Human Resource Management and Technology Transition for Firm Competitiveness in Nigeria’s telecommunication industry

By
Dr. Amaeshi Uzoma Francis
Department of Project Management Technology,
Federal University of Technology, Owerri,
Imo State, Nigeria

Abstract
This paper addresses human resource management technology transition as a key strategy in today’s competitive business environment focusing on the telecommunication industry in Nigeria. Our theoretical framework is based on previous Human Resource Management (HRM) and Human Resource Information System (HRIS) studies where the contributing role of HRIS to competitiveness is measured by the compliance and application level of its functions to HR functionalities. Copies of survey questionnaire for administration targeted at HR managers in the industry were sent to five corporate Headquarters of the different companies operating in Nigeria with a response rate of 61.5%. We found from this study that HRIS functions have a relationship with HRM functionalities; that the independent variables (strategic integration, forecasting and planning, human resources analysis, and communication and integration) have no relationship with human resource functionalities; and that the dependent variables (performance development, knowledge management, and records and compliance) which are dimensions of human resources information systems have a relationship with human resources functionalities. Human Resource Managers in Nigeria must acquire the new technological skills and competencies that will result in their emerging new role of business partners that is supportive of overall corporate strategy for competitiveness.

Keywords: Human Resource Management, technology transition, Firm Competitiveness, Human Resource Information System.
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1. INTRODUCTION
The turbulent start of the new century has brought new challenges for firms, industries and countries. Survival and success in these turbulent times increasingly depend on competitiveness. Today success is demanding new perspectives on competitiveness which is a multidimensional and relative concept. All the same, the significance of different criteria of competitiveness changes with time and context. (Nonaka et al 2000; Barney et al, 2001). Moving from traditional to strategic approach to human resources management has become much more dynamic than in the past (Beulen, 2009). The basic personnel functions that characterized traditional human resource management, such as maintenance of personnel files and records and the processing of documents, is now being replaced by a focus on promoting the abilities, skills, and knowledge of employees (Casico, 2006). Globalization, the world of computers and information technology has become such an important aspect of our lives, and it is highly doubtful that there will be a return to traditional methods of conducting business (Martinsons, 1997; Mayfield et al, 2003).

Globalization is compelling organizations to rethink their future strategies. Studies have shown that transformation is pre-requisite to corporate survival and growth (Cummings et al, 2001; Akhtar et al, 2008). Business organizations in Nigeria especially the telecommunication firms are experiencing winds of change. For the Human Resource (HR) function in that industry, there is the challenge of managing the prevalent complexities of change and transformation.

The advent of technology has met mixed reaction with regard to Human Resource Management (HRM) systems in Nigeria. Traditionally human resource management had a people-oriented approach. Today, the competitive demands of the marketplace require a reorientation of strategic human resource philosophies and practices. Emphasis is now on knowledge-based administration using technology as a tool. Employees’ knowledge values depend on their potential to contribute to the achievement of organizational competitive advantage. Recent research suggests that human capital attributes (including training, experience and skills) – and in particular the executives’ human capital – have a clear impact on organizational results (Akhtar et al, 2008; Huselid et al, 2005; Ardichvili et al, 2002; Cummings et al, 2001; Wright et al., 1998 Barney et al, 2001). Although the use of this knowledge is an important factor in the actual competitive environment, it is not enough to use the actual employees’ knowledge as basis for assessment. Wright et al. (1998) consider that “despite the firm’s resources and capacities that have added value in the past, changes in customer demand, in industry’s structure or in technology may turn them into less valuable in the future”.

However, (Towers, 1992) opine that since the primary business objective is profitability managers must explain and justify business performance and decisions in the light of this objective. Therefore it is important to manage employees, their knowledge and competences in such a way that the organization can build a long-term competitive advantage. Subsequently, a movement has emerged to make a business case for addressing the increasing diversity of both the workforce and the consumer base (Cox, 1993; Mathis et al, 2010; Wiblen, 2010).

This study adopts the same approach as well as Knowledge Management reflected in literature surrounding firm competitive initiatives because the views on Human Resources Management (HRM) and technological advancement for firm competitiveness are scattered in literature. It is hard to find a common line of agreement among earlier writers. In one stream, writers argue that a technologically mixed workforce holds a potential competitive advantage for organizations (Cox, 1993; Mathis et al, 2010; Wiblen, 2010). In another stream other writers stress that in knowledge-economy, organizational success depends tremendously on the performance of human resource
management (HRM) (Lippert et al, 2005; Troshani et al., 2011) adding that Human Resource Management (HRM) concentrates on knowledge sharing and strategic workforce analysis thereby increasingly evolving into a significant contributor to effective organizational strategic management (Rodriguez and Ventura, 2003; Troshani et al., 2011). Yet some other authors’ position lies in the middle of these streams (Beadles et al, 2005; Bowen et al, 2004; Beulen, 2009; Cascio, 2005). Figure 1 describes the 3 main components needed for a proper Knowledge Management System in any organization.

![Figure 1: The organizational context for KM](source=– Handbook of Nuclear Knowledge Management, IAEA)

This turn in HRM practices is partially attributed to technology enablers, such as human resource information system (HRIS) which consists of systematic procedures and functions to acquire, store, retrieve, analyze, manipulate, and disseminate relevant information concerning organizational HR (Lippert et al, 2005; Troshani et al., 2011). Therefore, to increase the effectiveness of HRM, organizations are becoming more and more dependent on HRIS (Ball, 2001; Lippert et al, 2005; Troshani, et al., 2011).

In the context of the Nigerian technological environment, the foregoing necessitates revisiting erstwhile Business Process Management (BPM) in order to accommodate the many changes in the way businesses are using technology also bringing in Business service management (BSM) that is concerned with understanding and improving how IT services are used by business processes. The role of BSM technology in utility computing model becomes obvious. Instead of showing the impact of IT on businesses, the same model can be used as the basis for IT service provisioning in the utility model. That is, if we execute additional business processes, what IT services need to be provisioned becomes very clear. Since this capability is massively enhanced when fed with business volumetric information taken directly from the BPM tool, this research forms a key part of the BPM/BSM value proposition.

Leaving Human Resource Management (HRM) practices out of the utility model threatens to limit the capabilities of BPM as it presents a distorted picture to those accountable for the affected business service. That is, because of the dependence between business and Information Technology (IT), BPM needs to factor in this aspect to provide a true representation of the operational effectiveness of organisations. Although technological advancements question HRM practices in developing countries, the reality is that HRM tools have been designed to fulfil a very different function than BPM. As a result, comparisons between the two are moot. However, since fundamentally the HRM data is useful to BPM, this study tries creating a bridge between the two to ensure that the HRM dimension is factored into the equation.

Our main objective in this work is to establish the relationship between Human Resource Information System (HRIS) functions and HRM functionalities linking them to technology transition for firm competitiveness focusing on the telecommunication industry in Nigeria. For the purpose of this study Copyright © 2013 SciResPub.
and in order to achieve the desired research objectives, we built a frame in which HRIS functions were dealt with as independent variables and HRM functionalities dealt with as dependent variables.

Our aim is to ascertain the extent to which human resource management (HRM) practices and processes can be transferred from one country to another focusing on firm functional activities where they relate to the management of employees in multinational organizations. This area has aroused interest among those researching HRM practices. It is also an issue that has been the subject of considerable debate (Gertsen, 1990; Tung, 1990; Tung and Miller, 1990; Brewster, 1993; Bae et al., 1998; Akhtar, 2008; Harish et al., 1998; Martin et al, 1998; Becker, 2006; Huselid, 2005; Skinner, 2004; Ivancevich, 2001). It is of special interest to multinational corporations when they seek to establish HRM processes spanning different cultures and countries. There is an increasing awareness of the importance of HRM in the international business arena which has seen growth in strands of literature.

