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ABSTRACT

This study examined the relationship between process innovation and organizational agility in the banking sector in Nigerian economy. The study adopted a cross sectional survey research design. 36 top and middle managers from 18 Deposit Money Banks formed the population of the study and the 36 respondents were the size of our sample. Pearson Product Moment Coefficient was used in testing the hypotheses at a 95% confidence interval and a 0.05 level of significance. The reliability of the research instruments with all the items attaining coefficients surpassing the threshold of 0.70 with the aid of Statistical Package for Social Sciences version 20.0. The study findings revealed that there is a significant relationship between process innovation and organizational agility in the banking sector in Nigeria economy. Therefore, process innovation in the banking sector in Nigeria led to high sensing agility, decision agility and acting agility. The study recommended that there should be more emphasis on process innovation for the attainment of sensing agility in the pursuit of organizational agility.

Keywords: *Process Innovation, Organizational Agility, Sensing Agility, Decision Agility, Acting Agility*

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INTRODUCTION

It has been observed that organizational agility in the recent times has become increasingly a subject of interest for both academics and practitioners because of its vital contribution to business success and growing interest to business executives and stakeholders. Many scholars have identified the essential role organizational agility plays in organizations as it provides employees with requisite knowledge, adequate skills, ability to restructure organizational processes, thereby, introducing novel and improved technology (Sherehiy, 2008).

An avalanche of scholarly work exists in literature in relation to responsiveness of work organizations. The underlying factor that ignited these scholarly works is however not implausible. The focus on the overall performance of organization in adapting to changes in their business ambiance lately has underscored the need to increase exploration for an advance to enhance goals (Cameron, 2008; Phillips, Rothbard & Dumas, 2009). In recent time, there has been focus on corporate responsiveness bearing in mind the increased level of competitiveness ensuing from strategies relating with some distinctiveness such as changing technologies and demands of customers (Amakapabo, 2015). This basically supports the view, that organizational environments are becoming more multifaceted than ever before, thus necessitating strategic incursion that will considerably sharpen efforts towards attaining organizations competitive advantage.

Dove (2001) posits that organizational agility "is an organizations knack (capability) to scramble through with rapid, relentless and uncertain changes and thrive in a competitive environment plagued with continuously and unsurprisingly changing opportunities". There seem to exist, an increasing acknowledgement by scholars that agility is an "essential factor for success of organizations as they encounter intense competition, increased globalization and persistent market pressures (Sambamurthy, Bharadwaj & Grover, 2003). This is to say that scholars of organizational management are now embracing and acknowledging agility as a very important concept that is continuously contributing to the success of organizations as it has played a very essential role in helping many organizations to survive the ever increasing competition, rivalry and turbulence in the business environment. This survival can be better enhanced through process innovativeness of firms.

Firms compete successfully when they offer new and better products and services so as to gain a competitive advantage in the industry they are operating in. Competitive advantage derives from the ability to do and make things better (Dodgson, Gann &Salter, 2008). Porter (1998) describes three types of generic business strategic factors that are considered to deal with competitive advantage. They are cost leadership, differentiation and market segmentation. Competitive advantage exists in relation to rivals operating within an industry as factors that enable an organization to earn a higher rate of profit. In today's global and dynamic competitive environment, product innovation is becoming more and more relevant, mainly as a result of three major trends; intense international competition, fragmented and demanding markets and diverse and rapid changing technologies (Wheelwright & Clark, 1992). Firms offer products, that are adapted to the needs and wants of target customers and that market them faster and more efficiently than their competitors are in a better position to create a sustainable competitive advantage (Calantone, Vickery &Droge, 1995). Competitive advantage is increasingly derived from knowledge and technological skills and experience in the creation of new products (Teece, 2003).

