Human Resource Database Administration and Employee Productivity in Telecommunication Companies in South-South, Nigeria

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Abstract: *This study examined the relationship between human resource database administration and employee productivity in telecommunication companies in South-South, Nigeria. The study adopted the cross-sectional research survey design. Primary data was generated through structured questionnaire. The population of this study was made up of 162 employees, managers and supervisors of the four telecommunication companies in South-South, Nigeria. Since the entire population of 162 employees of the four (4) telecommunication companies in South-South, Nigeria was small, the entire population was adopted as a census. 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. The tests were carried out at a 0.05 significance level. The findings revealed that there is a significant relationship between human resource database administration and employee productivity in telecommunication companies in South-South, Nigeria. Therefore, based on the findings, this study concludes that human resource database administration enhances in a positive way the productivity of employees in telecommunication firms in Nigeria. Hence, the study recommends that HR database administration in telecommunication companies should capitalize on emerging technology and that would reduce malpractices on the system by upgrading the current system to a system that can explore more operations on the HR information system and expand some system services.*

Key words: *Human Resource Database Administration, Employee Productivity, Timeliness, Achievement, Employee Innovativeness*

INTRODUCTION

Human resource database administration plays a crucial role in managing the workforce of an organization. When it comes to maintaining HR databases, accuracy is of utmost importance. Inaccurate data can lead to a host of problems, including compliance issues, legal liabilities, and employee dissatisfaction. Human resource (HR) database administration is vital for any organization because it provides the foundation for effective management of employee information. According to Olson (2003), accurate HR database administration contributes to the success of an organization by facilitating data-driven decision making, providing a source of information for strategic planning,

ensuring regulatory compliance, and improving the efficiency of HR processes. An accurate HR database is essential for making informed management decisions, such as identifying areas of workforce development or determining staffing needs. An organization's HR database is also a valuable tool for strategic planning because it provides insight into workforce demographics and trends. Regulatory compliance is also an important consideration for HR database administration. An accurate database can ensure compliance with laws and regulations pertaining to employment practices, such as the Fair Labor Standards Act or the Americans with Disabilities Act. It can also assist in the tracking and reporting of employee data required by regulatory agencies. Effective HR database administration can also improve the efficiency of HR processes, such as onboarding, performance management, and benefits administration. In conclusion, accurate HR database administration is an essential component of effective human resource management, providing the foundation for data-driven decision making, strategic planning, regulatory compliance, and efficient HR processes.

The maintenance of HR databases is crucial to the satisfaction of employees in an organization. HR records can be used to provide feedback to employees about their performance, help identify training and development needs, and provide evidence of procedural fairness in employment decisions (Koys, 2001). If these records are not maintained properly, it can lead to inaccurate and incomplete data, which can cause problems for employees. For example, if an employee's performance is not accurately recorded, it can lead to unfair evaluations and potential job loss. Moreover, inaccurate data can cause delays in promotions, salary raises, and other benefits, which can affect employee satisfaction. Therefore, it is important for HR departments to ensure that their databases are maintained properly and are up-to-date. This will help create a positive work environment and increase employee satisfaction.

The purpose of this paper therefore was to examine the relationship between human resource database administration and employee productivity in telecommunication companies in South-South, Nigeria. The specific objectives of the study included:

  i.   What is the relationship between human resource database administration and timeliness of work in telecommunication companies in South-South, Nigeria?

 ii.   What is the relationship between human resource database administration and achievements of targets in telecommunication companies in South-South, Nigeria?

