

Information Administrative Effectiveness and Organizational Resilience of Deposit Money Banks in Rivers State

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Abstract: This study examined the relationship between information administrative effectiveness and organizational resilience of Deposit Money Banks in Rivers State. The study adopted a cross-sectional survey in its investigation of the variables. Primary data was generated through structured. The population for this study was the 22 deposit money banks in Nigeria. There was no need to be involved in the rigorous procedures for determining an appropriate sample size rather census sampling was adopted because our population of study was not large. Hence, the entire population of 22 deposit money banks was adopted as a census. The reliability of the instrument was achieved by the use of the Cronbach Alpha coefficient with all the items scoring above 0.70. The hypotheses were tested using the Spearman's Rank Order Correlation Coefficient. The tests were carried out at a 0.05 significance level. The hypotheses were tested using the Spearman rank order correlation Coefficient. The tests were carried out at a 95% confidence interval and a 0.05 level of significance. The study findings showed that there is a significant relationship between information administrative effectiveness and organizational resilience of Deposit Money Banks in Rivers State. The study concludes that organizational resilience of Deposit Money Banks in Rivers State is positively enhanced when information administrative effectiveness and organizational resilience mechanism is developed. Therefore, the study recommends that Management of Deposit Money Banks should optimize information administrative effectiveness by focusing on improving on training, include recruitment function and align the employee data or work to both personal and organization strategy.

Keyword: Information Administrative Effectiveness, Organizational Resilience, Adaptive Capacity, Situation Awareness

Introduction

In today's business environment where competition is so fierce and change is fast, where technology can be short-lived and where customers demand more quality products and services at lower price, the survival, growth and effectiveness of organizations have become major causes of concern and tasks which management of organizations are striving hard to achieve. Organizations are now placing greater emphasis on meeting up this demand by sourcing for the best to handle various services in the organization as employees are now seen as the life blood of organizations (Obiekwe, 2012); as well as tools in moving organization from where they are at present to where they want to be in the future (Nwaeke & Obiekwe, 2017).

Successful organizations today are those ones that have the ability to survive and thrive in challenging times such as defined by the economic downturn, natural disasters and global conflicts. The ability to withstand sudden incremental change or enormous downturn is the desire of any organization which aims at sustainable development. Erica (2016) asserts that the economic effect of organizations which are not prepared for crisis period are significant. Umoh, Amah and Wokocha (2018) postulated that during the September 11th terrorist attack in United State led by Osama Bin Ladin, businesses were interrupted and lost a huge sum of Money and properties. The importance of resilience among organizations can never be over emphasized and appreciated as when we examine the decline in talented skills in certain workforces due to some unanticipated disaster or crisis or loss of key executive either as a result of death or being incapacitated to perform their duties.

Kpakol and Zeb-Obipi (2017) defined resilience as the ability which an organization holds to forecast and plan for unforeseen circumstances that might affect the operation of the business. Kikuchi and Yamanguchi (2018) perceive resilience as a term which essentially refers to the physical ability to return to one's original state, elasticity or flexibility. In addition, there are a number of definitions and concepts of resilience in the field of psychology. The definition by best and Garmezy (2016) is widely used: resilience is 'the process of capacity for or outcome of successful adaptation despite challenging or threatening circumstances'. It is to be noted that in pursuit of resilience, organisations need to pay attention to the issue of information effectiveness.

Providing excellent information and support on information systems capability in pursuance of performance is the most important and challenging issue facing the contemporary service industry (Hung, Lau & Mak, 2003). There has been a vast number of studies that empirically investigated the relationship between these concepts, reporting significant influence that information system capability exerts on performance.

Hussain, Wallace and Cornelius (2007) noted that the use of information system reduces staff involvement levels in everyday administrative tasks, while maintaining quality work performance and creating a more efficient working environment. The utilization of information system assists in meeting staff requirements where they can facilitate administrative activities and contribute to strategic activities. Hussain *et al.* (2007) further asserted that using information system facilitates the day-to-day tasks, decision making, and HR planning and forecasting are achieved. Lengnick-Hall and Moritz (2017) argued that getting non-strategic tasks done faster, cheaper, and with less reliance on staff creates the opportunity to focus on new ways to add value to the organisation.