To achieve competitiveness, process innovation is prioritised for a manufacturing plant. Process innovation has been defined as the process of going through technological and organisational change (Reichstein & Salter, 2006), and involves developing a

firm's manufacturing processes (Frishammar, Lichtenthaler & Richtnér, 2013). Process innovation requires both organisational and technological changes, and is an important source of increased productivity in a firm. This process can also support firms in gaining a competitive advantage, and facilitating the introduction of equipment, new management practices, and changes in the production process (Reichstein & Salter, 2006). The process innovation capability in a firm is understood as the ability to acquire, assimilate, transform, and exploit technically related resources, procedures, and knowledge for process innovation purposes (Frishammar, *et al.,* 2012). In spite of the benefits associated to the implementation of process innovations in service organizations, research has been quick to point out the challenges associated to the presence of uncertainties that affect the characterisation of service systems and their performance (Parida, Patel, Frishammar & Wincent, 2016).This study therefore examined the relationship between process innovation and organizational agility in the banking sector of the Nigerian economy. Furthermore**,** this study was also guided by the following research questions:

- What is the relationship between process innovation and sensing agility in the banking sector of Nigerian economy?
- What is the relationship between process innovation and decision-making agility in the banking sector of Nigerian economy?
- What is the relationship between process innovation and acting agility in the banking sector of Nigerian economy?

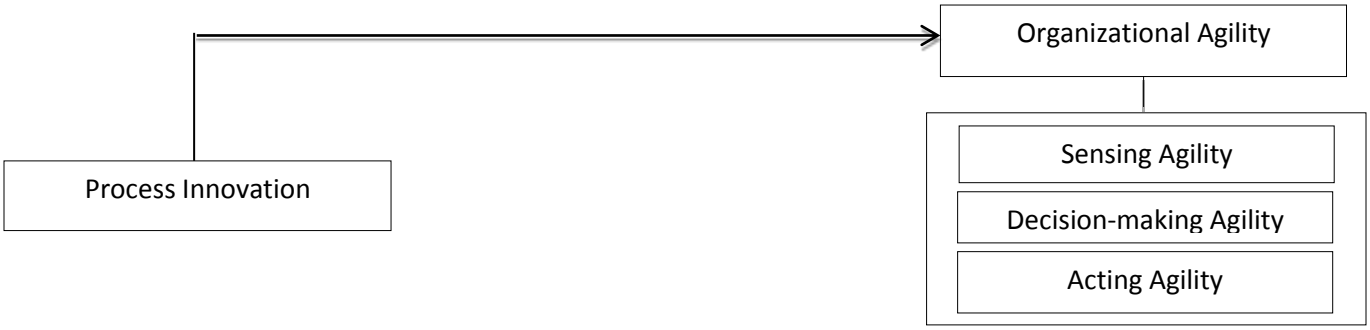

Figure 1: Conceptual framework for the relationship between process innovation and organizational agility
Source: Author's Desk Research, 2019

LITERATURE REVIEW

Ecological Change Process

Three main elements that are responsible for the process of change in the environment are in the following stages; variation, selection, and retention. These elements throw up new organizational forms in the population of organizations in a given environment. Any change (both planned and unplanned) that occurs in an environment is occasioned by variation. It is the emergence of new, diverse forms in the organizational population. Entrepreneurs are responsible for the birth of these new organizational forms in an environment usually in an attempt to create value for customers. This is where innovation, change, and agility come to play.

Selection is essentially about organization-environment fit. Once there is variation, the new organizational form is selected on the basis that the ensuing product or service is that which is suited to

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the environment. The suitability is the measure of the demand for such offering that will eventually gain the needed patronage from the environment, and also acquire enough resources from the same environment for survival. Some organizational forms are more suited than others. The ones that are suited will continue to survive and are said to be 'selected in' while the organizational forms that are not suited to the environment, will gradually fizzle out owing to its inability to acquire enough resources from the environment. When such is the case, that organizational form is said to have been 'selected out'. The above phenomenon accounts for the success or otherwise of innovation, change and agility of any organization in its environment (Ahiauzu & Asawo, 2016; Daft, 2007).

Retention is the perpetuation and institutionalization of any organizational form that is so selected. Certain organizations have been around for many decades because their products (services), and technologies are what the society places high value on. Example is the Catholic Church, Coca-Cola drinks and host of other organizations that are relatively permanent and institutionalized (Gupta, Gollakota & Srinivasan, 2016; Daft, 2007). On the long run, no organizational form is a permanent feature of the environment as the process of variation, selection, and retention is an on-going concern. The organizational form that is so desired and valued by the society today must necessarily cope with the changing demands and preferences of the customers, otherwise, it will be selected out and replaced by other organizational forms that create a better value for their teeming customers. The change in and adaptation to the environment, form the crux of innovation and organizational agility for our study.