iii.   What is the relationship between human resource database administration and employee innovativeness in telecommunication companies in South-South, Nigeria?
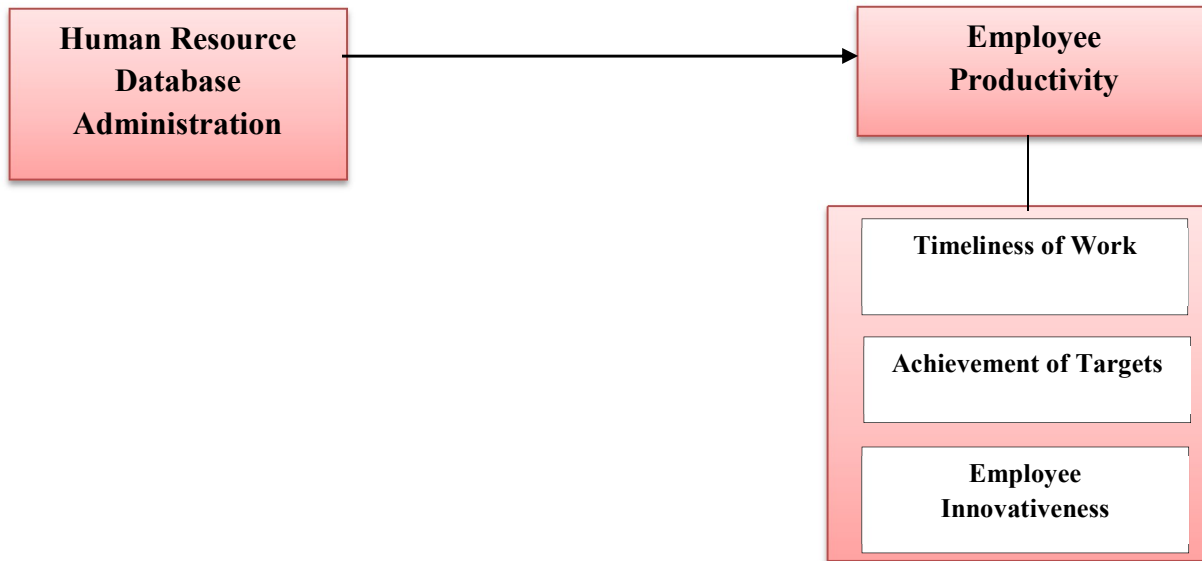
Figure 1: conceptual model for the relationship between human resource database administration and employee productivity

Source: Desk Research (2022)

LITERATURE REVIEW

Theoretical Foundation
Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) was proposed by Davis (1989). Although, it was extended to TAM2 (Venkatesh & Davis, 2000) to explain perceived usefulness and usage intentions including social and cognitive influence. Subsequently, it was stretched to create a new version aka TAM3 (Venkatesh & Bala, 2008) to incorporate anchors and adjustments factors to perceived ease of use. However, Bernadette (1996) reports that the original TAM is more appropriate as compared with the later extensions. It is one of the models which provide the foundation for unveiling the influence of external variables on the adoption decisions based on the economic, usability and behavioral grounds.

The original TAM states that perceived usefulness is a major determinant of people's intention to use technological innovation (Davis, 1989). It further proposes that the degree to which an IT system will be accepted is related to perceived usefulness (PU) and perceived ease of use (PEOU). PU can be defined as the user's perception in terms of the likelihood that the innovation will increase their job performance within an organizational context. While PEOU is defined as the degree of the user's expectation that innovation or system to be adopted can be free of effort (Davis, 1989). But unfortunately, it is being criticized for focusing more on technological aspect and not considering the effects of organizational and human factors viz-a-viz., the influence of external variables (Shih, Shih, Li, Chen, Chen & Chen, 2011; Wayne, 2016; Wu, Li, & Fu, 2011; Yarbrough & Smith, 2007). Notwithstanding, researchers have advocated the inclusion of customized variables and advocates for considering beyond the technical perspective (Marc, 2011; Shabir & Padma, 2017). Park (2009) reported that variables related to the actual use of information

technology could be grouped into four categories: human context, technology context, social context, and organizational context. Here the social context means social influence on personal acceptance of technology usage and organizational context emphasizes the organization's influence or support related to information technology use.

Determinants of technology use have been investigated to predict and explain end-user adoption and acceptance of information technology and systems. One of the first theories in this field is Fishbein and Ajzen's generic Theory of Reasoned Action (TRA) that explains user's attitude towards technology in the organizations. TRA argues that a person's behavior is predicted by his or her behavioral intention. Now in this field the most prevalent model is Technology Acceptance Model (TAM) that was adapted from the Theory of Reasoned Action (TRA).

The justification for choosing TAM for this research was because TAM has been tested empirically and supported through validations, applications, and replications (Venkatesh, 2000; Schaup Carter, L., & McBride, 2010; Lee, 2010; Yusoff, Ramayah & Haslindar, 2010). TAM is one of the most powerful, robust and parsimonious models for predicting user acceptance especially in HR analytics context (Bueno and Salmeron, 2008). According to Venkatesh (2000), the parsimony of TAM combined with its predictive power makes it easy to apply to different situations.

HR Database Administration

Database administration encompasses all the technical and management activities required for organizing, maintaining and directing the database environment. Throughout this report "Database" is used to mean all of the data of the organization which is organized and controlled using a database technology, or a systematic methodology for the standardization and integration of data resources at an organization level.

