DESCRIPTIVE HUMAN RESOURCE ANALYTICS AND EMPLOYEE EFFICIENCY IN MULTINATIONAL OIL AND GAS COMPANIES IN NIGERIA

Abubakar, J. N.
Department of Business Administration, Faculty of Administration and Management, Rivers State University, Port Harcourt, Nigeria
john.abubakar@ust.edu.ng

Tamunomiebi, M. D.
Department of Business Administration, Faculty of Administration and Management, Rivers State University, Port Harcourt, Nigeria

and

Gabriel, J. M. O.
Department of Business Administration, Faculty of Administration and Management, Rivers State University, Port Harcourt, Nigeria

ABSTRACT

This study examined the relationship between descriptive human resource analytics and employee efficiency in multinational oil and gas companies in Nigeria. The study adopted the cross-sectional research survey design. Primary data was generated through structured questionnaire. The population for this study was 10,238 employees of five multinational oil and gas companies in Nigeria. The sample of 385 was determined using the Taro Yamen's 1970 formula. The reliability of the instrument was achieved by the use of the Cronbach Alpha coefficient with all the items scoring above 0.70. The hypotheses were tested using the Spearman's Rank Order Correlation Statistics while the partial correlation was used to test the moderating effect. The tests were carried out at a 0.05 significance level. Findings revealed that there is a significant relationship between descriptive human resource analytics and employee efficiency in multinational oil and gas companies in Nigeria. Therefore, the study concludes that descriptive human resource analytics (HRA) positively enhance employee efficiency in multinational oil and gas companies in Nigeria. Thus, the study recommends that Management of multinational companies should ensure that the organization has robust systems in place to collect, store, and analyze HR-related data effectively. This may involve investing in modern HRIS (Human Resource Information System) platforms capable of integrating data from various sources such as performance reviews, training records, and employee surveys.

Keywords: Descriptive human resource analytics, employee efficiency, timeliness of work, target achievement, employee innovativeness

INTRODUCTION

Efficiency is very important in the activities of employees. Not only must firms do the right thing such as offering high-quality products, but they must also produce their products efficiently (Everard & Burrow, 2001). According to Schermerhorn et al. (2017), Drucker has distinguished effectiveness from efficiency through his memorable quote: “There is surely nothing so useless as doing with great efficiency what should not be done at all”. Something is only efficient when it is effective. Hence, one can only talk about efficiency when effectiveness is already in place. Efficiency is the ability to act or produce effectively with a minimum of waste, expenditure or unnecessary effort. The focus is on the resources and speed with which organisational goals are achieved. Drucker (2020) asserted that efficiency means 'doing things in the right way'. Efficiency is measured by output, which is the quantity produced over a given time (Everard & Burrow, 2001).

The growing trend in businesses is the application of data analytics which is making a great impact in functional areas of firms. These areas are accounting (Earley, 2015) which has used analytics to mine data about customers and competitors to make decisions about their products and services by reducing errors and finding tax-saving opportunities to cut administrative costs; Supply chain (Souza, 2014) which has centered on the use of global positioning systems, radio frequency identification chips and data visualization tools to manage with real-time information regarding quality and location of goods in the supply chain and to better match supply and demand; and healthcare (Ward, Marsolo & Froehle, 2014) mainly focusing on well-established techniques as biostatistics to analyse patient data to improve health care and to generate accurate prescriptions from patient symptoms analysis. This goes to analyse how often patients visit the hospital and what it means, and this enables the health facilities to reduce waiting time and potentially improve patient outcomes. The interest in the use of big data or data analytics increases by the day because it helps understand a social phenomenon, a host of real-world applications (Raguseo, 2018) and plays a central role in decision-making (Power, Heavin, McDermott & Daly, 2018). Big data has been described by extant literature as complex data sets used in analysis and processes although it adds value to a firm’s

productivity and operations (Brown, Chui & Manyika, 2011). For data-driven organizations (McAfee & Brynjolfsson, 2012), volume is an inherent property of big data aside other properties such as velocity, variety, and variability. Companies now have access to a growing volume of data to be able to derive insights for operational and strategic means (Brynjolfsson & Saunders, 2009). According to literature, the introduction of technology has enabled the human resource function to gather, store and access a chunk of employee data (Heuval & Bondarouk, 2017) and insights generated through them for improved organisational processes (Carter & Sholler, 2015).