Process Innovation

Process innovation is probably the least attractive form of innovation. Process is the combination of facilities, skills, and technologies used to produce, deliver, and support a product or provide a service. Within these broad categories, there are countless ways process can improve. Process innovation includes changes in the equipment and technology used in manufacturing (including the software used in product design and development), improvement in the tools, techniques, and software solutions used to help in supply chain and delivery system, changes in the tools used to sell and maintain your good, as well as methods used for accounting and customer service (Baer, 2018). Gupta (2009) defines process innovation as 'the renewal of the prescriptive procedures for producing and delivering the service'. Process innovation: is the adoption of new or significantly improved production methods. These methods may involve changes in equipment or production organization or both. The methods may be intended to produce new or improved products which cannot be produced using conventional plants or production methods, or essentially to increase the production efficiency of existing products (Reguia, 2014).

Daft, Murphy and Willmott (2010) define a process as 'an organized group of related tasks and activities that work together to transform inputs into outputs that create value for customers'. Any innovation carried out along the related tasks and activities is referred as process innovation. While product innovation is often visible to your customers, a change in process is typically seen and valued internally. Speaking generally, changes in process reduce costs of production more often than they drive an increase in revenue. Of the three types of innovation, process is typically the lowest-risk. One of the most famous and ground-breaking examples of process innovation is Henry Ford's invention of the world's first moving assembly line. This process change not only simplified vehicle assembly but shortened the time necessary to produce a single vehicle from 12 hours to 90 minutes.

Tidd, Bessant and Pavitt (2005) define process innovation 'as changes in the way in which products or services are created and delivered'. Process

innovation refers to the introduction of new elements (e.g. input material, work and information flow, task Specifications, and equipment) into the organisation's production process or service operations that are then used to make a product or service (Utterback& Abernathy, 1975; Ettlie& Reza, 1992 cited in Khorakian, 2011). Griffin (2005), defines process innovation as 'a change in the way a product or service is manufactured, created, or distributed'. Gupta (2009) asserts that 'process innovation can be divided into two sub-categories; innovation in operational processes (back office) or in delivery processes (front office)'.

Organizational Agility

According to Garbie, Parsaei and Leep (2008) cited in Groover (2001), they assert that 'in 1991, an industry-led study was accomplished under the auspices of the Iacocca Institute at Lehigh University. The study was sponsored by the US Navy Mantech program and involved 13 US companies. The objective of the study was to consider what the characteristics would be that successful manufacturing companies will possess in the year 2006'. The outcome of the study brought about 'Agile manufacturing' into the management literature. In the unpredictable and competitive world of today, the organizations must have different competitive features to compete; otherwise, they will move towards annihilation. One of these features that organizations need in the turbulent environments of today is agility. 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). Agility is the successful application of competitive bases such as speed, flexibility, innovation, and quality by the means of the integration of reconfigurable resources and best practices of knowledge-rich environment to provide customer-driven products and services in a fast changing environment (Yusuf, Sarhadi & Gunasekaran, 1999) cited in Nafei (2016).

Chief Executive Officers face a clear challenge: their old model required them to make long-term commitments to goals and strategies, deploy considerable resources to implement them, and ensure that every part of the firm was dedicated to achieving them. In contrast, the new, more agile model requires them to stay flexible, seek out new evidence, always be ready to reassess past choices, and change direction in light of new information, often via small, iterative improvements (Wyman, 2018).Agility is the ability of an organization to renew itself, adapt, change quickly, and succeed in a rapidly changing, ambiguous, and turbulent environment. Agility is not incompatible with stability—quite the contrary (De Smet, 2015). Agility needs two things. One is a dynamic capability, the ability to move fast—speed, nimbleness, responsiveness. And agility requires stability, a stable foundation—a platform, if you will—of things that don't change. It is this stable backbone that becomes a springboard for the company, an anchor point that doesn't change while a whole bunch of other things are changing constantly. Organizational agility is the organization's ability to respond quickly and effectively to unexpected opportunities, in addition to providing, in advance, solutions that meet potential needs (Nelson & Harvey, 1995).

