted a case study in South Korea to explore the role of human resource metrics in a large technology company. The study highlighted that human resource analytics played a critical role in predicting talent needs, identifying skill gaps, and optimizing workforce productivity. The data-driven human resource decisions resulted in improved employee performance and overall organizational sustainability in the competitive tech industry.

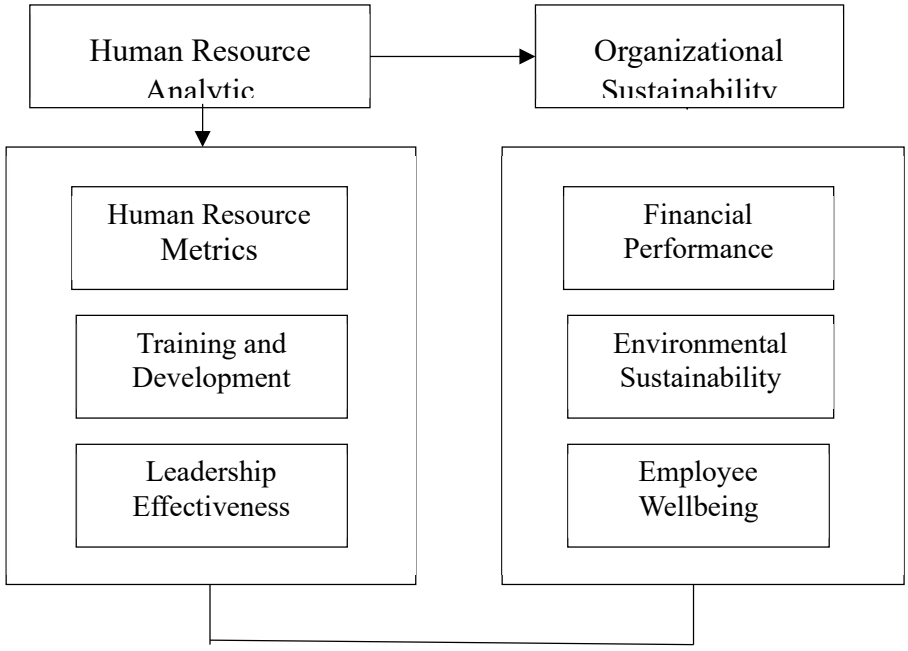
Shen *et al*. (2018) conducted a cross-national study across several European countries to investigate the role of human resource analytics in driving organizational sustainability. The study examined data from multinational corporations and SMEs. The findings revealed that organizations with a strong focus on human resource analytics exhibited better alignment of HR strategies with business objectives. This alignment translated to improved financial performance, higher employee retention rates, and greater sustainability.

Soltani *et al.* (2018) conducted a cross-sectional study to examine the adoption of human resource analytics practices and their impact on organizational sustainability in the healthcare industry. The study surveyed human resource managers and employees from various healthcare organizations. The findings revealed that organizations that effectively adopted human resource analytics reported higher levels of employee satisfaction, improved patient outcomes, and better financial performance. The study emphasizes the significance of human resource analytics in optimizing human resource practices to enhance overall organizational sustainability in the healthcare sector.

Horwitz *et al.* (2017) conducted a longitudinal study in the United Kingdom to assess the impact of human resource analytics on organizational performance and sustainability. The study analyzed data from several large enterprises. The findings revealed that organizations that effectively implemented human resource analytics practices experienced improved talent acquisition, reduced employee turnover, and enhanced workforce productivity.

Tan *et al.* (2016) conducted a longitudinal study in Singapore to examine the impact of human resource analytics on organizational performance and sustainability. The study analyzed data from a diverse range of companies. The findings revealed that organizations that effectively incorporate training and development experienced better workforce planning, reduced turnover, and enhanced employee productivity. These outcomes positively contributed to the organizations' long-term sustainability and competitive advantage.

Rasmussen and Ulrich (2015) conducted a longitudinal study in the United States to examine the impact of human resource analytics on organizational sustainability. They found that organizations that actively utilized human resource analytics in their decision-making processes experienced improved workforce planning, reduced turnover, and increased employee engagement. These improvements were positively correlated with enhanced organizational performance and long-term sustainability. From the review of literature, the following conceptual framework was designed:



Source: Nkechi, V, Anthonia, A. Adeniji, O Paul S., Oluwapelumi J., & Grace O. (2022). Exploring Green Human Resource Adoption and Corporate Sustainability in Nigerian Manufacturing Industry.