The purpose of the study therefore was to examine the relationship between descriptive human resource analytics and timeliness of work in Multinational Oil and Gas Companies in Nigeria.

This study was guided by the following research question:

i. What is the relationship between descriptive human resource analytics and timeliness of work in Multinational Oil and Gas Companies in Nigeria?
ii. What is the relationship between descriptive human resource analytics and target achievement in Multinational Oil and Gas Companies in Nigeria?
iii. What is the relationship between descriptive human resource analytics and employee innovativeness in Multinational Oil and Gas Companies in Nigeria?

Conceptual Framework

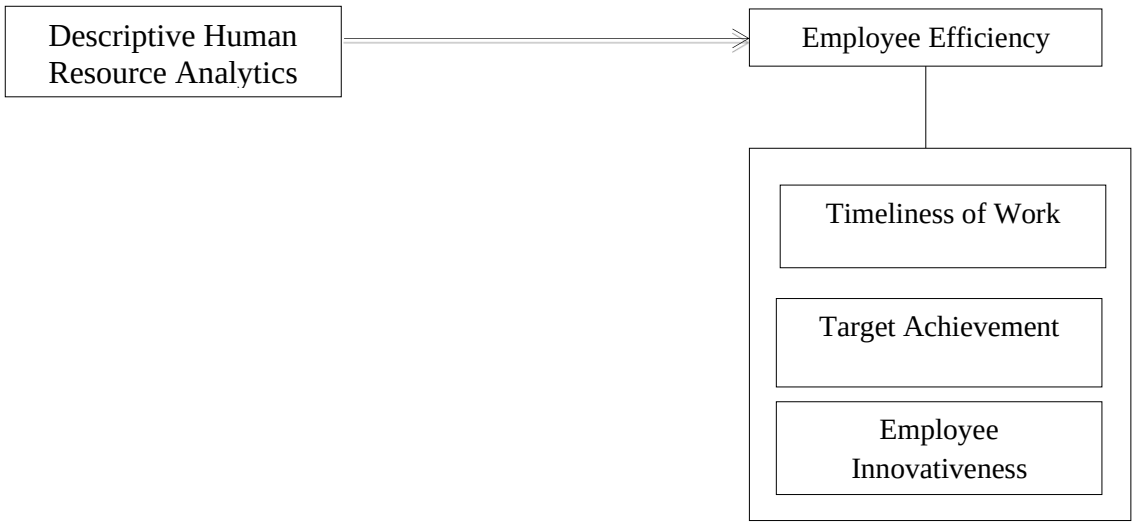

Figure 1: Descriptive human resource analytics and employee efficiency

Source: Author's Desk Research, 2024

LITERATURE REVIEW

Theoretical Foundation

Actor-Network Theory

The Actor-Network Theory was propounded by Bruno *Latour* and Michel *Callon* in 1981. The theory is a sociological theory that recognizes the processes of technological innovation in a heterogeneous network (Callon, 1986). The heterogeneous network is a coextensive network comprising a range of dissimilar elements called actors/actants (Tatnall, & Burgess, 2002). ANT claims that (1) actors, including human or non-human (social or technical) entities are equally important to a network (Alcadipani, & Hassard, 2010), (2) the actors are treated as inseparable by ANT Dolwick (2009) and (3) the interactions and associations between the actors and networks are the key issues (Tatnall & Burgess, 2002). The Actor-Network Theory approach is conceptually beneficial in helping to appreciate the complexity of an organization's network, the fluidity of this network, and the vigorous role of technology in different contexts (Cresswell, Worth & Sheikh, 2010). This can be demonstrated with an understanding of how social influences are generated as a result of associations between different actors in a network (Linderoth, 2010).

The justification for the choice of the Actor Network Theory in this study is because it offers a rich theoretical framework for studying HR analytics and employee efficiency by focusing on the complex interplay between human and non-human actors, as well as the socio-technical networks in which they are embedded. ANT provides a comprehensive framework for studying HR analytics and employee efficiency by focusing on the complex interplay between human and non-human actors, as well as the socio-technical networks in which they are embedded. This approach can help researchers gain a deeper understanding of the multifaceted dynamics that shape organizational practices and outcomes in these domains.