Human resource database system is an interaction between human resource functions and information technology. Human resource database system involves how companies organizes and manage people-related data such as, employee demographic information like birth date, gender, contact information, employee job information like manager, department, pay rates, and more (Kapur, 2018). Midiwo, (2016) explained that in this era human resource information system has made work a lot easier, unlike in the past organization where organizations have solely relied on HR function to perform task and carry on their organizational roles. Human resource database system organizes information and data which enables the management get accurate information, keeps the organization healthy by monitoring and optimizing Human Resource. Human resource database system duplication of data, improves employee's efforts by tracking people moving through the system and ensures all the organization activities are aligned to their enterprise objectives (Midiwo, 2016). According to Houtzager (2015) identified human resource information system organization as one of the structures in human resource information system. It enhances organizational performance through utilization of these assets of human resource database system; as it relates to data integration, one stop shop, self-service, recruitment, and web-based platform.

Concept of Employee Productivity

Employee productivity 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 (2012) employee productivity also known as labour productivity 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. Productivity in itself has so many benefits to the organization, Chen, et al (2015) believe that it translates to real income and that means that the firm can meet its duties to customers, suppliers, employees, shareholders and government (taxes and regulation) and still remain competitive or improve its competitiveness in the market place. Onyije (2015) looks at productivity not so differently from other researchers, according to him high productivity levels translate into lower unit costs and it is one of the drivers of success in the organization. It is growing the business in a way where the employees and the employer are satisfied.

Employee productivity 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), productivity 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. Results are often expressed as products or services for an internal or external customer, but not always. They may be in terms of financial accomplishments, impact on a community; and so whose results are expressed in terms of cost, quality, quantity or time. He further notes that measuring productivity involves determining the length of time that an average worker needs to generate a given level of production. You can also observe the amount of time that a group of employees spends on certain activities such as production, travel, or idle time spent waiting for materials or replacing broken equipment. The method can determine whether the employees are spending too much time away from production on other aspects of the job that can be controlled by the business.

Measures of Employee Productivity

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). It is an essential resource; it's irrecoverable, limited and dynamic. Irrecoverable because every minute spent is gone forever, limited because only 24hours exist in a day and dynamic because it is never static (Adeojo, 2012). Managing time appropriately leads to achieving results easily with limited resources. Consequently, any productive system, whatever its structure, human, technology or financial support requires efficient and effective time management procedure. Consequently, Mullins (1999) refers time as one of the most valuable, but limited resources and it is important that administrators utilize time to the maximum advantage. For not realizing time as a scarce resource

most employee run out of time before expected result is achieved and this negatively affect their productivity level.

Maduagwu and Nwogu (2006) notes that, every activity is allocated some frames within which an activity is to be accomplished within factory floor. Timeliness is also important for effective inspection and supervision in the academic workplace in bringing the much needed quality. Effective time process ensures unambiguous objectives, proactive planning, well defined priorities and actions; participatory and successful delegation of activities. Nevertheless, time is continuum and all activities or roles performance depend on it whether voluntary or involuntary in avoiding conflicts. According to Hisrich and Peters (2002), time is a unique quantity an entrepreneur (manager) cannot store it, rent it, and buy it. Everything requires it and it passes at the same rate for everyone. Time management involves investing time to determine what one wants out of his activities. Effective time management is the investment of time in such a way that optimal result is gotten from activities consuming a specific time quantity. Time management hinges on the principle that it is more important to do the right things than to do things right. The ability to choose between the important and the unimportant and be persistent on the correctly chosen sequence is the key determinant of effectiveness in time management.

Achievement of Targets

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. Borman and Motowidlo (1993) pointed out that task accomplishment is the effectiveness and efficiency with which job incumbents perform activities that contribute to the organization's technical core and assist in moulding the psychological state of the organization (Borman and Motowidlo, 1993). They further suggested that in accomplishing a given task there are two aspects to it, which are interpersonal facilitation and job dedication. Interpersonal facilitation includes cooperative and helpful acts that help the effectiveness of co-employee. While job dedication includes self-disciplined and motivation to support organizational objectives and goals (Van Scotter and Motowidlo, 1996).

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). Innovativeness reflects a employee's tendency to engage in and support new ideas, novelty, experimentation and creative processes (Lumpkin and Dess, 1996) that may result in new products, services, or technological processes and which may take the organization to a new paradigm of success (Swiezczek and Ha, 2003). It also implies seeking creative, extraordinary or strange solutions to problems and needs. Schumpeter (1934) considered employees to be essentially a creative activity and entrepreneur as an innovator who carries out new combinations in the field of men, money, material, machine and management. According to him, an entrepreneur is an economic man who tries to

maximize his profits by making innovations in any one of the following fields: (1) new products; (2) new production methods; (3) new markets; or (4) new forms of organization.