There is a growing recognition that, although a focus on HRM-specific activities in multinational firms is of considerable importance, extant literature does little to extend its conceptual/theoretical boundaries (Ferner, 1994; Kochan et al., 1992; Festing, 1997; Kamoche, 1996; 1997; Kobrin, 1992; Millman et al., 1991; Schuler et al., 1993; Taylor et al., 1996; (Edwards et al., 1993; (Boxall, 1995; Chiu and Bu, 1990; Harzing et al, 1995; Teagarden et al., 1995; Ferner, 1997). Consequently, we seek to provide an alternative understanding of the linkages between business strategy and comparative/international HRM problems of control and autonomy in the management decision-making process that underlies international HRM research and the role of ethnography in researching international HRM. Therefore, this work is of considerable value because it will push the frontiers of our knowledge and understanding of comparative and international HRM forward in a meaningful, though technocratic, sense.

Nigeria started embracing Digital Technology since the 1980s with the introduction of Digital Switches and Transmission Systems (Radio and Optic fibre) into the telecommunications network. Since the turn of the decade, Mobile Telephone Services (Cellular), Paging and Electronic Mail have been part of the services offered by NITEL which hitherto enjoyed the monopoly of Telecommunications services provisions, operations and maintenance until 1992, when a decree establishing the Nigerian Communications Commission (NCC), liberalized terminal ends equipment and value added services for competition and private sector participation. The private sector in Nigeria has, until recently, not been forthcoming with technological development in the country. Multinational subsidiaries operating in Nigeria rely more on their parent companies or their associates for R & D instead of developing their own independent facilities locally.

Due to the fact that the recent deregulation of the mobile phone market has led to the introduction of Global System for Mobile communication (GSM) network providers operating on the 900/1800 MHz spectrum, MTN, Airtel, Globacom and Etisalat, the use of cell-phones have soared and have mostly replaced computerized yet unreliable services of the Nigerian Telecommunications Limited (NITEL). Despite technological advancement and many computer installations in Nigeria, the awareness of the potentials of these computers and their relevance to our national development and well-being is just emerging. While the existence of information does not necessarily ensure its use, the real value of an information system lies in the servicing of specific user needs. In order to address this and hoist the country on the path of greater technological and overall socio-economic development as well as create a new lease of life for the citizenry, this study brings to bear a planned increase in penetration of telecommunications services that must be seen as a welcome development for national growth.

1.0.2. Limitations
The theories we identified in literature represent possible explanations for some of the empirical relationships between technology and HRM. These available theories are admittedly inadequate. Each
deals with pieces of the larger phenomenon and none addresses the whole domain of HRM in Context. Although imperfect, potentially useful theories on technology and human resource management are relatively plentiful. Much less plentiful are psychometrically sound, agreed-upon approaches for measuring the relevant constructs and testing key theoretical propositions thereof. Through methodological contributions, industrial-organizational psychology should be in an excellent position to contribute to the advance of knowledge about HRM in Context.

Consequently, this study requires measurement tools that should capture the essential features of HRM philosophies, policies, and practices, while yielding information that facilitates meaningful comparisons among organizations and across environmental contexts. We simply identified and described the most common configurations of prescribed HRM systems and the most common forms of received HRM that serve as the foundation for future investigations of HRM in Context. Ideally, such research should reflect the reality of rapid globalization and the international context of most large organizations.

1.0.3. Assumptions
One assumption of this study is that failure to change is due to lack of information; that change in behaviour happens because a good analysis of the problem has occurred and that those involved have accurate factual information that they understand. We also assume that if HRM departments are integrated and involved in strategic planning processes, they will be able to expeditiously provide appropriate and accurate information through the use of Information Technology (IT) to earn ‘strategic partner’ status for effective transition.

1.1. Problem Statement
The HRM system in Nigeria is now being managed through tools and technologies. The nature of change is still not completely understood and what is known is not widely practiced. As consultants exist to create and facilitate change in people's lives, examining the nature of change requires thinking beyond the digital trends. It is intriguing that our people continue to make computer tools for thinking and keeping up with change, tools that are imperfect, yet functional and of such importance to new knowledge and understanding that great effort is still spent in using and improving them. Software and hardware updates to such technology do not arrive timely. Updates are spread out over many months. This poses two major problems for the change challenge and raises a pile of questions. How much change is really happening in Nigeria; how difficult or easy is it to handle even simple changes; what is essential to enable change especially in the telecommunications industry?

Recruiting the right person into organizations to manage the performance of employees is worrisome. Creating a performance culture wherein opportunities are provided for enhanced optimum performance as a way of life is lacking. People are not groomed to get in tune with performance culture. Training takes on a new connotation as the practice here is devoid of foreseeing and anticipating the requirements or developing suitable training so that the employees are well-equipped to handle technology challenges. Creating the environment that stimulates the creation of knowledge and its sustenance throughout the organization is lacking. Incorporating all HR sub-systems that will achieve exceptional performance is a big challenge. As a result, the HR department can neither carry on with its traditional functions nor can it operate within the new technology environment and applications.

Arising from these, Nigeria’s Human Resource function has increasingly become a target of criticism locally. The criticism is that the HR function is politicised, too bureaucratic, controlling, not operationally focused, reactive and powerless. In most cases, human resources appear to be playing a secondary role at a time when this function should be more in demand and more valued. The HR function continues to be criticized for not moving with the times. Miles et al, (2003); Oföri-Dankwa (2004) say that indeed HRM has not kept up with developments in Nigerian organizations like in
other similar developing economies elsewhere. The forces of the market have radically altered the ‘employment contract’, yet the people management practices do not seem to have followed suit. In the face of this, the human resources function is often perceived as slow to adapt to the new realities of the market place.

In developed economies, for the past two centuries automation has been eliminating jobs at the bottom of the skill ladder while creating new (and better paying) jobs at the top of the skill ladder. In Nigeria, the ladder has been moving up, and we have been exponentially increasing investments in education at all levels (Kurzweil, 2003). Since 1900, government expenditures have formed the most rapid paced exponential curve of them all. This upward movement to better jobs and better lives should have been part of the positive frame of reference that would sustain change efforts. The reverse is the case here. The impact of these trends has been negatively as deep economically as it has been psychologically and intellectually.

Looking at the scenario of HR in IT companies, we find that flexibility appears to be the key for success and survival as IT has become a dynamic field due to the constant developments and upgrade in the area of technology and changing customer requirements. Topping all these reasons is also the trend of globalization, which tries the HR test of endurance. The ability and the willingness to modify job structure, job classification and the organizational structure as often and as quickly as necessary are important elements in a successful recruitment and retention strategy for IT professionals. This challenge of managing expectations and change puts constant pressure on the professionals in Nigeria.

Organisational problems such as:- planned objectives are not achieved mainly due to shortage of funds, inadequate executive technical manpower and uncoordinated infrastructural planning and poor project management; rapid advancement in technology making procurement of spare parts for maintenance of existing systems a costly undertaking as these are obtainable from sources overseas; lack of equipment standardisation which creates problems of spare parts stocking; irregular tariff, at times, that has made generation of revenue to cater for recurrent capital expenditure and future development difficult; poorly defined and discontinuous policies on national development plans constantly retard telecommunications development efforts in Nigeria. The net effect of these is constant failure to attain planned targets and poor performance of the telecommunications business undertaken in the country. It is clear that the African countries are grossly under wired and their telecommunications facilities quite clearly underdeveloped. An analysis showing the correlation between national GDP and telephone density revealed the link between economic affluence and the penetration of telecommunications in developing economies.