Descriptive Human Resource Analytics

Descriptive analysis is the first type of HR Analytics (Fitz-enz, 2010) and this is used to understand past behaviours and outcomes and also to help examine and describe the relationships and patterns that exist between them (Ulrich & Dulebohn, 2015). At this level, it is more of cost reduction and total process improvement (Fitz-enz & Mattox, 2014). It helps to answer the question, “What happened?” The descriptive analysis involves the use of published reports, dashboards/scorecards, data visualization and basic data mining (Fitz-enz & Mattox, 2014). The type of question answered, data focused on and the endowment to generate worth for business makes a difference between the four types of analytics. Descriptive analytics focuses on the past to make an informed decision (Naasz & Nadel, 2015), and it is more concerned with differences and relationships between different groups. According to Ranjan and Basak (2013), the most accessible type of analytics is descriptive analytics. It uses raw data that were derived from various sources to give a good insight into the past. The technology that is being utilized is secure, but advanced statistical tools are needed in the process. "what happened?" is the question that is tried to be answered by this type of analytics. Ruohonen (2015) stated that the main characteristics of descriptive analytics are describing the historical and current patterns of data and events, the focus of process improvement and cost reduction and visualization format; scorecards and dashboards.

Concept of Employee Efficiency

Employee efficiency can be thought of as how effectively organizations and the people working in them produce value from available inputs, Cheese (2015). According to Joshi and Balyan (2011), employee efficiency is known as the output per person or system. Samnani and Singh, (2014) define productivity as the ratio of outputs to inputs. It refers to the volume of output produced from a given volume of inputs or resources. If the firm becomes more productive, then it has become more efficient, since productivity is an efficiency measure. Employee efficiency is referred to as labour productivity because it was originally studied only with respect to the work of labourers as opposed to managers or professionals (Scarth, 2002). According to Mathis and John (2003), employee efficiency is a measure of the quantity and quality of work done, considering the cost of the resources used. The more productive an organization, the better its competitive advantage, because the costs to produce its goods and services are lower. Better productivity does not necessarily mean more is produced; perhaps fewer people (or less money or time) was used to produce the same amount. McNamara (2003) further states that, results are usually the final and specific outputs desired from the employee.

Measures of Employee Efficiency

Timeliness of Work

Timeliness of work is a measure of employee productivity. Timeliness measures whether a unit of work was done correctly and on time, given that time is the most crucial resource to be considered in the performance of any activity. Time determines the imperativeness of any other resources in accomplishing organizational set out objectives and goals (Ugwulashi, 2011). It is an essential resource every manager needs to achieve the goals and objectives of an organization (Adeojo, 2012). Time, according to Nwaiwu (2000), is the interval between the beginning and the end of an operation. It is so delicate that it cannot be saved but can only be spent and once misused it can never be regained. Time is an immaterial resource, inelastic, scarce and erodes fast and once spent, cannot be won back, stored or recalled for use (Kalu, 2012).

Timeliness of work also deals with the promptness with regards to service delivery. Davidow (2003), further highlighted that promptness has a significant relationship with customer's satisfaction and service delivery especially in most service oriented, organization. Johnston and Fem (1999) cited in (Ekiz & Arasli, 2007) observed that customers that usually visits organizations to lay complaints most often expects such organizations to consistently resolve their problems instantaneously or swiftly. Scholars has advanced that prompt reaction to customers' needs have a positive influence on customers' satisfaction (Congniz *et al*, 2007) cited in (Ekiz & Arasli, 2007).

Targets Achievement

Task accomplishment is a measure of an employee's productivity and involves their contribution to overall organizational productivity and effectiveness, it refers to actions that are part of the formal reward system and addresses the prescription as indicated in the descriptions of the role (Williams and Karau, 1991). It shows the level or the extent an employee achieves a given target. In general, task accomplishment comprises of activities that translates the organizations policies, missions and resources into tangible and intangible goods produced by the organization and to enable efficient operation of the organization (Motowidlo et al., 1997). Thus, task accomplishment covers the fulfilment of the requirements that are part of the agreement between the employee and the organisation.

