

## Service Innovation and Organizational Success of Commercial Banks in Port Harcourt

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**Abstract:** The aim of study was to evaluate the relationship between service innovation and organizational success of commercial banks in Port Harcourt. The specific objectives are to determine the connection between mobile Apps and ATM and organizational success of commercial banks in Port Harcourt. The study selected five new generational banks, and conveniently visited 3 branches of each of the banks with 10 copies of closed-ended questionnaire, which amounted 150 samples; and upon data retrieval and clean-up, 128 responses were fit for the analysis. Spearman's rank order correlation coefficient was used for the analysis, and the results found a significant relationship between service innovation and organizational success of commercial banks in Port Harcourt, with highest effect between ATM and customer satisfaction. The study among others suggested that based on the concept of service dominant-logic, customer have become one of the most valuable resource that organizations can not just overlook; that is, they must try as much as they can at all times, seek customers' opinions during service delivery decisions or decisions that will aid boost customer experiences.

**Key Words:** Service Innovation, Mobile Apps, ATM, Productivity, Customer Satisfaction, TAM.

### Introduction

In every sector, as well as households' personal living, technology is playing crucial roles in directing the various activities of these groups. For instance, most households now rely on the efficacy of internet technologies to obtain some household items from the comfort of their homes; businesses alike, are increasingly utilizing innovations to facilitate business functions while gaining improved customer loyalty, commitment and overall success in terms of achievement of organizational goal and objectives. The concept of service innovation is a growing concept in the service industry; it is seen as innovation that occurs in various areas of service delivery, which includes development of new services or incremental improvements of an existing service (Susanne et al., 2015). This statement implies that innovation in service simply means the introduction of new services enabled by the new innovation, or any addition or value infused into an existing service. According to Dorathy (2008), service innovation is that intentional change in the different services provided; it occurs when providers provide an entirely new or amply enhanced benefits to the clients. Rubalcaba et al. (2012) take service innovation to mean the development of new types of services with the aid of technological and non-technological features. This shows that innovating for services does not only involve the use of technology, but includes any strategy or practices that organizations can implement to arrive at the introduction of new services.

215	ISSN 2576-5973 (online), Published by "Global Research Network LLC" under Volume: 6 Issue: 1 in Jan-2023 <a href="https://globalresearchnetwork.us/index.php/ajebrm">https://globalresearchnetwork.us/index.php/ajebrm</a>
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It is generally believed that service innovations are extremely interactive in nature, and at the time, more incremental (Rubalcaba et al., 2012); the interactivity usually involve the manager, employees and customers which is seen as increasingly vital for organizations. It is equally viewed that service innovation processes comprises both employee-driven or management centered (Fuglsang & Sundbo, 2005; Rubalcaba et al., 2012) and that innovations in service's processes can be activities that can aid in solving problems, which create continuity among the past, present and the future (Lars & Anne, 2018). From recent views about service innovations, much emphasis are placed on the role of customers; which sees service innovation as a resource introduced for customers (Gronroos & Voima, 2013; Vargo & Luach, 2008), which is brought into play via interaction with customers (Lars & Anne, 2018). From Lin (2013) point of view, innovating for service is playing positive impact on marketing performance, evidence on increasing rate of organizational profitability; as several old studies have viewed innovative service to accord organizations with an opportunity of accessing market trends, enhancement of learning capabilities, accelerates marketing performance (Carbonell et al., 2009; Hertog et al., 2010).

On the other hand, concept of organizational success has gained increased attention from practitioners and scholars in management studies; its presence is very crucial to the determination of the level with which organizations are able to attain some predetermined objectives (Onukwufor et al., 2018). Despite the world's economic turbulence and dynamism in the present day business environment, organizations that are able to survive are said to be achieving success, not negating other indices used in measuring success. Success according to Onukwufor et al. (2018) represents the ability to an organization to be efficient and effective in performing their respective tasks and achieve stated goal and objectives of the organization. They stated further that every organization begin by setting goals, design plans and implement those plans, which may involve performing of complex tasks so as to accomplish set objectives.

Several studies have evaluated service innovation focusing on different outcomes; e.g., Susanne et al. (2015) studied service innovation and its impact: what do we know about; Muhammad & Muhammad (2018) examined service innovation and service innovation performance; Isabela & Nathalia (2016) evaluated the relationship between service innovation and performance: a bibliometric analysis and research agenda proposal; Ibrahim (2014) worked on service innovation and competitive advantage in Karachi; Narentheren & Haim (2014), does service innovation act as a mediator in differentiation strategy and organizational performance nexus? an empirical study. Hence, the study observed dearth in empirical study on service innovation and organizational success of commercial banks in Port Harcourt. Adding to the gap in the study, the research adopted mobile app, ATM, and customer interaction for the predictor variable, whereas, the criterion valuable adopted productivity and customer satisfaction, and these form the gap which this study seeks to cover; whereby, our point of departure is to evaluate the nexus between service innovation and organizational success of commercial banks in Port Harcourt.

