

## Automated Human Resource System and Organizational Ability in Telecommunication Firms in South-South, Nigeria

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### Abstract

This study investigated the relationship between automated human resource system and organizational agility in telecommunication firms in South-South, Nigeria. The study adopted a cross-sectional survey in its investigation of the variables. Primary data was generated through self-administered questionnaire. The population for the study was fifty-nine (59) top and middle management staff from 4 telecommunication firms with location spread across the South-South states. The study adopted the whole population as its sample size making it a census study. 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. The tests were carried out at a 95% confidence interval and a 0.05 level of significance. The findings revealed that there is a significant relationship between automated system and organizational agility in telecommunication firms in South-South, Nigeria. This study concludes that automated HR systems when adopted by telecommunication firms in South-South, Nigeria improves organizational agility. This study has re-echoed the need for firms to become technologically driven in order to survive the 21<sup>st</sup> century dynamic challenges. Therefore, the study recommends that the management should invest more in automated system so that human resource manager can give less attention to doing routine work and rather dedicate more time towards delivering creative services that will strategically enhance organizational competitiveness.

**Keywords:** *HR Technology, Organizational survival, Adaptability, Innovation*

### Introduction

Generally, organizational agility refers to an organization's ability to flexibly adapt and respond to changes within the environment of business. The more agile an organization is the more likely it is able to be successful. So, in times of turbulence, we find organizations that are not agile gradually moving into a state of entropy following their inability to manage change while organizations that are agile are able to adapt and respond to the change in such a way that they are able to achieve their corporate goals. Agility provides the organization with the possibility of quick response and compatibility with environment and allows the organization to improve its efficiency (Yeganegi & Azar, 2012) in Nafei (2016a). That is, in terms of quick response and compatibility, organizations that are not agile are noted for sluggishness and tactlessness which at the long run leaves them at the mercy of their environment. Extensive review of the agility literature shows that an agile organization can be successful in competitive environment through the abilities of responsiveness, competence, flexibility and speed so that it achieves competitive advantage in the market (Ganguly, Nilchiani & Farr, 2009; Oyedijo, 2012). Doz and Kosonen (2008) considered agility to be a means by which organisations transform, reinvent themselves, adapt, and ultimately survive. They see agility as the capacity of a firm to continuously adjust and adapt its strategic direction in a core business in order to create value for the firm. This capability could be greatly influenced by the adoption of automated HR systems. Human resource information is key to making strategic decisions on human resources and providing an opportunity for human resource professionals to contribute to organizational strategy. The provision of human resource information has increased quite significantly among organizations of different sizes due to their ability to enhance the strategic human resource management role in the company or firm.

The addition of information technology to the human resource industry had revolutionized the contemporary and modern workplace. The HR professionals now have an improved capacity not only to gather information, but also to store, sort and retrieve it in a timely and effective manner. This has not only increased the efficiency of the organization but also the effectiveness of the human resource management function and department (Mujtaba, Afza & Habib, 2011). HR professionals depend on HRIS to satisfy their functions in different areas of HRM. Furthermore, Bhavsar (2011) believes that HRIS support different HRM processes and functions through the provision of vital information required to achieve a number of HRM functions and tasks. This reflects on the performance and role of HR professionals in facilitating HR processes and providing more accurate services to both internal and external clients (Hussain, Wallace, & Cornelius,

2007). Also, it improves their confidence in participating and contributing in making effective decisions (Rangriz, Mehrabi & Azadegan, 2011). Furthermore, it influences their attitudes towards jobs and behaviours impacting job satisfaction, organisational commitment, absenteeism, and turnover intentions (Maier, Laumer, Eckhardt & Weitzel, 2013). However, implementation and usage of technology may change the performance of users, and these changes are a result of changes in the tasks, competencies, and capabilities of HR professionals (Troshani, Jerram & Rao, 2011; Wiblen, Grant & Dery, 2010) and surrounding environment (Troshani *et al.*, 2011). Although substantial investments in information systems particularly in developed countries were made to gain the required benefits and returns, perceptions towards HRIS use, factors influencing them and their impact are still areas of controversy and discussion (Yusoff, Ramayah, & Ibrahim, 2011). The purpose of the study therefore was to examine the relationship between automated HR system and organizational agility in telecommunication firms in South-South, Nigeria.