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).

Human Resource Database Administration and Employee Productivity
Cullen (2014) stated that organization that is fully automated with the human resource information system enjoys improved data integrity and consistency this is because redundant data entry is eliminated hence increasing efficiency. Human resource database system allows room for data and information availability in an organization. The system assists management of information as all data and information can be saved and retrieved from the system. Employees have a constant supply of information regarding the company and clients (Cullen, 2014). Even after training and employee can login the system and access information to help them understand the organization better. Information related to employee tasks is entered only once and updating can be done once only when employee information changes. This makes it easy for the company staff and management to work independently without having to ask for assistance from the HR professionals (Weeks, 2016). Moreover, end users time effectiveness is achieved because instead of focusing on inefficient data entry, they spend time focusing on employee administration (Cullen, 2014). Improved efficiency is achieved as accurate and consolidated reports can be run easily without looking for manual intervention.

According to Hendrikson (2013) over the past two decades, firms have increasingly relied on the HR function to provide management solutions that increase the effectiveness of human capital. Human resource database system systems have evolved into complex tools designed to manage a rich variety of information about the firm's human capital as well as to provide analytical tools to assist in decision making about the management of those assets (Hendrikson, 2013). The internet is an attractive platform for recruiting applicants and performing several other essential business functions. By having Human resource database system, candidates to submit their contact information and resumes to potential employers from a remote computer, an organization accesses the data which has been collected and archived in the system to be used by recruiting managers (Parry, Tyson, Selbie, & Leighton, 2017). Organizations can support more efficient and cost-conscious collection, storage, sharing, and exchange of data. The intranet serves as an information hub for the entire organization. An intranet can be given to business partners, as well as clients who have the appropriate level of security clearance (Parry, *et al.,* 2017). Embracing the system enables HR function like recruitment became more efficient. E-recruitment function of HRIS has evolved to enable administrative functions like enrollment, reporting, tracking, management and payroll more efficient (Torres-Coronas, 2018). The head of resourcing from the cancer research

UK described the reason for introducing e-recruitment system as because of the delayed short listing because of unreliability of surface mail; the process was slowed by inputting data creating a huge task or the resource team.

From the foregoing discourse, the study hypothesized thus:

Ho₁: There is no significant relationship between human resource database administration and timeliness of work in telecommunication companies in South-South, Nigeria.

Ho₂: There is no significant relationship between human resource database administration and achievement of targets in telecommunication companies in South-South, Nigeria.

Ho₃: There is no significant relationship between human resource database administration and employee innovativeness in telecommunication companies in South-South, Nigeria.

METHODOLOGY

The study adopted a cross sectional survey research design. Primary data was collected using a 5-point Likert scaled questionnaire. The population of this study was made up of 162 employees, managers and supervisors of the four telecommunication companies in South-South, Nigeria. Since the entire population of 162 employees of the four (4) telecommunication companies in South-South, Nigeria was small, the entire population was adopted as a census. 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 Coefficient with the aid of Statistical Package for Social Sciences version 23.0 as shown below:

DATA ANALYSIS AND RESULTS

Table 1 shows the result of correlation matrix obtained for HR database quality management and measures of employee productivity. Also displayed in the table is the statistical test of significance (p - value), which makes us able to answer our research question and generalize our findings to the study population.

Table 1:   Correlations Matrix for HR Database Administration and Measures of Employee Productivity

			HR Database Administration	Timeliness of Work	Achievement of Targets	Employee Innovativeness
Spearman's rho	HR Database Administration	Correlation Coefficient	1.000	.542**	.880**	.790**
		Sig. (2-tailed)	.	.000	.000	.000
		N	143	143	143	143
	Timeliness of Work	Correlation Coefficient	.542**	1.000	.890**	.846**
		Sig. (2-tailed)	.000	.	.000	.000
		N	143	143	143	143
	Achievement of Targets	Correlation Coefficient	.880**	.890**	1.000	.790**
		Sig. (2-tailed)	.000	.000	.	.000
		N	143	143	143	143
	Employee Innovativeness	Correlation Coefficient	.790**	.846**	.790**	1.000
		Sig. (2-tailed)	.000	.000	.000	.
		N	143	143	143	143

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

Source: SPSS Output version 23.0

H$_{o1}$: There is no significant relationship between human resource database administration and timeliness of work of telecommunication companies in Nigeria.