Bondarouk and Ruel (2013) postulate that information system not only support administration on a productive level, but also on a strategic level. They argue that information system helps to free staff from administrative burdens, which in turn gives them the opportunity to undertake important strategic people management activities, which is more critical in their role. The purpose of this paper therefore was to examine the relationship between information administrative effectiveness and organizational resilience of Deposit Money Banks in Rivers State. The specific objectives of the study included:

- i. What is the relationship between information administrative effectiveness and adaptive capacity of Deposit Money Banks in Rivers State?
- ii. What is the relationship between information administrative effectiveness and situation awareness of Deposit Money Banks in Rivers State?

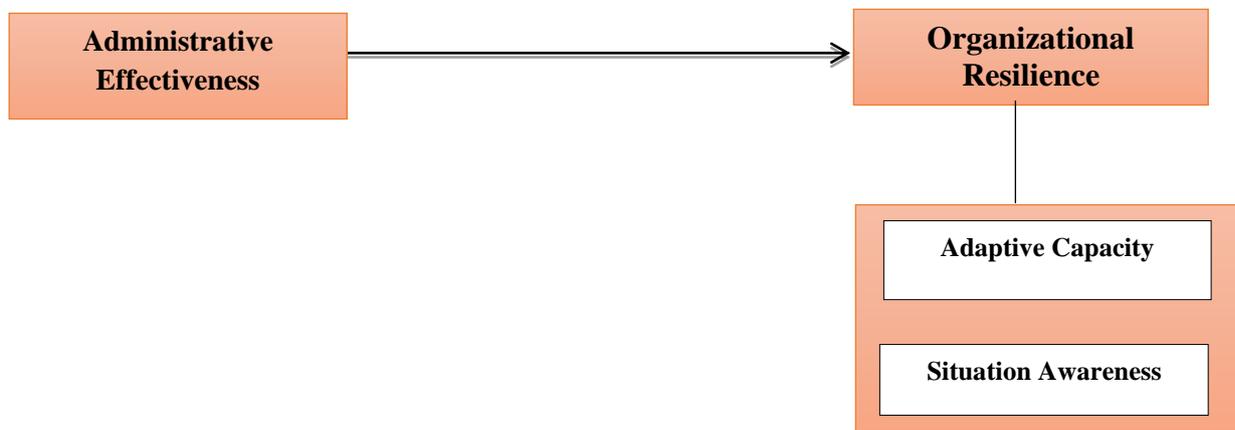


Figure 1: conceptual model for the relationship between entrepreneurial administrative effectiveness and organizational resilience.

Source: Desk Research (2022)

Literature Review

Theoretical Foundation

Technology Acceptance Model (TAM)

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

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

human context, technology context, social context, and organizational context. Here the social context means social influence on personal acceptance of technology usage and organizational context emphasizes the organization's influence or support related to information technology use.

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

Information Administrative Effectiveness

Hussain, Wallace and Cornelius (2007) noted that the use of information system reduces staff involvement levels in everyday administrative tasks, while maintaining quality work performance and creating a more efficient working environment. The utilization of IS assists in meeting staff requirements where they can facilitate administrative activities and contribute to strategic activities. Hussain *et al.* (2007) further asserted that using IS facilitates on day to day tasks, decision making, and planning and forecasting are achieved. Lengnick-Hall and Moritz (2011) argue that getting non-strategic tasks done faster, cheaper, and with less reliance on staff creates the opportunity to focus on new ways to add value to the organisation. In this study, staff satisfaction with information effectiveness is measured according to affective feelings concerning the contribution of IS towards performing their routine and strategic tasks and supporting their status or professional standing. Bondarouk and Ruel, (2013) postulate that IS not only support administration on a productive level, but also on a strategic level. They argue that IS helps to free staff from administrative burdens, which in turn gives them the opportunity to undertake important strategic people management activities, which is more critical in their role. It can be deduced that although administrative use of IS has been cited in the literature, there appears to be limited use of the technology in strategic or sophisticated purposes, which therefore questions individual attitudes and acceptance of IS within organizations. The issue of administrative effectiveness is further discussed hereunder.

Information system involves how companies organize and manage people-related data such as, employee demographic information like birth date, gender, contact information, employee job information like manager, department, pay rates, and more (Kapur, 2018). Midiwo (2016) explained that in this era Information system has made work a lot easier, unlike in the past organization where organizations have solely relied on Human Resource function to perform task and carry on their organizational roles. IS organizes information and data which enables the management get accurate information, keeps the organization healthy by monitoring and optimizing Human Resource. Information system eliminates duplication of data, improves employee's efforts by tracking people moving through the system and ensures all the organization activities are aligned to their enterprise objectives (Midiwo, 2016).