This study was guided by the following research question:

- i. How does automated HR system influence adaptability in telecommunication firms in South-South, Nigeria?
- ii. How does automated HR system relate with flexibility in telecommunication firms in South-South, Nigeria?
- iii. How does automated HR system relate with responsiveness in telecommunication firms in South-South, Nigeria?

### Conceptual Framework

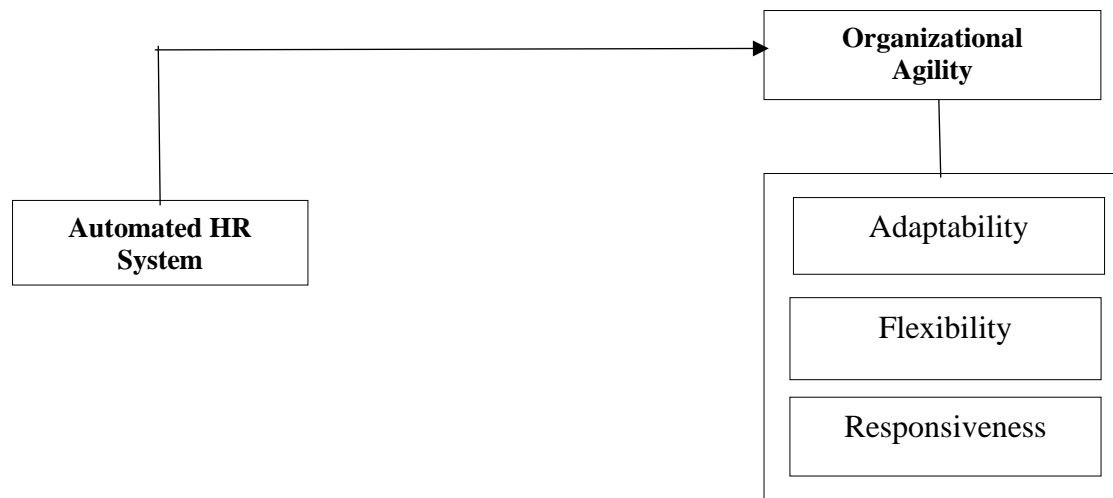


Fig.1 Conceptual framework for automated HR systems and organizational agility

Source: Researchers (2021)

### Theoretical Foundation (Resource Dependency Theory)

Resource dependency theory is a framework for understanding the relationship between the organization and the environment. The proponents of this theory were Pfeffer and Salancik (1978) in their work 'the external control of organizations: a resource dependency perspective'. They integrated similar works by other scholars who attempted to establish a link between organizations and the environment (Emerson, 1962; Pfeffer, 1972; Pfeffer & Salancik, 1978; Thompson, 1967). Since then, this theory has become very influential in the study of organizational theory and strategic management. RDT is premised on the assumption that organizational behaviour is influenced by environmental forces and that organizations have to pay attention to the demands of the environment if they must perpetuate (Pfeffer & Salancik, 1978). This implies that organizations are not self sufficient, they depend on the environment for resources needed for survival. Because organizations are open systems, it creates scenarios of interdependence between organizations in a bid to acquire and build their resource base. Flink, Edelman, Hatten, and James (2006) noted that organizations strategies in addressing changes in their environment is usually in the direction of obtaining resources and this increases their level of dependence on the environment.

This theory has implication in HR technology and organizational survival, in that, it stresses the need for organizations to be aware of the happenings in the environment and respond to them accordingly for them to survive. The concept of organizational change considers the organizations as an open system where change in one unit results in change in other units. Hence, as the organization is responding to change it also adapts the HR technologies for the design and communication of HR functions and practices in response to their external environment (Koster, 2019). The focus of HR technology is basically on how organizations align or adapt their policies and practices to environmental changes. The contention here is that firms that are aligned to their environment are likely to perform better compared to those who are not environmentally fit (Koster & Wittek, 2016; Som, 2012; Subramony, 2006). The resource dependence theory explains why firms employ HR technology, which is the need for organizations through the human resource management to innovate characteristics that enable them to adapt their HR policies and practices in order to establish a better fit to the environment and survive.