Telecommunications development in Nigeria suffers inadequacy of science and technology infrastructure manpower, information, engineering services, materials, instruments and apparatus for training scientists and technologists in telecommunications. Limited dissemination and utilization of research results in telecommunications practice in Nigeria has also been identified as a definite constraint to telecommunication development. Results of research in engineering, electronics and solid state physics in the Universities and Research Institutes are not being fully utilised to develop local capability in telecommunication services and in maintenance, adaptation and integration of new equipment with existing ones.

In February 2008 a report by BBC News says that Nigerians are frustrated that the Global Satellite system communication (GSM) in the country has failed to deliver efficient services that can compare with other networks around the world despite President Olusegun Obasanjo’s promise of improved services by 2009. November the same year, the Senate Committee on Communications expressed worry about the deteriorating condition of the communications industry. Information Minister John Odey also worried about the situation said “the search for new investors with sufficient resources to
improve the telecoms companies in Nigeria particularly Nitel and Mtel would begin immediately” (BBC News, 2008).

For providing customers with greater value and satisfaction than their competitors, firms must be operationally efficient, cost effective, and quality conscious (Johnson, 1992; Hammer and Champy, 1993). Also related to this condition are a number of studies focusing on particular aspects like marketing (Corbett et al, 1993), information technology (Ross et al, 1996), quality of products (Swann et al, 1994), and innovative capability of firms (Grupp et al, 1997). Nigerian subscribers are not happy with the billing system, the quality of service, the drop calls, the unnecessary problems of recharging, the 'this number you're calling is not available, please try again later', the 'network/number busy', and for ECONET subscribers, 'sorry, your ability to make and RECEIVE calls is no longer valid' once the five or ten days of your prepaid voucher expires, etcetera, they experience daily with the GSM networks.

In advanced economies, technology has enabled human resource management to dispense with routine and transactional administrative tasks. In turn, HR managers increasingly contribute to business strategy and execution. The advances in technology have been impressive elsewhere but in Nigeria, increasing HR participation in management that should alter downstream firm outcomes is not evident, HR involvement with line management that should temper management decisions is farfetched, and changes in organisational behaviour are in unpredictable directions. The Nigerian Human Resource Managers are unable to equip themselves with technological applications in order to survive this turbulent phase of globalization. In the face of these challenges facing HR managers in Nigeria, the question arises how can human resource management transition lead to improved firm competitiveness in Nigeria’s telecommunications industry?

1.2. Research questions
In order to properly address the research problem, the following research questions were developed:-
1. How can technology positively deliver transactional, traditional, and transformational Human Resource activities for organisational efficiency and effectiveness in Nigeria?
2. How does technology help the Human Resource function to become a strategic partner of Nigerian organizations?
3. How does the relationship between globalization and culture influence businesses and Human Resource professionals’ attitudes?
4. How does the relationship between Human Resource Information System functions and Human Resource Management functionalities lead to improved competition in Nigeria?

1.3. Objectives of the study
The main objective of this study is broken down to the following sub-objectives with a view to answering the research questions accordingly:-
1. To find out whether technology can positively deliver transactional, traditional, and transformational Human Resource activities for organisational efficiency and effectiveness in Nigeria?
2. To ascertain how technology can help the Human Resource function to become a strategic partner of Nigerian organizations?
3. To determine whether the relationship between globalization and culture will influence businesses and Human Resource professionals’ attitudes?
4. To find out whether the relationship between Human Resource Information Systems functions and Human Resource Management functionalities will lead to improved competition in Nigeria?

1.4. Research Hypotheses
Our speculation of the outcome of this research is built on the following null hypotheses aimed at a testable prediction that designates the relationship among the research variables:-.
1. Technology cannot positively deliver transactional, traditional, and transformational Human Resource activities for organisational efficiency and effectiveness in Nigeria?
2. Technology cannot help the Human Resource function to become a strategic partner of Nigerian organizations?
3. The relationship between globalization and culture will not influence businesses and Human Resource professionals’ attitudes?
4. The relationship between Human Resource Information System functions and Human Resource Management functionalities will not lead to improved competition in Nigeria?

2. REVIEW OF LITERATURE –

2.0. Introduction
This paper examines human resource management and technology transition in Nigeria as a key strategic resource in today’s competitive environment.

2.1 Human Resource Management (HRM)
In today’s knowledge economy, the success of organizations depends mainly on the performance of their human resources (HR) (Lippert et al, 2005). Human resource management is about the procedures and practices that encompass the human resource aspect within organizations (Dessler et al, 2013). Such practices should be connected to the overall strategy of the organization. This was discussed by Bratton et al, (2003) who stated that "the strategic approach to managing employment relations which emphasizes that leveraging people's capabilities is critical to achieving sustainable competitive advantage". Many researchers supported this and commented that the change from a primarily administrative personnel function to a more strategic position necessitates re-designing the nature of the HRM functions (Evans, 2005; Hussain, 2007; Wiblen et al, 2010; Sheehan et al, 2011).

This functions re-design (planning, recruitment, selection, appraisal and performance management, reward management, development, employee relations, health and safety, and union-management relations) is estimated to provide HRM with a better opportunity of impact on strategic decisions in order to eventually improve organizational performance (Bowen et al, 2004; DeCenzo et al, 2010; Sheehan et al, 2011). Akhtar et al, (2008) added that training, participation, result-oriented appraisals and internal career opportunities should be considered as valid human resource management (HRM) practices. Many researchers have discussed issues in HRM and its functionalities. Martinsons (1997) and Beulen, (2009) in their investigation commented that distinguishing these functionalities arises from the perspective of organizational and employee-centric view. They added that the strategic dimension for organizational continuity and prosperity relies immensely on value and importance of the human capital which identifies knowledge as a significant part of this capital.

Technology is the application of scientific knowledge for practical purposes especially in industry. It is the machinery and equipment developed from such scientific knowledge. It also refers to the making, modification, usage, and knowledge of tools, machines, techniques, crafts, systems, and methods of organization, in order to solve a problem, improve a pre-existing solution to a problem, achieve a goal, handle an applied input/output relation or perform a specific function. It is the purposeful application of information in the design, production, utilisation of goods and services and in the organisation of human activities. The basic role of technology in business include: efficiency and cost-effectiveness; business operations and strategies; marketing; security and organization as well as communication. Today, technology has moved to the front line in most organizations. It has become "strategic" in the sense that it is a necessary component in the execution of a business strategy. The paradigm shift is a fundamental change in just about everything regarding the technology itself and its application to business. "Organizations which do not make this (technology) transition will fail. They will become irrelevant or cease to exist.” (Ardichvili, 2002)

On the other hand, information technology (IT) is at the heart of corporate reinvention and rebirth. Understanding the technology paradigm shift is therefore becoming a precondition for business
success. According to Kenter (2003), today’s human resources (HR) tasks cover a variety of activities requiring different skill sets, “from compensation and benefit administration (highly quantitative) to employee relations (highly qualitative)”. As a consequence, there are legitimate questions about whether these tasks need to be together on organizational plans in the light of new realities and technologies. To be considered successful, HR technology must achieve several goals, described by Walker (2001) as:- Strategic alignment, which must support the goals of a business by helping users; business intelligence, which should inspire new insights and learning, by providing users with relevant information and data, and “efficiency and effectiveness, which must change the work performed by HR personnel, by dramatically improving their level of service, allowing more time for work of higher value, and reducing their costs” (Walker, 2001).