METHODOLOGY

The study employed the purposive sampling method and used descriptive method to describe systematically the relationship between human resource analytics and organizational sustainability.

The population of the study consists of 16 major chemical and non-metallic companies in Rivers State. The sample size is the same as the population of the study which is 16. Thus, this is a census survey. The method applied is consistent with previous studies such as Samaila (2014), Garko (2015), Mak and Li (2001). The source of data used for this study is mainly the primary data source. The instrument that was used for data collection is mainly questionnaire which aided in the collection of first hand information, while the hypotheses were tested using the spearman's rank correlation technique.

RESULTS AND DISCUSSIONS

Of 156 copies of questionnaires that were administered to the respondents, 150 which represent 97% response rate was retrieved and considered useful for the study.

Bivariate Analysis of the Variables

Human resource metrics and Organizational Sustainability

Ho_1: There is no significant relationship between Human resource metricsand financial performance

Ho_2: There is no significant relationship between Human resource metricsand environmental sustainability

Ho_3: There is no significant relationship between Human resource metrics and employee wellbeing.

Table 1: Correlations between Human resource metrics and Organizational Sustainability

			Human Resource Metrics	Financial performance	Environmental sustainability	Employee wellbeing
Spearman's rho	Human Resource Metrics	Correlation Coefficient	1.000	**.837****	**.678****	**.719****
		Sig. (2-tailed)	.000	.000	.000	.000
		N	190	190	190	190
	Financial performance	Correlation Coefficient	**.837****	1.000	.710**	.535**
		Sig. (2-tailed)	.000	.	.000	.000
		N	190	190	190	190
	Environmental sustainability	Correlation Coefficient	**.678****	.710**	1.000	.641**
		Sig. (2-tailed)	.000	.000	.000	.000
		N	190	190	190	190
	Employee wellbeing	Correlation Coefficient	**.719****	.535**	.641**	1.000
		Sig. (2-tailed)	.000	.000	.000	.000
		N	190	190	190	190

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

Source: SPSS Output

Column two of Table 1 shows r value of 0.837 at a significant level of 0.00 which is less than the chosen alpha level of 0.05 for the hypothesis relating to human resource metrics on financial performance. Since the significant level is less than the alpha level of 0.05, the null hypothesis (Ho_1) which states that there is no significant influence of human resource metrics on financial performance was rejected and the alternate hypothesis (H_{a1}) was accepted. This implies that there is a positive significant influence of human resource metrics on financial performance.

Column three of Table 1 shows r value of 0.678 at a significant level of 0.00 which is less than the chosen alpha level of 0.05 for the hypothesis relating human resource metrics on environmental sustainability. Since the significant level is less than the alpha level of 0.05, the null hypothesis (Ho_2) which states that there is no significant influence of human resource metrics on environmental sustainability was rejected and the alternate hypothesis (H_{a2}) was accepted. This implies that there a positive significant influence of human resource metrics on environmental sustainability.

Column four of Table 1shows r value of 0.719 at a significant level of 0.00 which is less than the chosen alpha level of 0.05 for the hypothesis relating to human resource metrics on employee wellbeing. Since the significant level is less than the alpha level of 0.05, the null hypothesis (Ho_3) which states that there is no significant influence of to human resource metrics on employee wellbeing was rejected and the alternate hypothesis (H_{a3}) was accepted. This implies that there is a positive significant influence of to human resource metrics on employee wellbeing

Thus, the results above showed that human resource metrics has a significant positive influence on organizational sustainability of chemical and non-metallic companies in Rivers State

Training and development and Organizational sustainability

Ho_4: There is no significant relationship between training and development and financial performance

Ho_5: There is no significant relationship between training and development and environment sustainability

Ho_6: There is no significant relationship between training and development and employee wellbeing.