Employee Innovativeness

Innovativeness of employees is measured by the propensity by which they innovate in their work (Miller and Friesen 1982); their willingness to try new ways which are different from the existing; the enthusiasm to adopt new ideas or new methods to their work operation; and the eagerness to implement the innovation strategy in their work (Khandwalla 1987). Employee innovativeness can be defined as an engagement in innovative behaviours, which includes behaviours related to the innovation process, i.e. idea generation, idea promotion and idea realization with the aim of producing innovations (Ramamoorthy, Flood, Slattery & Sardessai 2005). Innovations which have to do with the implementation or adoption of novel ideas can in turn be categorized as either technological (changes in products, services, production processes) or

administrative (changes in activities, social processes, structures), and as either radical or incremental, depending on the extent of their influence for existing products or processes (Damanpour 1991). Employee innovativeness can thus be examined throughout the innovation process, from the initial idea generation to product development and eventually to product commercialization, or to the adoption of new processes or structures in the organization (Vincent, Decker & Mumford, 2002).

Descriptive HR Analytics and Employee Efficiency

According to Davenport, Harris, and Shapiro (2010), studies of attrition are one of the six ways that HR analytics is most frequently applied (the others being selecting and monitoring indicators of organizational health, identifying which units or individuals need attention, determining which actions have the greatest impact on the bottom line, forecasting workforce levels, and studying how to adapt the workforce to changes in the business environment). Studies of attrition are popular as much of the information needed for these analyses is already held by the organization in a HR database (e.g., information about an employee's date of hire, performance reviews, promotion history, etc.). This abundance of organizational data is further complemented by a number of studies on the topic of attrition that address theories about why employees choose to stay or leave.

Not all companies are data driven and not all companies fully comprehend the benefits of analytics. Needless to say, that as a consequence, not all companies fully understand what Big Data Analytics is about. Pape (2016) posits that data quality is often a problem when it comes to the people side of the business. HR teams must enlist the support of IT early to help build a program to clean up, rationalize, and continuously monitor data quality. Quantifying employee productivity is usually a rather qualitative, subjective exercise. But apparently, someone's electronic calendar and email behavior can speak volumes about his or her impact across an organization. Falleta (2014) conducted a survey to determine use of HR Analytics across Fortune 1000 firms. With a sample of 220 firms, Falleta (2014) reported that only 15% of respondents claimed HR Analytics played a central role in determining or implementing HR strategy. Furthermore, HR

Analytics primarily consisted only of analysing employee survey data. Lawler and Boudreau (2015) report the results of a survey of over 100 Fortune 500 companies suggesting less than a third of these companies have HR Analytics that measures the relationship between HRM processes and people and business impact. This ratio is low particularly considering that the survey shows that over 70% use HR metrics to establish how efficient their HR processes are.

Descriptive analytics focuses on the past to make an informed decision (Naasz & Nadel, 2015), and it is more concerned with differences and relationships between different groups. According to Ranjan and Basak (2013), the most accessible type of analytics is descriptive analytics. It uses raw data that were derived from various sources to give a good insight into the past. The technology that is being utilized is secure, but advanced statistical tools are needed in the process. "what happened?" is the question that is tried to be answered by this type of analytics. Ruohonen (2015) stated that the main characteristics of descriptive analytics are describing the historical and current patterns of data and events, the focus of process improvement and cost reduction and visualization format, scorecards and dashboards.

Based on the foregoing, the study thus hypothesized that:

Ho_1: There is no significant relationship between descriptive HR analytics and timeliness of work of Multinational Oil and Gas Companies in Nigeria

Ho_2: There is no significant relationship between descriptive HR analytics and achievement target of Multinational Oil and Gas Companies in Nigeria

Ho_3: There is no significant relationship between descriptive HR analytics and employee innovativeness of Multinational Oil and Gas Companies in Nigeria

METHODOLOGY

The study adopted the cross-sectional research survey design. Primary data was generated through structured questionnaire. The population for this study was 10,238 employees of five multinational oil and

gas companies in Nigeria. The sample of 385 was determined using the Taro Yamen's 1970 formula. The reliability of the instrument was achieved by the use of the Cronbach Alpha coefficient with all the items scoring above 0.70. The hypotheses were tested using the Spearman's Rank Order Correlation Statistics while the partial correlation was used to test the moderating effect. The tests were carried out at a 0.05 significance level.