Implementing an information administrative effectiveness and organizational resilience system in an organization should reduce the amount of work for which the human resource department is responsible and leave the professional focused solely on performing strategic roles of the organization (Beadles, Lower, & Johns, 2015). Information administrative effectiveness provides a ready application that can be linked with the legacy systems. Using IS in an organization relieves the personnel from clerical dealings to focus on strategic planning. An organization's competitive advantage can also be improved through management of knowledge which is a benefit of the IS (Lin & Lee, 2015). The management is better informed since the system enables the production of many human resource reports. In addition, the system can produce many reports that can better inform management about the staff. New systems will provide the infrastructure needed to not only hire, manage, and motivate and evaluate people, but it will also assist in long-term business planning, staff forecasting, facilities planning, and budgeting.

Employee's job effectiveness is improved by cutting repetitive work. The system helps eliminate duplication of work because every employee is managed based on the contribution they bring to the organization. This management is through performance tracking and goal analysis and reporting (Ball, 2015). Employees can enter data directly and allow staff to shift from data maintenance to the strategic use of human resources. Therefore, there is decreased demand for time consuming data processes hence a greater focus on relevant roles and activities. Duplication of work is time and resource consuming hence costly. Utilizing information system enable employee's roles to be defined and tracked (Beckers & Bsat, 2016). This makes it easy to assign one role to one employee at a time with minimal to no repetition of a role. Training materials and modules are uploaded on the system once and can be updated without having to upload them again when needed (Lin & Lee, 2015). This eliminates redundancy hence promoting employee effectiveness at work.

Organizational Resilience

Madni (2007) defines resilience as the ability to anticipate a perturbation, to resist by adapting and to recover by restoring the pre-perturbation state as much as possible. Kpakol and Zeb-Obipi (2017) opine that resilience is the leader's ability to anticipate and plan for conflict or the other forms of perturbation state as much as possible. Fletcher and Sarkar (2013) view resilience as consisting of two main concepts; adversity and adaptability. Adversity refers to the possibility of oppositions which may seem as a challenge for organization, adaptability refers to the tendency for organization to be able to adjust to meet the external challenges. Umoh et al (2014) in an attempt to measure resilience noted that organizational learning, adaptive capacity and dynamic capability are measures of resilience. Sutcliffe and Vogus (2003) note that resilience develops over time from continually handling risks, stresses and strains, where an entity not only survives and thrives by positively adjusting to current adversity, but also, in the process of responding and strengthens its capability to make future adjustments. Resilience therefore, extend to several fields and covers both knowledge of the environment, level of preparation, anticipation of perturbations, adaptation, control, recovery- ability and survival, among others. As Wildavsky (1988) note, resilience will be a necessary capacity to cope with anticipated dangers after they become manifest. According to Stephenson (2010), resilience is highly needed for organizations to effectively respond to disruptions as well as positively adapt in the face of challenging conditions, leveraging opportunities and delivering sustainable performance improvement. Thus, managers need to both prepare against bad events, as well as adapt and change or their organization s will pay the penalty. Hearnshaw and Wilson (2013), traditionally note that resilience means an organization's ability to carry out its functions and return to a stable state after major disturbances or stress by considering the before and during disturbance period (Gumming et al, 2005).

Zeb-Obipi, Obiekwe and Ateke (2019) note that organizational resilience is an organizations ability to survive and cope with crises and disturbances facing it. They added that a resilient organization therefore is one that is able to create structure, dissolve it, provide safety in the midst of change, and manage the emotional consequences of continues transformation and change, learn to develop and grow. Drawing insight from the various concepts of organizational resilience coupled with a well considerable analysis of the above, the researcher therefore posits that organizational resilience helps management of organizations to (i) anticipate and plan for future challenges (ii) equip the organization to tackle future challenges (iii) make necessary modifications or changes to meet challenges (iv) solve conflicting issues in the organization.