Agility refers to the ability of rapid and easy movement and rapid thinking with a thoughtful method. The root or origin of agility is derived from agile production and this is a concept that has been presented during later years. The agile production has been accepted as a successful strategy by producers that prepare them for a considerable performance (Mehrabi, Siyadat & Allameh, 2013). Wyman (2018) defines organizational agility as 'a company's capacity to be infinitely adaptable without having to make a radical change.

Measures of Organizational Agility

Sensing Agility

Sensing agility is the organizational capacity to inspect and monitor events and changes in the surrounding environment (customer preferences changes, the movements of the new competitors, new technology) in a timely manner (Park, 2011) cited in Nafei (2016: 299). The task of sensing means the strategic monitoring of environmental events that could have an impact on organizational strategy, competitive work, and future performance, including several activities such as access to information related to the events which show environmental change, on the one hand, and getting rid of the trivial information, on the other hand, in light of predetermined foundations and rules (El-Sawy, 1985). This task is related to decision-making and its execution (Dutton & Duncan, 1987). It is interested in organizational adaptation to change in the surrounding environment (Smircich&Stubbart, 1985). According to Wyman (2018: 7), 'Sensing (or sensitivity) is the ability to detect, identify, and assess the opportunities and challenges presented by the changing external environment. It supports informed decision making. In sectors where the pace of technological development is extremely rapid, or the impact of consumer and social factors is uncertain, it is clear the importance of effectively "sensing" the need to change (when) and the areas where adaptation or innovation is required (where)'.

Environmental forces alone do not drive investment in system capabilities; a firm must be alert and responsive to the environmental cues. Entrepreneurial Alertness is a catalyst to business process agility. Entrepreneurial alertness is a firm capability in which the firm has strategic foresight and systematic insight capabilities (Sambamurthy, Bharadwaj & Grover, 2003). Strategic foresight is the capability to anticipate disruptions, threats, and opportunities in the environment whereas strategic insight is the capability to visualize and assess the threats and opportunities within the context of the firms' resources and capabilities. Entrepreneurial alertness allows for a firm to take strategic actions (Raschke& David, 2005). Market sensing involves two key activities. It starts with an open-minded approach to the market rather than inquiry simply to confirm pre-existing beliefs about the environment. The second activity of market sensing is to disseminate information and insights through-out the organization, such that it becomes a collective understanding of the marketplace. Ensuring that market information is understood requires ensuring that the market-sensing activity is followed by a sense-making activity. This involves an act of interpretation and is dependent on mental models of the organizational collective (Ahmed & Shepherd, 2010). Ahmed and Shepherd (2010) posit that the following steps are necessary for market sensing: a) Create a spirit of open-minded enquiry, b) carefully analyse competitor actions, c) listening to the market pulse, d) seeking out latent needs, e) actively scan the market periphery, and encouraging experimentation and improvement.

Decision-making Agility

Decision-making agility process is the ability to collect, accumulate, restructure and evaluate relevant information according to a variety of sources to explain the implications of the business without delay, and to identify opportunities and threats based on the interpretation of events along with the development of action plans, which direct the reconfiguration of resources and the development of new competitive procedures. The decision-making task consists of several interrelated activities, which explain many events and identify opportunities and threats in the surrounding environment. The task of decision-making focuses on collecting information from multiple and diverse sources in order to understand the implications of their work (Thomas, Clark &Gioia, 1993). The task of decision-making seeks to capture the utmost opportunities and

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minimize the impact of threats on the life of the organization (Houghton, El Sawy, Gray, Donegan& Joshi, 2004).

The key is to add value to the market data. Meaning and value depend on the way the information is processed by the cognitive lens of the organization. These organizational cognitive filters are called mental models. The mental models organize, structure and pattern given information in particular ways. Thus, different mental models can embody the same information with very different meanings. As a result, mental models can have important ramification for organizational action. If different types of mental models exist in an organization, it could result in the cacophony of interpretations (Ahmed & Shepherd, 2010). To avert this, the duo suggest the harmonization of the mental model that a company has adopted, and conscious effort be made to hear the voice of everyone if decision-myopia is to be avoided.