Table 2: Correlation between Training and development and Organizational sustainability

			Training and Development	Financial performance	Environmental sustainability	employee wellbeing
Spearman's rho	Just In Time	Correlation Coefficient	1.000	.780**	.661**	.679**
		Sig. (2-tailed)	.000	.000	.000	.000
		N	190	190	190	190
	Financial performance	Correlation Coefficient	**.780****	1.000	.710**	.535**
		Sig. (2-tailed)	.000	.	.000	.000
		N	190	190	190	190
	Environmental sustainability	Correlation Coefficient	**.661****	.710**	1.000	.641**
		Sig. (2-tailed)	.000	.000	.000	.000
		N	190	190	190	190200
	Employee wellbeing	Correlation Coefficient	**.679****	.959**	.953**	1.000
		Sig. (2-tailed)	.000	.000	.000	.000
		N	190	190	190	190

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

Source: SPSS Output

Column two of Table 2 shows r value of 0.580 at a significant level of 0.00 which is less than the chosen alpha level of 0.05 for the hypothesis relating training and development on financial performance. Since the significant level is less than the alpha level of 0.05, the null hypothesis (Ho_4) which states that there is no significant influence of training and development on financial performance was rejected and the alternate hypothesis (H_{a4}) was accepted. This implies that there is a positive relationship between training and development on financial performance

Column three of Table 2 shows r value of 0.661 at a significant level of 0.00 which is less than the chosen alpha level of 0.05 for the hypothesis relating to training and development on environmental sustainability. Since the significant level is less than the alpha level of 0.05, the null hypothesis (Ho_5) which states that there is no significant influence of training and

development on environmental sustainability was rejected and the alternate hypothesis (H_{a5}) was accepted. This implies that there is positive relationship between training and development on environmental sustainability.

Column four of Table 2 shows r value of 0.849 at a significant level of 0.00 which is less than the chosen alpha level of 0.05 for the hypothesis relating to training and development on employee wellbeing. Since the significant level is less than the alpha level of 0.05, the null hypothesis (Ho_6) which states that there is no significant influence of training and development on employee wellbeing was rejected and the alternate hypothesis (H_{a6}) was accepted. This implies that there is a positive significant influence of training and development on employee wellbeing. Thus, the results above showed that training and development has a significant positive influence on organizational sustainability in terms of financial performance, environmental sustainability and employee wellbeing.

Leadership effectiveness and organizational sustainability

i. $Ho_{7:}$ There is no significant relationship between leadership effectiveness and financial performance in chemical and non-metallic companies in Rivers State.
ii. $Ho_{8:}$ There is no significant relationship between leadership effectiveness and environmental sustainability in chemical and non-metallic companies in Rivers State.
iii. $Ho_{9:}$ There is no significant relationship between leadership effectiveness and employee wellbeing in chemical and non-metallic companies in Rivers State.

Table 3: Correlations between Leadership effectiveness and Organizational sustainability

			Leadership Effectiveness	Financial performance	Environmental sustainability	Employee wellbeing
Spearman's rho	Leadership Effectiveness	Correlation Coefficient	1.000	.773**	.837**	.688**
		Sig. (2-tailed)	.000	.000	.000	.000
		N	190	190	190	190
	Financial performance	Correlation Coefficient	**.773****	1.000	.710**	.535**
		Sig. (2-tailed)	.000	.	.000	.000
		N	190	190	190	190
	Environmental sustainability	Correlation Coefficient	**.837****	.710**	1.000	.641**
		Sig. (2-tailed)	.000	.000	.000	.000
		N	190	190	190	190
	Employee wellbeing	Correlation Coefficient	**.688****	.535**	.641**	1.000
		Sig. (2-tailed)	.000	.000	.000	.000
		N	200	190	190	190

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

Source: SPSS Output

Column two of Table 3 shows r value of 0.773 at a significant level of 0.00 which is less than the chosen alpha level of 0.05 for the hypothesis relating to leadership effectiveness and financial performance. Since the significant level is less than the alpha level of 0.05, the null hypothesis (Ho_7) which states that there is no significant influence of leadership effectiveness and financial performance was rejected and the alternate hypothesis (H_{a7}) was accepted. This implies that there is a positive significant relationship between leadership effectiveness and financial performance in chemical and non-metallic companies in Rivers State.

Column three of Table 3 shows r value of 0.883 at a significant level of 0.00 which is less than the chosen alpha level of 0.05 for the hypothesis relating to leadership effectiveness and environmental sustainability. Since the significant level is less than the alpha level of 0.05, the null hypothesis (Ho_8) which states that there is no significant influence of leadership effectiveness and environmental sustainability was rejected and the alternate hypothesis (H_{a8}) was accepted. This implies that there is a very positive significant relationship between leadership effectiveness and environmental sustainability in chemical and non-metallic companies in Rivers State.