### **The Concept Automated HR Systems**

Artificial intelligence, big data, algorithms is now providing a path to process the information of the talented employees in an effective manner (Gupta et al., 2018), this according to Nawaz (2020) will be giving much lower cost than previous period. This is showing a possible way to automate the profile of the employees to replace human resources. HR automation is the process of transitioning paper-based HR processes into streamlined computer-based online system. It is based on the concept of self-service. Self-service enables business owners, managers and employees to perform HR related functions on their own at their convenience from their computer desktops (Nawaz & Gomes, 2014). Acemoglu and Restrepo (2016) describe automation of work as tasks previously performed by human labour, which are now produced with capital. Also, Bessen (2016) view automated systems as machines taking over tasks and either reducing time humans spend on carrying them out or entirely performing those tasks. Eurofound (2017) posit that automation is understood as the replacement of (human) labour input by (digitally-enabled) machine input for some types of tasks within production and distribution processes. Hence, Stanley and Aggarwal (2019) opine that although monotonous and repetitive work has got automated which increases the availability of HR for high-priority work, the role of HR has changed but it has not lost its significance. Rather it enables the majority of the time spent by HR managers focusing towards meeting employees, improving employee relations and engagement activities is unlikely to be automated.

### **The Concept of Organizational Agility**

In order to effectively compete in changing and turbulent environment, organizations have to be proactive and anticipate change. To achieve that, organizational structures should allow for greater agility, through flexibility and response (Žitkienė & Deksnys, 2018). Lu and Ramamurthy (2011) view agility as an organizational capability to deal with unexpected changes in the environment via rapid and innovative responses, which help to take advantage of those changes. Agility originates from lean manufacturing (Marchwinski & Shook, 2007). Speed is one of the most important requirements for agility in terms of response and implementation, while innovativeness refers to the quality and substance of response. Several scholars have offered definitions to the concept organizational agility. However, these definitions are based on their perceptions of the subject matter.

Organizational agility refers to an organization's ability to promptly and flexibly respond to changes in the business environment. Stanley et al. (2019) define organizational agility as the ability of the organization to adapt and accommodate quickly to unplanned and sudden changes. Agility enables adaptation and response

and is increasingly linked to organizational success in today's competitive environment (Harraf, Wanasika, Tate & Talbott, 2015). According to Žitkienė et al. (2018) organizational agility is an organizational ability to recognize unexpected changes in the environment and appropriately respond in a swift and efficient manner, by utilizing and reconfiguring internal resources, thus gaining competitive advantage in the process. Organization agility as a cultivated capability allows the organization to make timely, efficient, rapid, and continual change when changing circumstances require it (Razmi & Ghasemi, 2015).

### **Adaptability**

Adaptability refers to the fit between an organization's operations and its environment Nafei (2016). Organizational adaptability focuses on how an organization's form, structure, and degree of formalization influence its ability to quickly adapt to its business environment (Sherehiy, Karwowski & Layer, 2007). Harraf, *et al.* (2015) posit that the responses and decisions an organization makes in relation to environmental stimuli are a measure of the organization's adaptability. Importantly, these stimuli occur internally and externally to the organization; therefore, adaptability requires organizational capabilities to know, sense, anticipate, plan, and understand as much as possible about the world around it (Bushey, 2019).

Hannan and Freeman (1977) argue that the adaptation required for an organization to remain relevant is hindered by an organization's age and size. These two principles are foundations of the population ecology and a significant determinant of the need for agile responses. As companies grow, their size becomes increasingly likely to act as a limiting factor. However, Harraf et al. (2015) assert that to remedy this potential inconsistency surrounding the importance of growth, efficiency becomes paramount to prevent size from inhibiting an organization's overall ability to respond. In juxtaposing between adaptability and flexibility Nafei (2016) argue that adaptability underlies the fit of organizational operations to their environment while flexibility emphasizes the readiness of organizational resources and the ease of resource mobilization.