DATA ANALYSIS AND RESULTS

Univariate Analysis

Table 1: Descriptive Statistics for Descriptive HRA Analytics

	N	Minimum	Maximum	Mean	Std. Deviation
HR data is effectively utilized to inform strategic decision-making.	316	2.00	3.00	2.9286	.26066
HR metrics are clearly defined and consistently measured.	316	2.00	5.00	3.9524	.49151
Our organization tracks employee turnover rates accurately.	316	2.00	5.00	4.0238	.56258
HR analytics are integrated into talent acquisition and retention strategies.	316	2.00	5.00	4.0238	.78050
Our organization uses HR analytics to assess the effectiveness of training and development programs.	316	2.00	5.00	3.0952	1.14358
Valid N (listwise)	316				

Source: SPSS Output

The data Table 1 illustrates that there is a high level of affirmation (where $x > 2.50$) as regards the indicators of descriptive HRA which is a dimension of human resource analytics. The construct examined the context and manifestations of descriptive HRA within the target organizations with indicators aimed at examining respondents' perception of human resource analytics through its indicators. The results affirm to all five indicators of descriptive HRA within the target organizations as also supported by the low disparity in response (SD <2.00). The implication of these responses is that the respondents of descriptive HRA of multinational oil and gas companies in Nigeria, are strongly of the opinion that human resource analytics is an observed phenomenon in their organizations and hence are largely on the agreement range of the scale.

Table 2: Descriptive Statistics for Timeliness of Work

	N	Minimum	Maximum	Mean	Std. Deviation
I consistently meet deadlines for my assigned tasks.	316	3.00	5.00	4.1667	.72974
I prioritize my work to ensure timely completion.	316	3.00	5.00	4.13169	.60773
I communicate effectively with colleagues to coordinate deadlines and expectations.	316	4.00	5.00	4.3571	.48497
I proactively manage my workload to avoid delays.	316	4.00	4.00	4.0000	.00000
I take initiative to anticipate potential delays and address them proactively.	316	4.00	5.00	4.3571	.48497
Valid N (listwise)	316				

Source: SPSS Output

The data Table 2 illustrates that there is a high level of affirmation (where x > 2.50) as regards the indicators of timeliness which is a measure of employee efficiency. The construct examined the context and manifestations of timeliness within the target organizations with indicators aimed at examining respondents' perception of timeliness through its indicators. The results affirm to all five indicators of timeliness within the target organizations as also supported by the low disparity in response (SD <2.00). The implication of these responses is that the respondents of oil and gas companies in Nigeria are strongly of the opinion that timeliness is an observed phenomenon in their organizations and hence are largely on the agreement range of the scale.

Table 3: Descriptive Statistics for Target Achievement

	N	Minimum	Maximum	Mean	Std. Deviation
I consistently meet or exceed the targets set for my role.	316	1.00	5.00	3.3571	1.07797
I actively work towards achieving my performance goals and objectives.	316	2.00	5.00	3.9524	.49151
I am able to effectively prioritize tasks to ensure target achievement.	316	2.00	5.00	4.0238	.56258
I seek out opportunities to improve my performance and exceed targets.	316	2.00	5.00	4.0238	.78050
I regularly review my progress towards targets and adjust my approach as needed.	316	2.00	5.00	3.9524	.82499
Valid N (listwise)	316				

Source: SPSS Output

The data in Table 3 illustrates that there is a high level of affirmation (where x > 2.50) regards the indicators of target achievement which is a measure of employee efficiency. The construct examined the context and manifestations of target achievement within the target organizations with indicators aimed at examining respondents' perception of target achievement through its indicators. The results affirm to all five indicators of target achievement within the target organizations as also supported by the low disparity in response (SD <2.00). The implication of these responses is that the respondents of oil and gas companies in Nigeria are strongly of the opinion that target achievement is an observed phenomenon in their organizations and hence are largely on the agreement range of the scale.

Table 4: Descriptive Statistics for Employee Innovativeness

	N	Minimum	Maximum	Mean	Std. Deviation
I actively seek out new ways to improve processes or procedures in my work.	316	2.00	5.00	4.1190	.50376
I am willing to take risks and try new ideas or approaches in my role.	316	2.00	5.00	4.0238	.41249
I frequently contribute innovative ideas or solutions to problems within my team or organization.	316	2.00	5.00	4.0238	.78050
I am open to feedback and suggestions from others to enhance my innovative contributions.	316	1.00	5.00	4.4762	1.06469
I enjoy exploring new technologies or methods that could benefit my work.	316	1.00	5.00	3.6667	1.07446
Valid N (listwise)	316				

Source: SPSS Output

The data Table 4 illustrates that there is a high level of affirmation (where x > 2.50) as regards the indicators of employee innovativeness which is a measure of employee efficiency. The construct examined the context and manifestations of employee innovativeness within the target organizations with indicators aimed at examining respondents' perception of employee innovativeness through its indicators. The results affirm to all five indicators of employee innovativeness within the target organizations as also supported by the low disparity in response (SD <2.00). The implication of these responses is that the respondents of oil and gas

companies in Nigeria are strongly of the opinion that employee innovativeness is an observed phenomenon in their organizations and hence are largely on the agreement range of the scale.