Dubois (2018) opines that agility in decision-making is key to capitalizing on business opportunities or to respond to market threats. Yahoo, during the 2000s, lacked the urgency and provided google an opportunity to catch up. Decision-making ability within large organizations is driven through three key levers: People, governance and strategic planning. The first lever is to ensure that the decision-makers in place are qualified, decisive and committed to support the outcome of the decision. Once these people are identified, establishing flexible governance ensures that they receive the support needed and remove the bureaucratic barriers in the process. To streamline the activities and ensure focus, introducing standard planning provides decision-makers the tools to succeed and reduce the decision cycle time.

Larson (2017) opines that organizations can greatly improve the quality of their agile decision-making when they observe the following steps: (a) a firm should know what the biases that reduce their decision-making ability and take steps to correct them. Track the process and results of decision making and use that information to improve future decisions. b) Gather the good enough information and share among those that will take decision. c) Maintain a feedback loop so as to know which aspect works and the one that fails so as to learn from the whole exercise and improve on it.

Acting Agility

The acting task consists of a set of activities for re-assembling organizational resources and modifying business processes on the basis of the principles of work resulting from the task of decision-making in order to address the change that occurs in the surrounding environment (Eisenhardt & Martin, 2000). Organizations can change the business processes by various procedures and resources, redesigning the organizational structure of the organization (Dutton & Duncan, 1987; Thomas *et al*., 1993). This is the doing stage; it requires implementing whatever is arrived at in the course of decision-making. This stage is the most critical determinant of organizational agility. It requires correcting whatever is seen as the challenge and has been agreed it should change at the level of decision-making. Opportunities are capitalized when organizations act quickly before others get to act and vice versa. This is the stage to annul or reduce the threats to organization and maximizing the opportunities that the organization has.

Process innovation and Organizational Agility

Business process management (BPM) has been used to study how business processes promote organizational agility. Actually, Business Process Management (BPM) gained considerable attention among academics and practitioners; it addresses the management, transformation and improvement of organizational operations. The goal of BPM is to align the business processes with business objectives and to regularly improve these processes (Triaa,

Gzara&Verjus, 2016). The trio have asserted that process innovation actually promotes and supports organizational agility.Jederstrom and Andersson (2017) in their research conducted in Sweden in a manufacturing company, studied how the use of discrete event simulation (DES) could reduce uncertainty while employing process innovation. The research methodology consisting of a literature review and a case study including the usage of DES were applied.The plant had about360 employees and a total of 18 employees were selected to participate in providing data for the research. The main processes of the plant were; welding, painting and assembling. The main goal of the company is to produce high quality machines in a safe way. The research concluded that the use of DES greatly reduced uncertainty and slightly aided in decision-making. It equally led to increased competitive advantage which could be inferred to increase organizational agility.Raschke and David (2005) in their research titled 'Business Process Agility', have demonstrated that innovation process stimulates organizational agility. Nielson (2018) posits that there is a positive relationship between process innovation and organizational agility.Meeus and Edquist (2006), also affirm in their research that process innovation boosts organizational agility and adaptation especially the one that turns out to be disruptive.Miers (2007) in his research titled 'Process innovation and corporate agility; balancing efficiency and adaptability in a knowledge-centric world', he posits that process information greatly enhances access to information in the surrounding which also leads to better and faster decision-making. In that wise, process innovation leads to increased organizational agility.Kock and Gemunden (2016) in their study involving 179 firms, affirm that process innovation: Innovation portfolio management (IPM) influences the speed of decision-making (decision agility) and contributes to the general organizational agility. Again their study indeed supports our finding in the banking sector that process innovation actually leads to decision agility. Wu and Wang (2017) when they carried a study titled 'achieving market agility through organizational mindfulness towards IT innovation and information processing capacities'. They deployed an IT related process called 'information processing view (IPV)'. It was discovered that the use of IPV as a process facilitates and stimulates market agility which was analogous to acting agility in a firm. Their study equally supports our claim that there is relationship between process innovation and organizational agility. Robert (2009) conducted a study in US to determine how process innovation, using IT relates and facilitates both sensing and acting agility in a firm. The famous research affirms that process innovation actually stimulates acting agility which supports our claim that process innovation associates with acting agility in the banking sector in Nigeria.