To this end, one defines organizational resilience as the ability of an organization to anticipate and respond to challenges in order to allow for sustainable development. Such ability finds expressions in organizational learning, adaptive capacity and dynamic capability of an organization. Organizational resilience is an organization's ability to survive and cope with crises and disturbances facing it. Organizational resilience was borne out of the need for organizations to regularly keep themselves abreast of dangers and crises that may destroy their very existence and thereby take adequate preventive measures to stop such disturbances. Smith (2002) has described organizational resilience in term of being effective in crisis prevention. According to Lengrick-Hall, Beck and Lengnick-Hall (2011). Organizational resilience is defined as a firm's ability to effectively absorb, develop situation - specific responses to and ultimately engage in transformative activities to capitalize on disruptive surprises that potentially threaten organizational survival.

Measures of Organizational Resilience

Adaptive Capacity

This refers to an aspect of resilience that reflects learning, flexibility to experiment and adopt novel solutions, and the development of generalized responses to broad classes of challenges (Zeb-Obipiet al.,2019). Looking at it from the socio-logical context, Walker et al (2002) define adaptive capacity as an aspect of resilience that reflects learning, flexibility to experiment and adapt novel solutions and the development of generalized responses to broad classes of challenges. Sharing in this view are Umohet al. (2004) iterate that in a socio institution context, adaptive capacity depends on the attributes of individuals, organizations and institutions that might foster learning when faced with change and uncertainty, such as willingness to learn from mistakes, engage in collaborative decision-making arrangements, and encourage institutional diversity. Adaptive capacity may be defined as the ability or inclination of individual or group to maintain an experimental attitude towards new situations as they occur and to act in terms of changing circumstances (Umohet al., 2014).

Amah and Baridam (2012) discuss the importance of adaptation and note that the aim is to create advantages over less adaptive competitors. This suggests that adaptive capacity is linked to competitiveness. Folkeet al., (2003) identified four dimensions of adaptive capacity as learning to live with uncertainty, nurturing diversity for reorganization and renewal, combining different types of knowledge for learning and creating opportunities for self-organization. Luthans et al.(2004) defined adaptive capacity as the extent to which a system can modify' its circumstances to move to a less vulnerable condition'. It is the ability of an organization

to alter its strategy, operation, management system, governance structure and decision - support capabilities to withstand perturbations and disruptions (Starr *et al.* 2004). Dalziell and McManus (2004) posit that a system reflects the ability of an organization to actively respond to changes in its environment, and to recover from any damage to internal structure within the system that affect its ability to achieve its purpose. Any system can adapt to change in three ways which include: (i) Application of existing available responses to address the problem (ii) Application of an existing response in a new context to address the problem (iii) Application of novel responses to address the problem (Dalziell and McManus, 2004). Generally, adaptive capacity represents the social, technical and administrative skills and strategies possessed by an individual, group or organization, which are directed toward responding to environmental and socio-economic changes. According to IGI Global (2018), organizational adaptive capacity is the ability to constantly evolve to match or exceed the needs of its operating environment before those needs become critical. Coats (2017) identifies four things to ensure an organization has adaptive capacity. These are; (i) diagnose and frame the adaptive challenges (ii) decide what to keep, discard and need (iii) reduce dependency on authority and (iv) create productive tension. Sussman (2003) also identifies four qualities that capture the essence of adaptive organization as external focus, network connectedness, inquisitiveness and innovation.

Situation Awareness

The term situation awareness was first used in connection with the military where pilots are required to understand, assimilate and act on large volumes of information in order to perform their roles (Endsley, 1995). Endsley *et al.*, (2003: 13) define situation awareness as: "...being aware of what is happening around you and understanding what that information means to you now and in the future". They go on to note that the term is usually applied to operational situations. One example of this is Masys (2005) application to airline operation and safety which argues that situation awareness is distributed across teams, groups and organizations, as well as human and machine *agents*. Masys (2005) draws on Stout and Salas (1998) and argues that situation awareness (SA): "...should be regarded as an essential requirement for competent performance in dynamic environments, with inaccurate and incomplete SA often leading to dangerous and life-threatening consequences". (Masys, 2005: 548) Crichton *et al.* (2005) echo this when they discuss incident command skills in the oil industry. They argue that situation awareness is a vital command skill in a crisis because the first step in decision making is to evaluate the situation. Roth *et al.* (2006) discuss the importance of shared situation awareness as an informal cooperative strategy between railroad workers which "facilitate work, and contribute to the overall efficiency, safety, and resilience...of railroad operations" (Roth, *et al.*, 2006:967). This informal cooperative strategy, which occurs within the organization's culture, is the mechanism through which the organization shares or communicates their situation awareness.