Table 1 shows a Spearman Rank Order Correlation Coefficient (rho) of 0.542 on the relationship between human resource database administration and timeliness of work. This value implies that a moderate 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 HR database administration. Therefore, there is a moderate positive correlation between HR database administration and timeliness of work of telecommunication firms in South-South, Nigeria. Similarly displayed in the Table 1 is the statistical test of significance (p-value) which makes possible the generalization of our findings to the study population. 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 human resource database administration and timeliness of work of telecommunication companies in Nigeria.

H$_{o2}$: There is no significant relationship between human database administration security and achievement of targets of telecommunication companies in Nigeria.
Similarly, Table 1 shows a Spearman Rank Order Correlation Coefficient (rho) of 0.880 on the relationship between human resource database administration and achievement of targets. This value implies that a very strong relationship exists between the variables. The direction of the relationship indicates that the correlation is positive; implying that an increase in achievement of targets was as a result of the adoption of HR database administration. Therefore, there is a very strong positive correlation between human resource database administration and achievement of targets of telecommunication firms in South-South, Nigeria. Also displayed in the Table 1 is the statistical test of significance (p-value) which makes possible the generalization of our findings to the study population. 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 human resource database administration and achievement of targets of telecommunication companies in Nigeria.

H$_{o3}$ There is no significant relationship between human resource database administration and employee innovativeness of telecommunication companies in Nigeria.
Furthermore, Table 1 shows a Spearman Rank Order Correlation Coefficient (rho) of 0.790 on the relationship between human resource database administration 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 was as a result of the adoption of HR database administration. Therefore, there is a strong positive correlation between human resource database administration and employee innovativeness of telecommunication firms in South-South, Nigeria. Also displayed in the Table 1 is the statistical test of significance (p-value) which makes possible the generalization of our findings to the study population. 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 human resource database administration and employee innovativeness of telecommunication companies in Nigeria.

DISCUSSION OF FINDINGS

The findings as presented in Table 1 revealed that there is a positive significant relationship between human resource database administration and employee productivity of telecommunication firms in Nigeria. This finding agrees with of Egbunefu and Ubani (2019) examined the study the influence of database management for administrative secretaries' productivity in Omuma Local Government Council Secretariat, Rivers State". A research question and a null hypothesis were formulated to guide the study. A descriptive survey research design was adopted for the study. The result showed that database management influence secretaries' productivity in Omuma local Government council. The following recommendations were given among others: those secretaries in the public service should be given awareness by their employers on the need to acquire database management skills for effective productivity.

Also, this study is supported by Gabariel (2016) examined an empirical examination of the nexus between information systems and organizational performance behaviors of quick - service restaurants in Port Harcourt. This study examined the association of information systems and organizational performance behavior. The results showed that there is a significant association of three dimensions of information systems with the measures of organizational performance. The study concluded that adoption of information systems in the fast food outlets is capable of bringing about better performance. To further support this Alawode and Adegbie (2016) carried out a research on management information system and quality of corporate reporting in Nigeria. The purpose of this paper was to examine the effect of management information system as a process for improving the key variants of organisation functions as it affects revenue, cost, data security and consequentially the organizational achievement of contributing to the stakeholders welfare. The analysis revealed that all proxies of management information system such as general information system, production simulation system, reporting package, forecasting tool have a significant positive effect on the statutory reporting compliance (Adjusted $R2= 0.945$, F-statistics $= 351.505. : p= 0.000<0.05$). All proxies of management information system have a significant positive effect on customer relationship management (Adjusted $R2= 0.847$, F-statistics $= 113.534.: p= 0.000<0.05$). The result also shows all proxies of management information system have a positive effect on data storage and security (Adjusted $R2= 0.935$, F-statistics $= 291.517.: p= 0.000<0.05$). Thus, the study concluded that the proxies of management information system considered have a significant positive influence on the quality of corporate reporting.

CONCLUSION AND RECOMMENDATION

The study concludes that HR database administration positively enhance the productivity of employees in telecommunication firms in Nigeria. Implying that through human resource database administration, the management of employee data improves employee efforts by tracking people moving through the system and ensures all the organization activities are aligned to their enterprise objectives.

Therefore, the study recommends that HR database administration in telecommunication companies should capitalize on emerging technology and that would reduce malpractices on the system by upgrading the current system to a system that can explore more operations on the HR information system and expand some system services. There should also be an effective performance feedback that would translate into improved employee productivity.

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