However, Lewin (2003) explained that, although we expect all businesses to have embraced this “high involvement” on technology, “only about one of every eight business has done so”. This is an important issue these days because of the intellectual resources of an organization, as elaborated by Ardichvili (2002). The author wrote that the realization that knowledge management “plays a central role in ensuring competitiveness of the company rests on the perception that in today’s business world the only truly unique resource of a company is the intellectual and human capital” (Ardichvili, 2002).

2.2. Theoretical foundation of the study
The general theoretical perspectives of this study are based on sociology, economics, management, and psychology that focus on different aspects of the domain of HRM in Context (Wright et al, 1992). We begin by offering brief summaries of the perspectives that have guided most of the empirical studies reviewed in this section and which we feel are most likely to drive future research in this area.

General Systems Theory
In general systems theory, the unit of analysis is understood as a complex of interdependent parts (von Bertalanffy 1950). An open (vs. closed) system is dependent on the environment for inputs, which are transformed during throughput to produce outputs that are exchanged in the environment. Open systems models seldom address organizations or large units within organizations. Katz & Kahn's (1978) is an exception in that it treats HRM as a subsystem embedded in a larger organizational system. The open systems view of HRM has been developed further by Wright & Snell (1991), who used it to describe a competence management model of organizations. Skills and abilities are treated as inputs from the environment; employee behaviours are treated as throughput; and employee satisfaction and performance are treated as outputs. In this model, the HRM subsystem functions to acquire, utilize, retain, and displace competencies are achieved.

Similarly, Snell's (1992) description of HRM as a control system is based on open systems theory. In a more narrow discussion, Kozlowski & Salas (1994) presented a multilevel organizational systems approach for understanding training implementation and transfer. Many of the more specific theories used to understand HRM in Context assume that organizations function like open systems.

Human Capital Theory
In the economics literature, human capital refers to the productive capabilities of people (Becker et al, 2006). Skills, experience, and knowledge have economic value to organizations because they enable it to be productive and adaptable; thus, people constitute the organization's human capital. Like other assets, human capital has value in the market place, but unlike other assets, the potential value of human capital can be fully realized only with the cooperation of the person. Therefore, all costs related to eliciting productive behaviours from employees-including those related to motivating, monitoring, and retaining them-constitute human capital investments made in anticipation of future returns (Flamholtz et al, 1981).
Organizations can use HRM in a variety of ways to increase their human capital (Cascio 2005, Flamholtz et al, 1981). In human capital theory, contextual factors such as market conditions, unions, business strategies, and technology are important because they can affect the costs associated with alternative approaches to using HRM to increase the value of the organization's human capital and the value of the anticipated returns, such as productivity gains (Boudreau et al, 1985, Russell et al 1993).

The development of HR systems
Technological advancements in the HR field followed the development of the HR functions’ business contribution. The key development eras can be viewed as:

- **The personnel administration era** – during which the record-keeping of transactional events was the primary focus;
- **The personnel management era** – during which the different HR functions were more clearly segmented, and started to develop as unique and specialised functions.
- **The HR management era** – during which the integration of HR functions transformed personnel management into a strategic business entity.

The evolution continued into recent Human Resource Management System (HRMS) and the latest is e-HRMS applications (collective term for a wider spectrum of electronic HRM applications). The development of technology especially the internet and variants like intranet and extranet has significantly redefined the HR systems’ landscape. The difference between HRIS/HRMS and e-HRMS is the migration from the automation of HR services towards technological support of, and accessibility to, information on HR processes and services. In order for HR departments to live up to these challenges, they need to clearly define the criteria for consideration when the migration to, or between, different HR systems is considered. In short, strategic HRMS/HRIS/e-HRMS empower HR departments to be simultaneously strategy-focused, flexible, efficient, global and client-oriented. (Quinn, 1996; Martin et al, 2005; Nankervis et al, 2005). Figure 2 illustrates the human resource management model.

Globalization and HRM Transition

According to Ardichvili, (2002), globalization is the integration of business activities across geographical and organizational boundaries. Beulen (2009) defines it as “the capacity to treat the world as one market while…dealing with many culturally diverse merchants. Farnsdale et al, (2010) say it is “the process by which markets expand to include competitors for customers and productive inputs without regard to national boundaries” However, Fulker et al, (1992) defines it as “doing business with a worldwide focus rather than doing business in an international market with the focus from a home-country viewpoint.”

These researchers see globalization reflecting technological advances that have made it easier and quicker to complete international transactions, both trade and financial flows. They all agree that globalisation is the integration of financial markets made possible by modern electronic communication. However, Sparrow et al, (2006), say that globalization is linked to four major aspects: a) Trade, b) Capital movements, c) Movement of people and d) Spread of knowledge. They opine that the HR function is realigning itself in response to this process of cross-function globalization (building new alliances with these functions) creating new activity streams and new roles and skills required of the HR function.

Ulrich (2005) argues that human resource managers must perform four tasks: change management, administration, employee advocacy and strategic planning. Empirical studies on HR technology indeed find that technology has increased HR's involvement with the business and, to a smaller degree, with change management. Accordingly, Becker et al, (2001; 2006); Fitz-Enz, (2002); Huselid et al, (2005); Cascio, (2005); all agree that the people management function has become strategic in its importance and outlook and is geared to attract, retain, and engage talent. These developments have led to the creation of the HR or workforce scorecard as well has added emphasis on the return on investment (ROI) of the HR function and its programs.

Martinsons et al, (1999); Thite, (2004) ; Roehling et al., 2005 opine that the critical success factors in information systems project implementation are non technical and are due more to social and managerial issues. Lepak et al, (2006) on the other hand argued that having an advanced, full-fledged system will not automatically make HR a strategic business partner; it only acts as a building block and an effective aid in the process. Building on Lepak et al, (2006) ideas, Bradford et al, (2006) found that technology has improved service quality and that the transactional aspects of HR have become less important, while knowledge of the business and delivery of HR functions like staffing have become more important. They argue that technological expertise ought to be added to the list of HR competencies. Rather, it is the ability to coordinate and manage technology that matters. Dessler, 2013 corroborates these views.

Samir et al, (2004) opine that workplace applications drive the next phase of growth with respect to enterprise software, and point out that some applications fail with respect to coordination and implementation adding that there are three phases required to implement technological change: 1) Adoption phase which requires needs analysis; 2) Needs analysis which asks the questions of the technology's aims and of users it must satisfy; and 3) Implementation phase that requires HR's taking service providers and clients as well as HR's own needs into account. In the implementation phase, a number of outcomes such as cost savings, HR's increased credibility and superior service can result. Watson (2010) survey updates these findings concluding that employers must embark on new levels of service delivery during technological change.

However, Lengnick-Hall et al,(2006); Zelenskaya et al, (2011) say that talent management software that incorporates recruiting, a skill-and-competency inventory, performance management, learning-
and-development software and succession-planning software are necessary factors to consider in change initiatives. According to them, because all of the programs are integrated, the software can identify gaps and suggest learning opportunities concluding that technology is continuing to eliminate more of the transactional steps; that increasingly integrated systems will create the need for more generalists and that one area in which technology has made a big difference is in moving the role of HR generalists away from basic transaction processing and answering rudimentary questions. Generalists now give higher levels of support and they rely on technology. As a result, they can participate in corporate-level planning and integration of HR at the line-management level.

**Organisational Change**

According to Henry et al, 2002, during implementation of change and transformations, a new management style occurs and largely impacts and influences the power dynamics in the organisation. Studies have shown that organisational change in management and leaders may result to power conflicts since employees may not support appointments or new leadership. Power dynamics issue are impacted in change and transformations in products, services and even management, in a way that new leaders may not be capable of handling employees with cultural differences. Shifting in power-dynamics may bring conflicts to the industries and organisation as it may affect the entire implementation of the organisational change approach. (van Sluijs et al, (1991); Davies et al, (2000); Doyle et al, (2000); Lasslo et al, (2000); Sugarman, (2001); Miles et al, 2003; Moran et al, (2004).