McManus (2007) described this as the measure of an organization's understanding and perception of its entire operating environment. The ability of an organization to look forward for opportunities, identify crises and their consequences accurately and also understand the trigger factors for crises. Situation awareness also includes organizational awareness of the resources it has available, its minimum operating requirements and the expectations, obligations and limitations in relation to its community of stakeholders, both internally (Staff) and externally (Customers, suppliers, consultants etc).

Administrative Effectiveness and Organizational Resilience

Information systems control are essential to optimize results in terms of Research, Development and Innovation (R&D&I). Considering that it is currently important that companies, regardless of their size or the sector to which they belong, establish systems and procedures that allow them to manage the innovation activities carried out within the company, based on the creation and design of new products, services or processes that ensure the generation of value for their customers or users, the Colombian Technical Standard 5801 was created in Colombia in 2008. It sets out the general requirements for the establishment and management of R&D&I units and establishes the requirements for the R&D&I projects that make up the project portfolio. It should be noted that the majority of the standard is based on the UNE 166002:2006 standard (Gutierrez, Zartha, Vargas & Gomez, 2017). The proper management and structuring of information systems leads to the development and strengthening of competitiveness and innovation issues, however, it is important that these are addressed in a coherent manner. It is evident that, in the manufacturing sector, especially in the city of Armenia, Quindío, these companies carry out innovation processes based on their own experience, since they are not structured under a method or a norm that can positively guide their efforts in this area (Vargas & Ovalle, 2015).

From the foregoing discourse, the study hypothesized thus:

- Ho₁:** There is no significant relationship between administrative effectiveness and adaptive capacity of Deposit Money Banks in Rivers State.
- Ho₂:** There is no significant relationship between administrative effectiveness and situation awareness of Deposit Money Banks in Rivers State.

Methodology

The study adopted a cross-sectional survey in its investigation of the variables. Primary data was generated through structured. The population for this study was the 22 deposit money banks in Nigeria. There was no need to be involved in the rigorous procedures for determining an appropriate sample size rather census sampling was adopted because our population of study was not large. Hence, the entire population of 22 deposit money banks was adopted as a census. The reliability of the instrument was achieved by the use of the Cronbach Alpha coefficient with all the items scoring above 0.70. The hypotheses were tested using the Spearman's Rank Order Correlation Coefficient. The tests were carried out at a 0.05 significance level. The hypotheses were tested using the Spearman rank order correlation Coefficient. The tests were carried out at a 95% confidence interval and a 0.05 level of significance.

Data Analysis and Results

Table 1: Correlations Matrix Administrative Effectiveness and Adaptive Capacity

		Administration Effectiveness	Adaptive Capacity
Spearman's rho	Administration Effectiveness	Correlation Coefficient	1.000
		Sig. (2-tailed)	.000
		N	55
	Adaptive Capacity	Correlation Coefficient	.796**
		Sig. (2-tailed)	.000
		N	55

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

Source: SPSS Output

- Ho₁:** There is no significant relationship between administrative effectiveness and adaptive capacity of Deposit Money Banks in Rivers State.

The result of correlation matrix obtained between administrative effectiveness and adaptive capacity was shown in Table 1. The correlation coefficient of 0.796 confirms the direction and strength of this relationship. The coefficient represents a positive correlation between the variables. The test of significance shows that this relationship is significant at $p < 0.000 < 0.01$. Therefore, based on observed findings the null hypothesis earlier stated is hereby rejected and the alternate upheld. Thus, there is a significant relationship between administrative effectiveness and adaptive capacity of Deposit Money Banks in Rivers State.

Table 2: Correlations Matrix between Administrative Effectiveness and Situation Awareness

		Administration Effectiveness	Situation Awareness
Spearman's rho	Administration Effectiveness	Correlation Coefficient	1.000
		Sig. (2-tailed)	.000
		N	55
	Situation Awareness	Correlation Coefficient	.767**
		Sig. (2-tailed)	.000
		N	55

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

Source: SPSS Output

Ho₂: There is no significant relationship between administrative effectiveness and situation awareness of Deposit Money Banks in Rivers State.