Thus, this study hypothesized as follows:

H_{o1}: There is no significant relationship between process innovation and sensing agility in the banking sector of Nigerian economy.

H_{o2}: There is no significant relationship between process innovation and decision agility in the banking sector of Nigerian economy.

H_{o3}: There is no significant relationship between process innovation and acting agility in the banking sector of Nigerian economy.

METHODOLOGY

The study adopted a cross sectional survey research design. 36 top and middle managers from 18 Deposit Money Banks formed the population of the study and the 36 respondents were the size of our sample. Pearson Product Moment Coefficient was used in testing the hypotheses at a 95% confidence interval and a 0.05 level of significance. The reliability of the research instruments with all the items attaining coefficients surpassing the threshold of 0.70with the aid of Statistical Package for Social Sciences version 20.0.

DATA ANALYSIS AND RESULTS

In this segment, the secondary data analysed from the outcomes of the hypotheses were presented with test conducted using the Pearson's Product Moment Correlation Coefficient at 95% confidence level which was accepted as criteria for the probability for either accepting the null hypotheses at (p>O.O5) or rejecting the null hypotheses formulated at (p< 0.01). In clear terms, the test covers the hypotheses postulated for the study (i.e. H_{01} to H_{03}) which were bivariate and stated in null form. According to Irving (2005) r value that is less than 0.20 (r < 0.20) is the benchmark for accepting the null hypotheses and r value that is greater than or equal to 0.20 (r 0.20) is the benchmark for rejecting the null hypotheses.

Salkind (2010) gives us the following bench marks for interpreting the correlation coefficient (r) of any given research:

i) 0.8- 1.0 = Very strong relationship, ii) 0.6- 0.79= Strong relationship, iii) 0.4- 0.59= Moderate relationship, iv) 0.2- 0.39= Weak relationship, and v) 0.00- 0.19= Very weak or no relationship.

Test of Research Hypothesis One

H_{01}: There is no significant relationship between process innovation and sensing agility in the banking sector of Nigeria economy.

Table 1:Correlations for Process Innovation and Sensing Agility

		Process Innovation (PI)	Sensing Agility (SA)
Process Innovation (PI)	Pearson Correlation	1	.430*
	Sig. (2-tailed)		.011
	N	34	34
Sensing Agility (SA)	Pearson Correlation	.430*	1
	Sig. (2-tailed)	.011	
	N	34	34

*. Correlation is significant at the 0.05 level (2-tailed).

Source: SPSS20.0 data Output, 2019

From the outcome in table 1, it was shown that a positive association exists between process innovation and sensing agility. The *correlation* value 0.430 indicated this association and it was significant at p 0.011<0.05. Therefore, based on empirical findings the null hypothesis earlier stated was hereby rejected. Thus, there is a significant relationship between process innovation and sensing agility.

Test of Research Hypothesis Two

H_{02}: There is no significant relationship between process innovation and decision agility in the banking sector of Nigeria economy.

Table 2:CorrelationsProcess Innovation and Decision Agility

		Process Innovation (PI)	Decision Agility (DA)
Process Innovation (PI)	Pearson Correlation	1	.383*
	Sig. (2-tailed)		.025
	N	34	34
Decision Agility (DA)	Pearson Correlation	.383*	1
	Sig. (2-tailed)	.025	
	N	34	34

*. Correlation is significant at the 0.05 level (2-tailed).

Source: SPSS20.0 data Output, 2019

From the outcome in table 2, it was shown that a positive association exists between process innovation and decision agility. The *correlation* value 0.383 indicated this association and it was significant at p 0.025<0.05. Therefore, based on empirical findings the null hypothesis earlier stated was hereby rejected. Thus, there is a significant relationship between process innovation and decision agility.

Test of Research Hypothesis Three

H_{03}: There is no significant relationship between process innovation and acting agility in the banking sector of Nigerian economy.