### **Flexibility**

Nafei (2016) describe organizational flexibility as an organization's capacity to adjust its internal structures and processes in a predetermined response to changes in the environment. Flexibility refers to an organization's ability to adjust its internal structure and processes to suit and respond to changes in its environment of business. Flexibility is the ability of compatibility which is ability to trigger different processes and to meet various goals using the same equipment and facilities (Chamanifard et al., 2015). Chen (2012) view flexibility as the degree to which a thing is malleable. Flexibility refer to the capability to carry out various means and utilize diverse amenities as to fulfill the similar goals (Kulelung & Ussahawanitchakit, 2015). Harraf, et al. (2015) believe that anticipated responses to an external stimulus are illustrative of an organization's overall flexibility. Holsapple and Li (2012) assert that flexibility refers to the range of ways available to achieve success. Rather than being limited to a small set of predefined options, high flexibility involves an active capacity and willingness to recognize new options, to overcome inertia, and to accommodate unstructured situations (e.g., unanticipated change).

### **Responsiveness**

Chamanifard, Nikpour, Chamanifard and Nobarieidishe (2015) posit that responsiveness is an organization's ability to recognize changes and quickly reflect, react and benefit from them. Responsiveness refers to an organization's ability to mobilize and utilize available resources to maximize opportunities and minimize threats in its business domain. Kulelung and Ussahawanitchakit (2015) assert that responsiveness means the capability to specify, react to, and get over from changes instantly and appropriately Responsiveness refer to the selection of actions and competencies of an organization that enable them to react against the relevant change when it is detected or to foresee it in advance (Saha, Gregar & Saha, 2017). Also, Ekweozor and Obara (2020) describe responsiveness as the ability of recognizing changes and quickly taking advantage and benefiting from them. Responsiveness is the ability of a firm to respond to organizational needs in terms of quality, speed and flexibility and it is characterized by combined goals such as time, quality and flexibility (Asree, Zain & Razalli, 2010).

Dove (2005) affirm that good response ability requires intelligent decision making and sound value propositioning skills. This connotes that responsiveness is not just limited to taking decisions to address a given change but includes taking actions based on the decisions made with resources at the organization's disposal. These resources include but are not limited to finance, technical expertise or skill, deployment and use of a suiting technology and adjustment in work processes and

schedules. Responsive capabilities to opportunities and disturbances can be classified into two categories: capability to select actions and capability to enable actions. When relevant change is detected or anticipated, an organization faces alternatives courses of action. Good response ability requires intelligent decision making, based on insightful problem definitions and sound value propositioning skills (Dove, 2005). The capability to enable actions includes components of coordination, learning, and reconfiguration (Dove, 1999) cited in Ekweozor and Obara (2020).

**Automated HR System and Organizational Agility in Telecommunication Firms in South-South, Nigeria**

Today, automated system has become an indispensable tool for attaining and maintaining agility in an organization. Employee self-service applications as a distinct form of automated systems enables managers manage employees more effectively and efficiently. Human resource systems manage huge amount of employee data. Disruptive technologies have extended the usage of human resource systems beyond the original human resource managers, to be used by employees as self-service applications and allow an employee to log on to a computer system/ mobile app which was developed by the company, and complete his daily tasks at work, monitor attendance, look for benefits and training programs for his future growth, conduct assessments and provide feedbacks with just few clicks. Also, this allows the human resource managers to be relieved from routine tasks and focus on creative tasks (Jesiah & Pachayappan, 2020). On training and development, these are software which automatically read instructional documentations and prepare related micro learning programs (Gupta, *et al.*, 2019). Automated answering machine plays essential role to solve the enquiries and problems regarding the process of recruitment in an organization. The human resource unit is charged with the responsibility of employee’s development at work along with their managers. Activities such as appraisals, timesheet tracking, leave management and event planning are just a fraction of what their work entails. Automating these processes with effective human resource software can ensure efficiency and faster turnaround times.