They concluded that continual change and transformation in the industries and organisation is important to maintain competitive positions. Those firms and companies which are most successful globally recognise the importance of technological skills and continual change and transformation. Wright, (2003); Beverage, (2003) agree and that in a change process, the role of the change agent during the organisational change process involves control over others’ behaviours and actions of leaders. However, they stress that change management cannot be successful without effective communication and effective communication depends on an understanding of the important role culture plays in any change program. Communication is an essential aspect of organisational change. Through effective interaction, employees and co-workers are able to share insights and learn from each other’s strengths as well as expertise. Specifically, the ability to communicate directly affects an individual’s stress levels, self-esteem and relationship quality.

However, Mathis et al, (2010) indicated that an organisational change requires the willingness and ability to transform what is already being done just as much as the ability to do new and different things through proper communication, marketing abilities and skills and also technological skills. Accordingly, a set of required policies and practices that make the present create the future should be considered.

Skinner, (2004) argues that another aspect needed for having successful organisational change is leadership skills. Applying the right leadership style in the right period of time and situation is the best approach in effectively managing a change process because the leadership in an organisational change process creates a strategic vision, communicate that vision, model the vision, and build commitment to the vision by being consistently involved in the process of changing. On one hand, business leaders who want to get ahead in today's business environment must learn to respond to a growing number of change and transformations in how they structure industries, establishments, conduct business, implement technology, as well as relate to consumers and employees.

Appelbaum et al (2000) supports this view and stated that the highlight of successful industries is on consumers and their demands, including the aspect investing in ways to enhance sales and give superior and quality service to clients, and they do not forget which their consumers and their consumers’ demands underlie their industries’ existence. In addition, adapting factors crucial to the success of specific missions and the initiation of solutions to problems are common traits of a
successful industry. The lack of such initiatives can throw an industry into confusion, being stranded in conventional practices which cannot solve or handle the present issues and problems faced. Nonetheless, the lack of such factors stresses the need for strategic organisational change. It is basically a flexible strategic planning process as opposed to a static form of the traditional strategic planning, specifically on how to disseminate or market the information about organisational change process.

Studies have shown that organisational change was forced by both internal and external drivers of transformations so to produce new products, services or business approach that meet and satisfy the needs of their customers. The change and transformation was done so as to ensure that the industries and organisation keeps up with the industry and company needs (Clinton et al, 2000; Hailey, 2001; Christensen et al, 2003; Buchanan et al, 2004; Burns, 2004; Miller, 2005). They concluded that uncertainties created by rapid technological changes and fierce global competition, organisational design are becoming increasingly critical to deriving competitive advantage. Hence, planning, organising, leading and controlling will always be key functions in periods of rapid change and that the factor that should be considered in implementing organisational change in the industries and organisation with regard to the information technology skills or technical skills is people who will be involved in the change project. The people should have the ability to run the new equipments to be used or operate the information technology or software to be installed as part of the business approach. Herein, training for personnel in terms of the use of IT and other information systems is important to make sure that change will be successful. Hence, by having effective communication, marketing skills and abilities, leadership skills and technical skills, organisational change process can be successful.

Ivancevich (2001) explains that although HRM is “action-oriented, individual-oriented, globally-oriented, and future oriented”, there is need to streamline its operations and improve efficiency. Cascio (2005) agrees with this view adding that for HRs to be more efficient the following competencies are required: Assisting the organization business model to compete “for business in the product and service markets in which it operates”; acquiring “basic business literacy in corporate finance, marketing, accounting, information technology, and general management”; on its “functional areas within HR, such as legal requirements, recruitment, staffing, training and development, performance management, compensation and benefits, labor and employee relations, and occupational safety and health”; listening skills, as well as the “courage to raise difficult issues” with senior executives; improving its “skills as a strategic business partner by creating an overall talent or people mind-set; creating an HR strategy that aligns people, processes, and systems”. As explained by Cascio (2005), information technology (IT) is fundamental on the strategy for HRM improvement.

However, Katou et al, (2006), highlight HRM competences as: Flexibility, Team work, Communication, Decisiveness, Leadership, Strategic planning, Network building, Client service orientation, Organizational awareness, Self confidence, multiple language competencies, Sharing of expertise, Global and cultural understanding.

2.2 Human Resource Information Systems (HRIS)

HRIS can be defined as “a composite of database, computer applications, hardware and software necessary to collect/record, store, manage, deliver, present, and manipulate data for human resource” (Broderick and Boudreau, 1992). Studies show that the use of HRIS to support daily human resource management (HRM) operations has expanded spectacularly since the 1990s and is continuing to change HR management activities along with executives, managers, and employees. HRIS is now used not only for administrative purposes but also for strategic and business decision-making purposes (Lederer, 1984; Broderick et al, 1992; Kossek et al., 1994; Harris et al, 1995; Ball , 2001; Kovach et al., 2002; Kovach et al, 2002; Sadri et al, 2003; Shrivastava et al, 2004; Lippert et al, 2005; Beadles et al., 2005; Lepak et al., 2006; Florkowshi et al, 2006; Ngai et al, 2006; Hussain et
al., 2007; Holincheck et al., 2007; Dery et al., 2009; Beulen, 2009; Mathis et al, 2010; Wiblen et al., 2010; Troshani et al., 2011). They concluded that in order to increase the effectiveness of HRM, organizations are becoming increasingly reliant on HRIS

Mayfield et al, (2003), agrees with these researchers but added that the functions of HRIS comply with organizational interests in maintaining and managing the human capital based on the organizational vision and the strategy of achieving that vision. It supports and integrates various aspects in relation to organizational sustainability. In their study, Mayfield et al, (2003) identified seven main component of an HRIS model. They commented that those components are considered to be the primary components which form a comprehensive framework of an HRIS as the model addresses all major HRIS components and offers information on how these facets interact to support each other and larger organizational outcome". Casico (2006) adopted this framework; however, he divided the seven functions into two dimensions. He commented that four functionalities for HRIS are related to HR practices concerned directly with the organizational employees. These functions are personnel development, communication and integration, records and compliance and HR Analysis. He added that the three remaining functionalities (strategic integration, forecasting and planning and knowledge management) represent HR department role in the organizational practices in general and the strategic management in specific.

Firm-Level Competitiveness

Competitiveness can be treated as dependent or independent variable, depending on the perspectives from which one approaches the issue. Barney et al (2001) suggested a framework that has three folds: the competitiveness performance, competitiveness potential, and the management processes. A similar framework can be found in the World Competitive Yearbook (WCY, 2002). In the WCY formula, "world competitiveness" is a combination of assets that are inherent and created as well as process that transfers assets into economic results (Man, 1998). Competitiveness involves "a combination of assets and processes, where assets are inherited (natural resources) or created (infrastructure) and processes transform assets to achieve economic gains from sales to customers" (DC, 2001). Outcomes can be achieved through competitive potentials through the competitiveness process (Barney et al, 2001), similar to the Asset-Process-Performance (APP) framework (Momaya, 2000).

Some authors view competitiveness with the competency approach. They emphasise the role of factors internal to the firms such as firm strategy, structures, competencies, capabilities to innovate, and other tangible and intangible resources for their competitive success (Bartlett et al, 1989; Doz et al, Prahalad, 1987; Hamel et al, 1989). This view is particularly among the resource-based approach towards competitiveness (Prahalad et al, 1990; Grant, 1991; Barney 2001, 1991; Peteraf, 1993; Ulrich, 2005). Ability to develop and deploy capabilities and talents far more effectively than competitors can help in achieving world-class competitiveness (Smith, 1995).