Table 3:Correlations for Process Innovation and Acting Agility

		Process Innovation (PI)	Acting Agility (AA)
Process Innovation (PI)	Pearson Correlation	1	.514**
	Sig. (2-tailed)		.002
	N	34	34
Acting Agility (AA)	Pearson Correlation	.514**	1
	Sig. (2-tailed)	.002	
	N	34	34

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

Source: SPSS20.0 data Output, 2019

From the outcome in table 3, it was shown that a positive association exists between process innovation and acting agility. The *correlation* value 0.514 indicated this association and it was significant at p 0.002<0.05. Therefore, based on empirical findings the null hypothesis earlier stated was hereby rejected. Thus, there is a significant relationship between process innovation and acting agility.

DISCUSSION OF FINDINGS

The outcome of our research showed that there is moderate relationship between process innovation and sensing agility. It implied that the improvement of the way goods and services are produced and delivered to customers, stimulates the ability of an organization to monitor and inspect the changes taking place in the environment of the banking sector in Nigeria. Gupta (2009) sees process innovation as the renewal of the prescriptive procedures for producing and delivering the service. The banks are continually seeking for better ways to deliver their services for the benefit of their customers and to remain competitive. Our findings are in line with the outcome of Miers (2007) when he posits that process innovation actually enables an organization to better access information from the environment which leads to better sensing agility of an organization. The study of Meeus and Edquist (2016) also supports the fact that process innovation actually stimulates sensing agility of an organization.

Our study also discovered that there is a weak relationship between process innovation and decision agility in the banking sector in Nigeria. It means that an improvement in the way products are produced and delivered in the banking sector in Nigeria, enhances the ability of an organization to collect, accumulate, restructure and evaluate relevant information that enables the organization to know of which opportunities and threats to respond to in the environment. Our finding is in line with Jederstrom and Andersson (2017) in their research conducted in Sweden in a manufacturing company, they studied how the use of discrete event simulation (DES) could reduce uncertainty while employing process innovation. The research methodology consisting of a

literature review and a case study including the usage of DES were applied. The plant had about 360 employees and a total of 18 employees were selected to participate in providing data for the research. They concluded that process innovation speeds up organizational decision agility.Kock and Gemunden (2016) in their study involving 179 firms, affirm that process innovation: Innovation portfolio management (IPM) influences the speed of decision-making (decision agility) and contributes to the general organizational agility. Again their study indeed supports our findings in the banking sector that process innovation actually leads to decision agility.

There is a moderate relationship between process innovation and acting agility in the deposit banks in Nigeria. It goes to say that process innovation in the banking sector in Nigeria promotes the ability of an organization to speedily align resources and re-assemble business processes in order to address the changes emanating from the environment. Opportunities are capitalized when organizations act quickly before others get to act and vice versa. Gupta (2009) believes that process innovation can be divided into two sub-categories; innovation in operational processes (back office) or in delivery processes (front office). Our finding is in tandem with the outcome of Wu and Wang (2017) when they carried a study titled 'achieving market agility through organizational mindfulness towards IT innovation and information processing capacities'. They deployed an IT related process called 'information processing view (IPV)'. It was discovered that the use of IPV as a process facilitates and stimulates market agility which is analogous to acting agility in a firm. Robert (2009) conducted a study in US to determine how process innovation, using IT relates and facilitates both sensing and acting agility in a firm. The famous research affirms that process innovation actually stimulates acting agility which supports our finding that process innovation positively and significantly associates with acting agility in the banking sector in Nigeria.

CONCLUSION AND RECOMMENDATIONS

An improvement in the way goods and services are produced and delivered in the banking sector in Nigeria, leads the organizations to be able to monitor and inspect the changes taking place in their environment for better adaptation and survival. The adoption of new or significantly improved methods in the deposit banks in Nigeria stimulates the ability of the firms to accumulate, gather, restructure and evaluate relevant information that enables them to know which opportunities and threats to respond to in their environment. Process innovation allows the firms to align resources and modify business processes in order to address the changes taking place in the banking sector of Nigerian economy.

The study recommended that commercial banks in Nigeria should embark more on process innovation in a bid to aligning of organizational resources and business processes so as to better exploit the opportunities thrown to them by the environment and at the same time be able to minimize the threats emanating from the environment.

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