The result of correlation matrix obtained between administrative effectiveness and situation awareness was shown in Table 2. The correlation coefficient of 0.767 confirms the direction and strength of this relationship. The coefficient represents a positive correlation between the variables. The test of significance shows that this relationship is significant at $p < 0.000 < 0.01$. Therefore, based on observed findings the null hypothesis earlier stated is hereby rejected and the alternate upheld. Thus, there is a significant relationship between administrative effectiveness and situation awareness of Deposit Money Banks in Rivers State.

Discussion of Findings

The findings showed that there is a positive and significant relationship between information administrative effectiveness and organizational resilience of Deposit Money Banks in Rivers State. This finding is in agrees with the idea that implementing an information system in an organization should reduce the amount of work for which the human resource department is responsible and leave the professional focused solely on performing strategic roles of the organization (Beadles, Lower, & Johns, 2015). HRIS provides a ready application that can be linked with the legacy systems. Using HRIS in an organization relieves the HR personnel from clerical dealings to focus on strategic planning. An organization's competitive advantage can also be improved through management of knowledge which is a benefit of the HRIS (Lin & Lee, 2015). The management is better informed since the system enables the production of many human resource reports. In addition, the system can produce many HR reports that can better inform management about the staff. New HR systems will provide the infrastructure needed to not only hire, manage, and motivate and evaluate people, but it will also assist in long -term business planning, staff forecasting, facilities planning, and budgeting (Weeks, 2016).

Also, the finding also agrees with Bestman and Dick (2019) who examined data mining technique and administrative efficiency of universities in Rivers State and found that there is a strong positive relationship between prediction data mining techniques and administrative efficiency of universities in Rivers State. It is therefore concluded that prediction data mining techniques is an effective tool to improve administrative efficiency of universities in Rivers State.

This also agrees with Hussain *et al.* (2007) who noted that the use of HRIS reduces staffing levels of everyday administrative tasks, while maintaining quality work performance, thus creating a more efficient working environment. Similarly, Reddick (2009) who explored the critical success factor of HRIS found that the technology maintains the ability to attract, hire, retain, and maintain talent, as well as support workforce administration to optimise workforce management. However, Bondarouk and Ruel (2013) postulate that HRIS not only support administration on a productive level, but also on a strategic level. they found that HRIS helps to free HR staff from administrative burdens, which in turn gives them the opportunity to undertake important strategic people management activities, which is more critical in their role. It can be deduced that although administrative use of HRIS has been cited in the literature, there appears to be limited use of the technology in strategic or sophisticated purposes, which therefore questions individual attitudes and acceptance of HRIS within organizations.

Conclusion and Recommendation

This study concludes that that information administrative effectiveness through its dimensions enhances and organizational resilience (adaptive capacity and situation awareness) of Deposit Money Banks in Rivers State.

Therefore, the study recommends that Management of Deposit Money Banks should optimize information administrative effectiveness by focusing on improving on training, include recruitment function and align the employee data or work to both personal and organization strategy.

References

- [1]. Amah, E., & Baridam, D. (2012). Adaptability and organizational effectiveness: A study of the Nigerian banking industry. *International Journal of Business and Management Tomorrow*, 2(3), 1-10.
- [2]. Ball, K.S. (2011). The Use of Human Resource Information Systems: A Survey, *Personnel Review*, 30 (6), 677-693.