A number of studies focusing on particular aspects like marketing information technology, quality of products and innovative capability of firms for providing customers with greater value and satisfaction than their competitors, firms must be operationally efficient, cost effective, and quality conscious include (McKee et al, 1989; Hammer and Champy, 1993; Corbett et al, 1993; Swann et al, 1994; Ross et al, 1996; Grupp et al, 1997; ). They conclude that Productivity is related to competitiveness and a good indicator of long-term competitiveness of a firm. Porter (1998) agrees with this adding that competitiveness at the organisational level is productivity growth that is reflected in either lower costs or differentiated products that command premium prices.

2.3. Research framework and study variables

From literature, Human Resource Information System consists of seven functions as introduced by Mayfield et al, (2003) and adopted by Remenyi, 2005; Lippert et al, 2005; Casico (2006; Katou et al, 2006; Boateng, 2007; Farndale et al., 2010; Troshani et al., 2011; Dessler, 2013, namely, i) strategic
integration, ii) forecasting and planning, iii) personnel development, iv) human resources analysis, v) knowledge management, vi) communication and integration, and vii) records and compliance.

Similarly, HRM is divided into five functionalities which have been discussed by most of human resources scholars. However, for the purpose of this study, the model which was proposed by Beulen, 2009; Troshani et al., 2011; Dessler, 2013 were identified. This framework dealt with HRM functions as applications of knowledge-based systems which includes i) human resource planning, ii) staff development and regulatory compliance, iii) benefits administration, iv) performance appraisal, and v) recruitment and selection.

2.4. Issues from the review of literature

From literature, workplace flexibility is expected to be on the rise as the future workplace, the ‘virtual office’ is characterized by creative and flexible work arrangements. As more employees work off-site (up to two thirds of an organization in the 21st century) there will be an increase in emphasis on performance and results as opposed to the number of hours worked. In addition, off-site employees can expect to attend fewer meetings. Specified work will become much more collaborative and management will spend nearly all its time managing cross-functional work teams who enjoy a lot of autonomy. In essence, there will be a movement or trend towards a decentralized model of HR. HR managers will have to accommodate employees in their virtual work locations and find ways to manage corporate culture, socialization and employee orientation. In order to obtain and maintain a competent workforce, they must to act as organizational performance experts and shape employees behaviour without face to face meetings.

One of the issues that the leaders of organisational change should consider includes employee resistance (Kirkman, 2000: Piderit, 2000). For example, job insecurity associated with negative employee attitudes, behaviours, and health (Sverke et al, 2002). This is normally associated with a fear of failure to adapt to the changes and this affects the process of change.

3. Research Methodology

3.0. Introduction

In order to clearly examine the research problem and to achieve the desired objectives, we designed our methodology in such a way as to establish the relationship between Human Resource Information System (HRIS) functions and HRM functionalities linking them to technology transition for firm competitiveness in Nigeria.

Our research framework highlighted the elements to be investigated in the study which were constructs from both HRIS functions and HRM functionalities presented as independent and dependent variables.

As a guide, we adopted the research framework made popular by Mayfield et al, (2003) that was adopted by various researchers (Remenyi, 2005; Lippert et al, 2005; Casico (2006; Katou et al, 2006; Boateng, 2007; Farndale et al., 2010; Troshani et al., 2011; Dessler, 2013) wherein HRIS functions were dealt with as independent variables. Similarly, we used the model proposed by Beulen, 2009; Troshani et al., 2011; Dessler, 2013 where HRM functionalities were considered as dependent variables. This is done with the aim of examining the importance of HRIS in organizations and the role it plays in maintaining sustainability, growth, expansion or development of different Nigerian organizations in general and for the telecommunications industry in particular.

3.1. Research design

We used descriptive survey method for data collection with standardized quantitative and qualitative measurement tools. We gathered data using a structured questionnaire, which enabled our hypotheses testing. Fifty six questions were included in this questionnaire which attempts to measure the several dimensions that represent both HRIS function and HRM functionalities.
A copy of a letter asking for permission of access was sent to all the thirty six (36) licensed telecommunication companies operating in Nigeria. However due to privacy issues only five of them played a major role in selecting themselves to be included in this research rather than the researcher doing so personally by approving the data collection process in their organisations. The five operators are MTN Nigeria, Econet Wireless, (EWN) which is now Vee Networks of Nigeria (Vmobile), Mobile Telecommunications Limited (MTel) (the mobile subsidiary of the national carrier, NITEL) and Globacom (Glomobile).

3.2. Population of the study
The population of this study consists of a total number of thirty six (36) licensed commercial telecommunication companies operating in Nigeria. We limited our study to HR departments in each corporate headquarter of the companies. The five telecommunication companies that formed part of this study represent 13.89% of the population. From secondary data, we discovered a total number of 200 Human Resource Managers located in the various telecommunication networks.

3.3. Procedure
We sent e-mails to all 36 companies and equally made follow-up telephone calls to their corporate headquarters. We made follow-up phone calls two weeks after the initial mail-out in an effort to increase the response rate and to verify that the company had a HR department or function. These follow-up calls enabled us to identify companies that did not have a formal HR function or those that are moribund and not eligible for the study.

We distributed 200 questionnaires to the HR professionals accordingly and ensured that all the managers in the respective departments were included. Only 123 questionnaires were returned with a response rate of 61.5%. Despite the relatively small population size, this is a typical response rate for mail surveys to managers. Table 1 depicts the responding company profiles and certain descriptive statistics.

3.3.1. Profile of the Respondents
We asked the respondents of this study to give information about their gender, age, educational level, and family status. From the results that appear in Table 1 above, female respondents outnumber the males. However the difference is not that great as male respondents represent 52.8% of the population.
sample whereas females represent 47.2%. This indicates that this factor has a minimal effect on the results of this study. Furthermore, married respondents represent 50.4% of the population sample whereas the unmarried ones represent 49.6%. This also indicates that this factor has a minimal effect on the results of this study.

3.3.2. Measures
We built the factors that were used to measure HRIS from the study carried out by Mayfield et al., (2003), whereas the studies carried out by Beulen, (2009) was used to build the factors that were used to measure HRM. We developed the items of the questionnaire on the basis of literature review and previous research questionnaires. For better understanding of the relationships among variables, we explored the relationships of dependent and independent variables and performed two types of measurement. The first type was the opinion of the respondents concerning rate of organisational change in terms of technological transition over a time frame. The second was competitiveness in terms of corporate performance.

4. Data Analysis and Results
To examine and test the research hypotheses, we collected the survey data through the questionnaire distributed to the HR professionals and conducted the data analysis using Statistical Package for Social Sciences (SPSS) version 17.

4.1. Reliability Testing (Cronbach’s Alpha)
In this study, scale reliability was assessed using Cronbach’s alpha coefficient. Table 2 below presents the Cronbach’s alpha coefficients for the different dimensions and variables of the questionnaire. The results range from 0.740 to 0.948. Therefore, all values exceed the recommended threshold 0.70, indicating good internal consistency among the items within each dimension, each variable, and the entire scale.