Bivariate Analysis

The level of significance 0.05 was adopted as a criterion for the probability of accepting the null hypothesis in ($p > 0.05$) or rejecting the null hypothesis in ($p < 0.05$).

Table 5: Correlations for Descriptive HRA and Employee Efficiency Measures

			Descriptive HRA	Timeliness	Target Achievement	Employee innovativeness
Spearman's rho	Descriptive HRA	Correlation Coefficient	1.000	.694**	.603**	.578**
		Sig. (2-tailed)	.	.000	.000	.000
		N	316	316	316	316
	Timeliness	Correlation Coefficient	.694**	1.000	.269	.663**
		Sig. (2-tailed)	.000	.	.085	.000
		N	316	316	316	316
	Target Achievement	Correlation Coefficient	.603**	.269	1.000	.069
		Sig. (2-tailed)	.000	.085	.	.664
		N	316	316	316	316
	Employee innovativeness	Correlation Coefficient	.578**	.663**	.069	1.000
		Sig. (2-tailed)	.000	.000	.664	.
		N	316	316	316	316

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

Source: SPSS Output

H_{o1}: There is no significant relationship between descriptive human resource analytics and timeliness of work of Multinational Oil and Gas Companies in Nigeria.

Table 5 shows a Spearman Rank Order Correlation Coefficient (rho) of 0.694 on the relationship between descriptive HRA and timeliness of work. This value implies that a strong relationship exists between the variables. The direction of the relationship indicates that the correlation is positive; implying that an increase in timeliness of work was as a result of the adoption of descriptive HRA. Therefore, there is a very strong positive correlation between descriptive HRA and timeliness of Multinational Oil and Gas Companies in Nigeria. From the result obtained from Table 1, the sig- calculated is less than significant

level ($p = 0.000 < 0.05$). Therefore, based on this finding the null hypothesis earlier stated is hereby rejected and the alternate upheld. Thus, there is a significant relationship between descriptive human resource analytics and timeliness of work of Multinational Oil and Gas Companies in Nigeria

H_{o2}: There is no significant relationship between descriptive human resource analytics and target achievement of Multinational Oil and Gas Companies in Nigeria.

Similarly, Table 1 shows a Spearman Rank Order Correlation Coefficient (rho) of 0.603 on the relationship between descriptive HRA and target achievement. This value implies that a strong relationship exists between the variables. The direction of the relationship indicates that the correlation is positive; implying that an increase in target achievement was as a result of the adoption of descriptive HRA. Therefore, there is a very strong positive correlation between descriptive HRA and target achievement of Multinational Oil and Gas Companies in Nigeria. From the result obtained from Table 1, the sig- calculated is less than significant level ($p = 0.000 < 0.05$). Therefore, based on this finding the null hypothesis earlier stated is hereby rejected and the alternate upheld. Thus, there is a significant relationship between descriptive human resource analytics and target achievement of Multinational Oil and Gas Companies in Nigeria.

H_{o3}: There is no significant relationship between descriptive human resource analytics and employee innovativeness of Multinational Oil and Gas Companies in Nigeria.

Furthermore, Table 1 shows a Spearman Rank Order Correlation Coefficient (rho) of 0.578 on the relationship between descriptive HRA and employee innovativeness. This value implies that a strong relationship exists between the variables. The direction of the relationship indicates that the correlation is positive; implying that an increase in employee innovativeness of work was as a result of the adoption of descriptive HRA. Therefore, there is a very strong positive correlation between descriptive HRA and employee innovativeness of Multinational Oil and Gas Companies in Nigeria. From the result obtained from Table 5, the sig- calculated is less than significant level ($p = 0.000 < 0.05$). Therefore, based on this

finding the null hypothesis earlier stated is hereby rejected and the alternate upheld. Thus, there is a significant relationship between descriptive human resource analytics and employee innovativeness of Multinational Oil and Gas Companies in Nigeria.