Based on the foregoing, the study thus hypothesized that:

- H01:** There is no significant relationship between automated HR systems and adaptability in telecommunication firms in South-South, Nigeria.
- H02:** There is no significant relationship between automated HR systems and flexibility in telecommunication firms in South-South, Nigeria.
- H03:** There is no significant relationship between automated HR systems and responsiveness in telecommunication firms in South-South, Nigeria.

**Methodology**

The study adopted a cross-sectional survey in its investigation of the variables. Primary data was generated through self- administered questionnaire. The population for the study was fifty-nine (59) top and middle management staff from 4 telecommunication firms with location spread across the South-South states. The study adopted the whole population as its sample size making it a census study because the participants is small and manageable. 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. The tests were carried out at a 95% confidence interval and a 0.05 level of significance.

**Data Analysis and Results**

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

**Table 1: Correlation and Regression result**

	Adaptability	Flexibility	Responsiveness
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Automated System	Correlation R	.303	.423	.305
	R Square	.111	.179	.111
	Sig. F Change	.001	.002	.002
	N	41	41	41

Source: SPSS Output

### Research Question 1

How does automated system relate with organizational agility in telecommunication firms in South-South, Nigeria.

From table 1, the correlation value of 0.423 showed that automated system has a positive and moderate relationship with flexibility of telecommunication companies in the South-South region. Meanwhile, the other correlation values of 0.303 and 0.305 respectively revealed that automated system has a positive and weak relationship with flexibility and responsiveness of telecommunication firms in the South-South region. Furthermore, the result in above table indicated the level of variation caused by automated system as the regression values showed  $R^2 = .111, .117$  and  $.111$  respectively. This indicate that automated system brings about 11.7% variation in the flexibility, 11.1% level of variation on adaptability and responsiveness measure of organizational agility.

### Test of Hypotheses

**Ho<sub>1</sub>:** There is no significant relationship between automated systems and adaptability in telecommunication firms in South-South, Nigeria.

**Ho<sub>2</sub>:** There is no significant relationship between automated systems and flexibility in telecommunication firms in South-South, Nigeria.

**Ho<sub>3</sub>:** There is no significant relationship between automated systems and responsiveness in telecommunication firms in South-South, Nigeria.

Following the result presented in table 15 above which showed the p values = 0.001 for adaptability, 0.002 for flexibility and 0.002 for responsiveness, which are less than the level of significance (0.05), we therefore reject the null hypothesis and conclude that: there is a significant relationship between artificial intelligence and the three measures of organizational agility.

### Discussion of Findings

Results from the analysis relating to automated system in the telecommunication industry of Nigeria specifically showed an appreciable degree of familiarity and utilization of automated system amongst surveyed firms. Similarly, the findings revealed that automated system significantly influence organizational agility. The implicating of these findings is that the use of automation in the human resource operation of an organization enhances firm's ability to withstand changes that happens to organization. According to Nawaz *et al.* (2014) human resource automation helps in achieving primarily four objectives i.e reduce time spent on administrative work, cost reduction, self-services and morale. Altarawneh and Al-Shqairat (2010); Ball, (2001); Martinsons, (1994); Ngai and Wat, (2006); Ruel, Bondarouk and Looise (2004) in their studies conclude that HR automation streamlines the administrative process, erase the errors and delete the repetitions and these applications support HRIS in cost and time reduction process, and it raises efficiency at task process. Another piece of study of Cedar (formerly The Hunter Group) found that HR automation reduce cost by an average of 60 per cent in HR administrative processes. Therefore, in the face of highly competitive global business environment, human resource automation helps in optimizing the capacity of organizational human resources.

### Conclusion and Recommendations

This study has successfully achieved its primary intention by establishing the extent of relationship existing between automated systems and organizational agility. This study concludes that automated HR systems when adopted by telecommunication firms in South-South, Nigeria improves organizational agility. This study has re-echoed the need for firms to become technologically driven in order to survive the 21<sup>st</sup> century dynamic challenges. The study recommends that the management should invest more in automated system so that human resource manager can give less attention to doing routine work and rather dedicate more time towards delivering creative services that will strategically enhance organizational competitiveness.

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