<table>
<thead>
<tr>
<th>Human Resource Information Systems</th>
<th>Cronbach’s alpha</th>
<th>No. of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Integration</td>
<td>0.966</td>
<td>30</td>
</tr>
<tr>
<td>Forecasting &amp; Planning</td>
<td>0.740</td>
<td>04</td>
</tr>
<tr>
<td>Performance Development</td>
<td>0.905</td>
<td>04</td>
</tr>
<tr>
<td>Human Resources Analysis</td>
<td>0.846</td>
<td>07</td>
</tr>
<tr>
<td>Knowledge Management</td>
<td>0.862</td>
<td>03</td>
</tr>
</tbody>
</table>

4.2. Hypothesis Testing
Before testing the hypotheses, multicollinearity diagnosis was done using Variance Inflation Factor (VIF) and tolerance value. The tolerance of an independent variable, which is an additional method to measure the effects of multicollinearity, ranges from zero to one. The (VIF) value of 5 or 10 and above and a tolerance of less than 0.20 indicate that variables are multicollinear (Chadha and Kapoor, 2009).

<table>
<thead>
<tr>
<th></th>
<th>Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Integration</td>
<td>0.313</td>
<td>3.190</td>
</tr>
<tr>
<td>Forecasting &amp; Planning</td>
<td>0.239</td>
<td>4.175</td>
</tr>
<tr>
<td>Performance Development</td>
<td>0.291</td>
<td>3.435</td>
</tr>
<tr>
<td>Human Resources Analysis</td>
<td>0.215</td>
<td>4.669</td>
</tr>
<tr>
<td>Knowledge Management</td>
<td>0.233</td>
<td>4.283</td>
</tr>
<tr>
<td>Communication &amp; Integration</td>
<td>0.244</td>
<td>4.101</td>
</tr>
<tr>
<td>Records &amp; Compliance</td>
<td>0.226</td>
<td>4.431</td>
</tr>
</tbody>
</table>
As shown in Table 3 above, it can be seen that VIF range between 3.190 and 4.669 values which are well-below five. On the other hand, the tolerance values range between 0.215 and 0.313 which are above 0.2. These factors indicate that there is no evidence of multicolinearity problem in the regression model. In addition to the VIF and tolerance values, a Correlation Matrix was computed the independent variable dimensions to check correlation between them as shown in Table 4. According to Sekaran et al. (2010), a value of 0.75 and above suggests high correlation between the variables. The results in the above table, are all below 0.75 and thus do not suggest high correlation between the variables. Therefore, these findings also show that there is no evidence of multicolinearity problem.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>SI</th>
<th>FP</th>
<th>PD</th>
<th>HA</th>
<th>KM</th>
<th>CI</th>
<th>RC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Integration (SI)</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forecasting and Planning (FP)</td>
<td>0.747</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance Development (PD)</td>
<td>0.681</td>
<td>0.667</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Resources Analysis (HA)</td>
<td>0.775</td>
<td>0.790</td>
<td>0.580</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge Management (KM)</td>
<td>0.708</td>
<td>0.650</td>
<td>0.589</td>
<td>0.655</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication and Integration (CI)</td>
<td>0.616</td>
<td>0.596</td>
<td>0.669</td>
<td>0.547</td>
<td>0.545</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Records and Compliance (RC)</td>
<td>0.651</td>
<td>0.753</td>
<td>0.582</td>
<td>0.743</td>
<td>0.707</td>
<td>0.744</td>
<td>1.00</td>
</tr>
</tbody>
</table>

In order to test the study hypotheses, multiple regressions analysis was used. As mentioned earlier, Human Resource Management (human resource planning, staff development and regulatory compliance, benefits administration, performance appraisal, and recruitment and selection) were treated as a dependent variables and HRIS (strategic integration, forecasting and planning, performance development, human resources analysis, knowledge management, communication and integration, and records and compliance) were treated as independent variables.

Table 5 below shows that F (7, 115) = 8.874 and p-value = 0.000. Since the p-value is smaller than the level of significance (0.05), the research model is accepted at p < 0.05 significance level. Hence, there is a statically significant impact of HRIS on HRM. Moreover, as shown above in Table 1, the R Square's value of (0.828) indicates the proportion of the variance in the criterion variable which is accounted for by the model and shows that about 82% of the variance in HRM has been significantly explained by HRIS. The fact that HRIS explained more than three quarters of the variance in HRM may be due to the absence of other factor explaining the other half.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>R Square</th>
<th>F</th>
<th>Sig.</th>
<th>Beta</th>
<th>T</th>
<th>Sig.</th>
<th>Empirical Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Integration</td>
<td></td>
<td></td>
<td></td>
<td>.041</td>
<td>.591</td>
<td>.556</td>
<td>Not Supported</td>
</tr>
<tr>
<td>Forecasting &amp; Planning</td>
<td></td>
<td></td>
<td></td>
<td>.069</td>
<td>.661</td>
<td>.510</td>
<td>Not Supported</td>
</tr>
<tr>
<td>Performance Development</td>
<td></td>
<td></td>
<td></td>
<td>.206</td>
<td>.873</td>
<td>.005</td>
<td>Supported</td>
</tr>
<tr>
<td>Human Resources Analysis</td>
<td></td>
<td></td>
<td></td>
<td>.139</td>
<td>.223</td>
<td>.224</td>
<td>Not Supported</td>
</tr>
<tr>
<td>Knowledge Management</td>
<td>.828</td>
<td>8.874</td>
<td></td>
<td>.436</td>
<td>.444</td>
<td>.000</td>
<td>Supported</td>
</tr>
<tr>
<td>Communication and Integration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not</td>
</tr>
</tbody>
</table>

The t and sig. (which is known as p-value) values, as shown in Table 1, give a rough indication of the impact of each predictor variable (Kumar, et al, 2010). A big absolute t value and small p value suggests that a predictor variable is having a large impact on the criterion variable. The results show that performance development, knowledge management, and records and compliance have a significant impact on HRM. Also, the standardized beta coefficient is a measure of the contribution of each predictor or how strongly each predictor variable influences the criterion variable (Kumar, et al, 2010). A large value indicates that a unit change in this predictor variable has a large effect on the criterion variable. The strongest predictor for HRM is knowledge management, achieving a β of 0.436, followed by performance development t (β =0.206), and records & compliance (β =0.168).

The findings revealed that knowledge management is the strongest or the most important predictor of HRM in Nigeria. This result is compatible with the fact that knowledge management is considered to be one of the main components of a human resource management system. This corroborates the findings of Mayfield et al, (2003) supporting the view that human resource information systems are mostly created for knowledge management of HRM.

5. Discussion and Results
Strategic integration was hypothesized to have a significant relationship with human resource management functionalities. The result of this study found that this hypothesis was not supported. This result does not agree with the fact that human resource management plays an important role in the implementation of corporate strategy within an organization as Markova (2012) commented that "for a long time, HRM has been seen as a key functional area that assures strategy implementation. With its increased importance, HRM is gaining a more prominent role in the strategic decision-making in organizations". This also does not agree with the fact that HRIS plays an important role in the strategic vision of the organization (Rivard et al., 2006).

Furthermore, it does not agree with the previous studies carried out by Beulen (2009) and Troshani et al. (2011) who commented that HRIS plays a significant role ensuring that human resources objectives are connected with the organizational overall strategic objectives. Strategy is considered to be a crucial factor in the success of any organization. Not supporting this hypothesis can be argued by the fact that telecommunication companies in Nigeria plan for their strategies but fail to properly implement them (Obeidat, 2009). Sheehan (2011) commented that organizations care about formulating their corporate strategies but fail to implement them. Successful implementation can be done by formulating other types of strategies which are business and functional strategies. Human resources strategy is considered to be a type of functional strategies which organizations should plan for carefully, however, this study shows that telecommunication companies in Nigeria do not link HRIS presented in strategic integration with their HRM functionalities on one side with their overall corporate strategy on the other side.