- [3]. Beadles, I. I., Aston, N., Lowery, C. M., & Johns, K. (2015). The impact of human resource information systems: an exploratory study in the public sector”, *Communications of the IIMA*, 5(4), 39-46.
- [4]. Beckers AM, Bsat MZ, 2002. A DSS classification model for research in human resource information systems. *Information Systems Management*. 19: 41–50.
- [5]. Bernadette, S. (1996). Empirical evaluation of the revised technology acceptance model. *Management Science*, 42(1), 85-93.
- [6]. Bestman, A. E., & Dick, S. A. (2019). Prediction data mining technique and administrative efficiency of universities in Rivers State, Nigeria. *RSU Journal of Office and Information Management*, 3(1), 18-28.
- [7]. Bondarouk, T., & Ruël, H. (2013). The strategic value of e-HRM: results from an exploratory study in a governmental organization. *The International Journal of Human Resource Management*, 24(2), 391-414.
- [8]. Bondarouk, T., & Ruël, H., (2013). The strategic value of e-HRM: results from an exploratory study in a governmental organisation. *The International Journal of Human Resource Management*, 4(2), 391–414.
- [9]. Coats, K. (2017). How to develop greater adaptive capacity in your team. Retrieved from: www.tomorrowtodayglobal.com/2017/01/27develop-greater-adaptive-capacity-team/
- [10]. Crichton, M. T., Lauche, K., & Flin, R. (2005). Incident command skills in the management of an oil industry drilling incident: A case study. *Journal of Contingencies and Crisis Management*, 13(3), 116-128.
- [11]. Dalziell, E. P., & McManus, S. T. (2004). Resilience, vulnerability, and adaptive capacity: implications for system performance. Presented at the International Forum for Engineering Decision Making (IFED); Stoos, Switzerland December 6-8 2004.
- [12]. Davies, D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13 (3), 319-340.
- [13]. Endsley, M. R. (1995). Measurement of situation awareness in dynamic systems. *Human factors*, 37(1), 65-84.
- [14]. Endsley, M. R., Bolté, B., & Jones, D. G. (2003). *Designing for situation awareness: An approach to user-centered design*. CRC press.
- [15]. Fletcher, D., & Sarkar, M. (2013). Psychological resilience: A review and critique of definitions, concepts, and theory. *European Psychologist*, 18(1), 12.
- [16]. Folke, C., Colding, J., & Berkes, F. (2003). Synthesis: building resilience and adaptive capacity in social-ecological systems. *Navigating social-ecological systems: Building Resilience for Complexity and Change*, 9(1), 352-387.
- [17]. Gumming, D. (2005). Red Path, Blue Peach: Discovering the core market values of the small business. In *Crossing design boundaries: proceedings of the 3rd Engineering & Product Design Education International Conference, Edinburgh, UK, 15-16 September, 2005* (p. 441). Taylor & Francis Group.
- [18]. Gutierrez V, M., Zartha S, J., Vargas T, L., & Gomez G, J. (2017). Proposal of performance evaluation criteria for R & D & I units: case of companies in the department of Quindío Colombia. *Revista ESPACIOS*, 38(42) p.17.
- [19]. Hearnshaw, E. J., & Wilson, M. M. (2013). A complex network approach to supply chain network theory. *International Journal of Operations & Production Management*.
- [20]. Hussain, Z., Wallace, J., & Cornelius, N. E. (2007). The use and impact of human resource information systems on human resource management professionals. *information & Management*, 44(1), 74-89.
- [21]. Hussain, Z., Wallace, J., & Cornelius, N. E. (2007). The use and impact of human resource information systems on human resource management professionals. *Information and Management*, 44(1), 74-89.
- [22]. Kikuchi, A, Yamaguchi, H. (2013). Organizational resilience: An investigation of key factors that promote rapid recovery or organizations. *Academic Journal of Interdisciplinary Studies* 2 (9), 188-194.
- [23]. Kpakol, A. G., & Zeb- Obip, I. (2017). Emotional reflexivity and leader effectiveness. *Journal of Business Management* 19 (3), 60-68.
- [24]. Lengnick-Hall, C. A., Beck, T. E., & Lengnick-Hall, M. L. (2011). Developing a capacity for organizational resilience through strategic human resources management. *Human Resources Management Review*, 243 – 255.
- [25]. Lengnick-Hall, M. L., & Moritz, S. (2017). The impact of e-HR on the human resource management function. *Journal of Labor Research*, 24(3), 365-379.
- [26]. Lin, H., Lee, Y. (2017). A study of the influence of organizational learning on employees' innovative behavior and work engagement by a cross-level examination. *Eurasia Journal of Mathematics, Science and Technology Education*, 13(7), 3463-3478.
- [27]. Luthans, F., Luthans, K. W., & Luthans, B. C. (2004). *Positive psychological capital: Beyond human and social capital*.