DISCUSSION OF FINDINGS

These finding revealed that there is a very strong positive significant relationship between descriptive HR analytics and employee efficiency in multinational oil and gas companies in Nigeria. These findings align with Pape's (2016) research, which indicates that the utilization of analytics in HR is still in its nascent stage, predominantly limited to managers employing descriptive analytics to gather and report activities rather than outcomes. With most companies now utilizing HR management information systems, HR managers have the capacity to generate substantial amounts of data, enabling them to make more informed decisions and demonstrate the impact of HR initiatives on business outcomes and performance (Narula, 2015).

The findings showed that there is a strong positive significant relationship between human resource analytics and employee efficiency in multinational oil and gas companies in Nigeria. This finding aligns with Bersin's (2013) findings, which were supported by Rasmussen and Ulrich (2015), indicating that analytics played a crucial role in Maersk Drilling's decision to increase resource allocation for their trainee program, ultimately leading to a higher return on investment. Maersk Drilling utilized analytics as part of their change management process, effectively leveraging data insights to drive business impact. Similarly, Google's People and Innovations Lab (PiLab) utilized analytics to categorize managers into four segments based on their behavior characteristics and their impact on organizational management practices.

Likewise, this current finding echoes Fiocco's (2017) research, which investigated the use of analytics in HR practices at Epsilon. Fiocco found that analytics were instrumental in analyzing employee pay structures, aiding negotiations with trade unions. Additionally, analytics revealed that a significant portion of Epsilon's workforce faced high risks of eye damage, prompting the company to provide glasses to

mitigate accidents and eye defects. The analytic tool facilitated consistent tracking and reduction of health and safety-related issues among workers, as well as the formulation of preventive policies.

Furthermore, this finding aligns with Togt and Rasmussen's (2017) study on the value, challenges, and future of HR analytics in Fortune 500 companies. Their research established a moderate positive relationship between HR analytics and organizational outcomes such as productivity and profit. Moreover, it empirically validates Narula's (2015) earlier work, which explored the usage, techniques, and impacts of HR analytics, highlighting benefits such as talent retention, enhanced recruiting processes, improved workforce planning, and better decision-making.

Moreover, the study corroborates the earlier findings of Lewis (2003), as presented by Huselid and Becker (2005), wherein the Oakland Athletics baseball team, through rigorous scientific analysis of game strategies and player evaluation, senior executives were able to significantly improve the quality of their decision-making. Despite paying players considerably less than the league average, the team achieved notable success during games.

The current finding supports the use of Actor-Network Theory (ANT) in analyzing human resource analytics implementations, as ANT effectively captures the complexities of actions and interactions involving various actors and their interests over time. This theoretical framework aligns with empirical research by Pape (2016), Bersin (2013), Rasmussen and Ulrich (2015), and Fiocco (2017), demonstrating that while the use of analytics in HR is still emerging, predominantly through descriptive analytics, it plays a crucial role in informed decision-making and business impact. For instance, Maersk Drilling utilized analytics to optimize their trainee program, leading to a higher return on investment, and Epsilon leveraged analytics to address health risks among employees. This study's findings also resonate with the experiences of Google's PiLab and the Oakland Athletics, where rigorous data analysis enhanced management practices and decision-making, corroborating the notion that HR analytics significantly improves organizational outcomes such as productivity, talent retention, and operational efficiency. Thus, ANT’s capacity to

examine the reciprocal causality between HR analytics and organizational dynamics proves particularly suitable for this context, underscoring the transformative potential of analytics in enhancing employee efficiency and overall business performance.

CONCLUSION AND RECOMMENDATION

Therefore, the study concludes that descriptive human resource analytics (HRA) positively enhance employee efficiency in multinational oil and gas companies in Nigeria. This implies that by systematically analyzing and interpreting data related to employee performance, demographics, and other relevant factors, these companies can gain valuable insights that enable them to make informed decisions to improve workforce productivity and overall organizational effectiveness.

Thus, the study recommends that Management of multinational companies should ensure that the organization has robust systems in place to collect, store, and analyze HR-related data effectively. This may involve investing in modern HRIS (Human Resource Information System) platforms capable of integrating data from various sources such as performance reviews, training records, and employee surveys.

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