Column four of Table 3 shows r value of 0.688 at a significant level of 0.00 which is less than the chosen alpha level of 0.05 for the hypothesis relating to leadership effectiveness and employee wellbeing in chemical and non-metallic companies in Rivers State. Since the significant level is less than the alpha level of 0.05, the null hypothesis (Ho_9) which states that there is no significant influence of leadership effectiveness and employee wellbeing in chemical and non-metallic companies in Rivers State was rejected and the alternate hypothesis (H_{a9}) was accepted. This implies that there is a positive significant relationship between leadership effectiveness and employee wellbeing in chemical and non-metallic companies in Rivers State.
Thus, the results above showed that leadership effectiveness has a significant positive relationship organizational sustainability of chemical and non-metallic companies in Rivers State in terms of financial performance, environmental sustainability and employee wellbeing.

The test of hypotheses one, two and three revealed that there is a significant positive influence of human resource metrics on organizational sustainability of chemical and non-metallic companies in Rivers State. This implies that management and staff of organizational sustainability of chemical and non-metallic companies in Rivers State who uses HR metrics to measure the level of employee engagement in the organization and uses HR metrics also allows organizations to identify areas where they canimprovetheirHRmanagementpractices results to a consistent organizational sustainability. The study revealed that Human resource analytics can help organizationsto understand their employees' needs and preferences, which can be leveraged to develop customized human resource strategies that improve employee engagement and productivity. The finding was supported by Deloitte (2017) who asserts that organizations that use human resource analytics are more likely to have highly engaged employees who are more productive and less likely to leave their jobs. This, in turn, can contribute to the sustainability of the organization by reducing employee turnover and enhancing productivity.

The test of hypotheses four, five and six revealed that there is a significant positive relationship on training and development and organizational sustainability of chemical and non-metallic companies in Rivers State. This implies that training and development leads to enhancing the sustainability of chemical and non-metallic companies in Rivers State. This is because Training

and development are essential components of human resource management that focus on enhancing the skills, knowledge, and capabilities of employees within an organization. These initiatives are designed to improve individual and overall organizational performance, leading to increased productivity, job satisfaction, and employee retention. This is predicted on the findings of Tan et. al (2016) who stated that development focuses on long-term growth and preparing employees for future responsibilities and challenges and a well-trained and developed employees are more competent and confident in their roles, leading to increased productivity and efficiency.

The test of hypotheses seven, eight and nine revealed that there is a significant positive relationship between Leadership Effectiveness and Organizational Sustainability of chemical and non-metallic companies in Rivers State. This implies that Leadership effectiveness is crucial for building a strong, cohesive, and high-performing team or organization. Effective leaders have a clear and compelling vision for the future, along with well-defined goals and objectives. They can communicate this vision in a way that inspires and motivates their team members to work towards a shared purpose. Clarity in goals helps in aligning efforts and resources toward achieving common objectives. This finding is in line with the findings of Tan *et al.* (2016) who posits that leadership effectiveness goes beyond mere authority and management skills and encompasses a wide range of qualities and behaviors that contribute to the success of both the leader and their followers and effective leaders weigh available information, consider various perspectives, and evaluate potential risks before arriving at a decision.

CONCLUSION

The phenomenon under investigation was introduced with a vivid presentation of the background to the study and statement of problem. With the conceptual framework, the study was guided by nine (9) null hypotheses. The analysis of data was done with the combined application of statistical tool such as mean, standard deviation, and Spearman Rank Order Correlation. The analysis of data revealed that dimensions of human resource analytic such as human resource metrics, training and development and leadership effectiveness are positively related with organizational sustainability in terms of financial performance, environmental sustainability and employee wellbeing. Based on the results of the analysis, the study concluded that human resource analytic positively and significantly relates with organizational sustainability of chemical and non-metallic companies in Rivers State.

RECOMMENDATIONS

Based on the conclusion, the following recommendations were made:

1. Management of Chemical and non-metallic companies in Rivers State should invest in training and development programs for human resource professionals and managers to develop the necessary skills to implement human resource analytics initiatives effectively.
2. Management of Chemical and non-metallic companies in Rivers State should place value on the relevance of leadership that can communicate effectively the vision and mission of the firms.
3. Management of Chemical and non-metallic companies in Rivers State should adopt the use of HumanResourceMetricstoevaluate the effectiveness of anorganization'sHRmanagementpractices.

4. Management of chemical and non-metallic companies in Rivers State should ensure that there is open communication, and their staff are trained and developed in order to have a competitive advantage in this 21st dynamic business environment.
5. Chemical and non-metallic companies in Rivers State should not overlook the relevance of training and development, leadership effectiveness and human resource metrics as these will lead to organizational sustainability.

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