Forecasting and planning was hypothesized to have a significant relationship with Human resources management functionalities. This study did not support this hypothesis and have no relationship between HRM functionalities and forecasting and planning. This means that HRIS does not play a role helping HR department with one of its main roles in the organization which is the creation of human resources future demand on one hand and human resources current and future supply, on the other hand. This result is opposite to what was suggested by Lippert et al, (2005) who suggested that HRIS supports strategic planning by creating work force supply and demand needs and requirements. The result of this hypothesis can be argued as telecommunication companies in Nigeria operate in a culture with less future orientation.
It was also hypothesized that performance development as a dimension of human resources information systems has a significant relationship with human resource functionalities. This study supports this and found that performance development have a relationship with HR functionalities. This agrees with what was discussed Lippert et al, (2005) who commented that HRIS plays a significant role in determining any deficiency an employee has, consequently, managing his/her performance a and career development. The result of this hypothesis contradicts with the result of the previous hypothesis that talked about forecasting and planning. It is supposed that whenever an organization plans and forecasts the needs and requirements of their human resources, it helps them in their career plans which are represented in the current hypothesis. This means that telecommunication companies in Nigeria use HRIS in picking up any deficiency an employee has (on the individual level); however, they do not use such information in planning the human resources needs for the whole organization.

It was hypothesized that human resource analysis as a dimension of human resources information system has a significant relationship with human resources functionalities. As it was mentioned earlier, human resource analysis is considered to be an ongoing mean of collecting and identifying human resource needs (Mayfield, et al., 2003). This study did not support this and found no relationship between the two. However, this result is compatible with the result of the second hypothesis concerning the forecasting and planning and does not go with the result of the third hypothesis concerning performance development. The argument of this can be applied on the result of the fourth hypothesis. It can be argued that telecommunication companies in Nigeria use HRIS to analysis the human resources needs of their employees on the individual level (such as training needs) which is congruent with the third hypothesis. Nevertheless, telecommunication companies do not do this analysis on an organizational level (such as planning the future employees' needs of an organization) which is also compatible with the second hypothesis. It was also hypothesized that knowledge management has a significant relationship with human resources management functionalities.

This study found that the hypothesis was supported. The results are compatible with what was mentioned earlier in this study about the fact that HRIS are mostly created for knowledge management of HRM (Mayfield et al., 2003). It is argued that without a proper knowledge management that controls the basic data of employees, organizational profitability and effectiveness would be in risk. This can be done as mentioned by Ball, (2001) and Mayfield, et al. (2003) by facilitating double loop learning feedback that enables organizational change and discussion, intra organizational communication and decision-making and shared visions.

It was hypothesized that communication and integration as a dimension of human resource information system has a significant relationship with human resources functionalities. This study did not support this and found no relationship between the two aspects. As mentioned earlier by Mayfield, et al. (2003), HRIS involves a communication mechanism suitable for communicating necessary information to all customers within and outside an organization. We argue that telecommunication companies in Nigeria operate in a culture that is characterized by high power distance.

According to Beverage (2003), culture is characterized by having a high power distance in which leaders are expected to resolve disputes as well as make all the difficult decisions without an input from the lower levels of the organization. This was supported by Daniels et al. (2013) who commented that centralization is one of the main elements that characterize such type of culture. Centralization explains the result of having no relationship between the two elements within telecommunication companies in Nigeria.
Finally, the hypothesis of having a significant relationship between record and compliance as dimension of HRIS and HRM functionalities was supported. This result is compatible with the result of the hypothesis of knowledge management since it was suggested by Mayfield and his associates in 2003 that records and compliance function provides very important data for knowledge management. It also agrees with Markova (2012) who commented that HRIS can facilitate organizational actors in tackling questions and challenges as they re-appear in the organization. This means that human resource department uses HRIS as a data base used to protect its activities, accordingly, the organizational ones, consequently, avoid any legal requirements (Decenzo et al, 2010)

6. Conclusions

Human resources information systems are considered to be one of the most important elements that affect the activities of human resource department. This was supported by the main hypothesis of this study of having a relationship between human resource information systems and human resources functionalities. However, it was found that some of the dimensions that represent HRIS have a relationship with HRM functionalities and some do not have. It was found that strategic integration, forecasting and planning, human resources analysis, and communication and integration have no relationship with human resource functionalities. Whereas, it was found that performance development, knowledge management, and records and compliance as dimensions of human resources information systems have a relationship with human resources functionalities, accordingly, an effect over them.

Over the last 20 years, the workplace has changed in more ways than one could have ever imagined, resulting from the increase in technology, innovation and globalization. The next decade will bring even greater change, impacting all facets of the workplace, including major changes for the HR department and HR managers. In order to respond to the demands of globalization, HR managers in Nigeria will require new skills and competencies relating to language and culture, technology capabilities to facilitate overseas communication, methods to measure and quantify effectiveness and evaluate strategies and return on investment. Evidently, these new skills and competencies will result in an emerging new role for HR managers, requiring them to be strategic business partner, supportive of the overall corporate strategy.

7. Implications and suggestions

This study shows the importance of human resource information systems functions in human resources management functionalities. Organizations nowadays operate in an environment that is characterized by being dynamic and of having a hyper competition. In order to face such a tough competition, organizations should invest in their human resources. The results of this study shows that telecommunication companies in Nigeria should care more about their human resources information systems and should benefit more from using it. Telecommunication companies should make sure that dimensions such as strategic integration, forecasting and planning, human resources analysis, and communication and integration do play a significant role within HR departments. Such factors improve the effectiveness of human resource departments which at the end would have a positive reflection on the organization as a whole.

The results of this study were derived from the data collected in only five telecommunication companies out of fifteen Nigerian telecommunication companies. This was because of the fact that most of the telecommunication companies refused to give access to the researcher to collect data which is considered to be a limitation of this study. Consequently, this study suffers of the generalisability problem which might be overcome if data were collected from more telecommunication companies. This might also lead to different results. Finally, this study used only a questionnaire as a quantitative method to collect its data. The results of this study could be more valid if other qualitative methods (such as interviews) were used.
The future role of HR professional in Nigeria will change from a less administrative role to more of a strategic role. HR managers will continually be required to prove their effectiveness and their existence. They will be expected to understand international business practices and promote cultural diversity within the organization. They will need to understand the core business of the organization and become partners with line managers. They will need to prove that their initiatives and programs are result-oriented, providing specific measurable results in terms of business competitiveness that contribute positively to the bottom-line of the organization. They will be required to stay current with leading edge as more and more organization is faced with the demands of globalization and strategic alliances with other organization around the world.

Today, as shown in this paper, HRMs are presented with the challenge of becoming more effective and productive, and they are accepting this challenging by turning to technology as a mean to improve their performance; however technology presents its own challenges as well. The role technology plays on HRM is most fundamental when used as part of an organization’s business strategy. There are specific technology designed for HRM decision-making, however the efficiency of these decisions remain dependent on the human training and skills. Technology is incorporated on the fibre of our lives because of its overwhelming presence on e-business, as Internet continues to have an exponential growth.

There is need for harmonising competitiveness and related terms, so that confusion can be minimised. While the Five Forces and Diamond Model by Porter and their variants provide useful insights, their limited use in competitiveness evaluations hints at the need for better frameworks. Use of the competitiveness process as a key coordinating process among key management processes such as strategic management, human resources management, technology management, and operations management may provide a powerful tool.

It is necessary for a firm to define competitiveness as part of its strategy. Competitiveness is a multi-dimensional concept with dynamic weights of different factors. A systematic evaluation of competitiveness will be of great help to firms. There are many frameworks and models with their own strengths and weaknesses. While there are some very rich frameworks, their utility is limited due to their rigidity. Generic frameworks that have been empirically tested in specific contexts may provide a better platform for firms to develop their own models for simulation. There is need for a research network that can develop better tools to improve competitiveness processes in collaboration with industry.

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