- [28]. Madni, A.M. (2007). *Designing for Resilience*. ISTI Lecture Notes on Advanced Topics in Systems Engineering
- [29]. Marc, N. (2011) Factors affecting the design and implementation of decision support systems within organisations: Lessons from two case studies with the environment agency, England and Wales. PhD Thesis, University of Southampton, Faculty of Social and human Sciences, School of Geography and Environment.
- [30]. Masys, A. J. (2005). A systemic perspective of situation awareness: An analysis of the 2002 mid-air collision over Überlingen, Germany. *Disaster Prevention and Management: An International Journal*.
- [31]. McManus, S. (2007). Organisational resilience in New Zealand. Unpublished doctor of philosophy thesis, University of Canterbury, Christchurch.
- [32]. Midiwo, J. (2016). *Influence of Human Resource Information Systems on the Performance in Kenyan Public Universities* (Doctoral dissertation, Jomo Kenyatta University of Agriculture and Technology).
- [33]. Nwaeke, L. I., & Obiekwe, O. (2017). Impact of manpower training and development on organizational productivity and performance: A theoretical review. *European Journal of Business and Management*, 9(4), 153-159.
- [34]. Obiekwe, O. (2018). Human capital development and organizational survival: A theoretical review. *International Journal of Management and Sustainability*, 7(4), 194-203.
- [35]. Park, S. Y. (2009). An analysis of the technology acceptance model in understanding university students' behavioural intention to use e-learning. *Educational Technology & Society*, 12(3), 150-162
- [36]. Reddick, C. G. (2009). Factors that explain the perceived effectiveness of e-government: a survey of United States city government information technology directors. *International Journal of Electronic Government Research (IJEGR)*, 5(2), 1-15.
- [37]. Roth, E. M., Multer, J., & Raslear, T. (2006). Shared situation awareness as a contributor to high reliability performance in railroad operations. *Organization Studies*, 27(7), 967.
- [38]. Shabir, A. M., & Padma, T. (2017). Fuzzy decision support system for evaluation and prioritisation of critical success factors for the development of agricultural DSS. *International Journal of Multicriteria Decision Making*, 7(2), 146-172.
- [39]. Shih, B. Y., Shih, C. H., Li, C. C., Chen, T. H., Chen, Y. H., & Chen, C. Y. (2011). Elementary school students' acceptance of Lego NXT: The technology acceptance model, a preliminary investigation. *International Journal of the Physical Sciences*, 6(22), 5054-5063.
- [40]. Starr, P. (2004). *The creation of the media: Political origins of modern communications* (p. 296). New York: Basic Books.
- [41]. Stephenson, A. V. (2010). Benchmarking the resilience of organisations.
- [42]. Stout, R. J., & Salas, E. (1998). What do we know about training situational awareness? Paper presented at the Annual Meeting of the human factors and ergonomics society, Santa Monica, CA.
- [43]. Sussman, C. (2003). Making change: How to build adaptive capacity. *The Nonprofit Quarterly*, 10(4), 19-24.
- [44]. Sutcliffe, K.M. & Vogus, T.J. (2003). Organizing for resilience, in Cameron, K.S., Dutton, J.E. and Quinn, R.E. (Eds), *Positive Organizational Scholarship: Foundations of a New Discipline*, Berrett-Koehler, San Francisco, CA, pp. 94-121.
- [45]. Umoh, G.I., Amah, E., & Wokocha, H.I. (2014). Management development and organizational resilience. A case study of some selected manufacturing firms in Rivers State Nigeria. *Journal of Business and Management*, 16 (2) 7-16.
- [46]. Vargas T, L., Zartha S, J., & Bocanegra A, M. (2017). I Management influence on Innovation Management, under the Technical Standard Icontec NTC 5801. *Revista ESPACIOS*, 38 (38) p. 23. <https://www.revistaespacios.com/a17v38n38/17383823.html>
- [47]. Venkatesh, V., & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision sciences*, 39(2), 273-315.
- [48]. Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management science*, 46(2), 186-204.
- [49]. Wayne, W. L. (2016). Behavioural change models - The theory of planned behaviour, school of public health, Boston University. Retrieved from <http://sphweb.bumc.bu.edu/otlt/MPH-Modules/SB/BehaviouralChange/Theories/BehaviouralChangeTheories5.html> [Google Scholar]
- [50]. Wildavsky, A. B. (1988). *Searching for safety* (Vol. 10). Transaction publishers.
- [51]. Wu, I. L., Li, J. Y., & Fu, C. Y. (2011). The adoption of mobile healthcare by hospital's professionals: An integrative perspective. *Decision Support Systems*, 51(3), 587-596.
- [52]. Yarbrough, A. K., & Smith, T. B. (2007). Technology acceptance among physicians: A new take on TAM. *Medical Care Research and Review*, 64(6), 650-672.
-

- [53]. Zeb-Obipi, I., Obiekwe, O., & Ateke, M. D. (2019). Industrial Relations Environment and Organizational Resilience: Implications on Nigerian Managers. *International Journal of Social Sciences and Management Research*, 5(1), 22-35.