### Statement of the Problem

Innovation in service is regarded to offer effective means through which competitive advantage can be acquired by an organization (Susanne et al., 2015), it has become a new strategy organization can utilize to overcome quality service problems, and can be used to maintain in any saturated market or industry (Reinartz & Ulaga, 2008). Also, the concept of service innovation is increasing its role and impact to the practicing organization; that is why its presence has become of great importance (Rabeh, 2004). The service industry has continued to grow on a rapid note (Wang et al., 2015); this growth is evidenced on the 70% contribution to GDP of most developed and developing nations, as it suggested that the percentage of this growth will continue to increase (Gallouj & Windrum, 2009). Despite the growth and importance of service innovation especially to the banking sector, there is observed dearth in literature and attention given to the concept (Mohammad et al., 2015); this has resulted dissatisfaction of practitioners due to lack

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of attention and the attendant benefits. In addition, early observation has revealed that while most commercial banks are beginning to take cognizance of the role of service innovation, others are yet to recognize and practice in full, innovation in service. However, these challenges are believed to be curtailed by the adoption of service concept, service delivery system, service interface, new technology adoption (Susanne et al., 2015; Den Hertog, 2000). Thus, the problem of the study is to examine the influence of service innovation on organizational success of commercial banks in Port Harcourt.

### **Aim and Objective of the Study**

The main goal of the study is to examine the relationship between service innovation and organizational success of commercial banks in Port Harcourt; the specific objectives are to:

1. Examine the nexus between mobile App and organizational success of commercial banks in Port Harcourt.
2. Evaluate the connection between ATM and organizational success of commercial banks in Port Harcourt.

### **Hypotheses**

The following hypotheses were formulated as:

**H<sub>01</sub>:** There is no significant association between mobile App and productivity of commercial banks in Port Harcourt

**H<sub>02</sub>:** There is significant link between App banking and customer satisfaction of commercial banks in Port Harcourt

**H<sub>03</sub>:** There exist no significant tie between ATM and productivity of commercial banks in Port Harcourt

**H<sub>04</sub>:** There is no significant bond between ATM and customer satisfaction of commercial banks in Port Harcourt

### **Operational Definition of Variables**

#### **Service:**

This is an act of helping or doing work for others with the aim of exchanging it for value.

#### **Service Innovation:**

This is a new or improved ways of designing, producing and delivering a service.

#### **Organizational Success:**

This is simply the state at which organizations are able to achieve their goals and objectives.

#### **Productivity:**

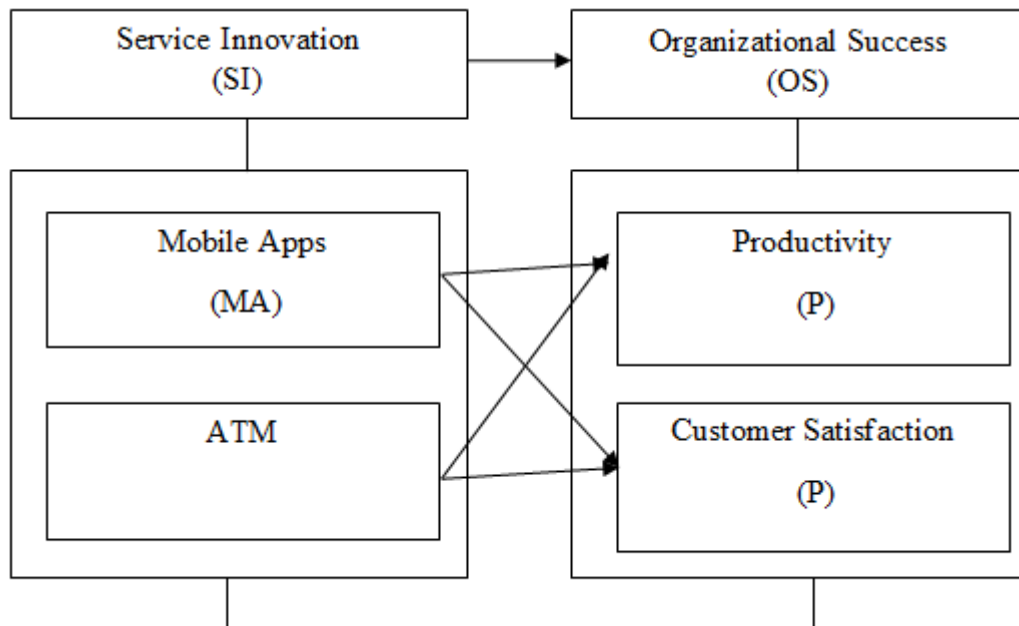
The quality, state, or fact of being able to generate, create, enhance, or bring goods and services; it means how well an input is transformed to quality output.

#### **Customer Satisfaction:**

This is the act of meeting and exceeding the expectations or desires of customers.

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## Conceptual Framework



**Source:** Desk Research 2022, as adapted from Jitendra et al. (2017); Joana et al. (2013); Vargo et al. (2004); Luach et al. (2008).

## Theoretical Foundation

The underlining theory for this study is Technology Acceptance Model (TAM), developed by Davis (1985), and based on theory of reasoned action. The aim of this model is to discuss and also predict information technology acceptability, and the ascertaining of those factors that influence acceptability of a given information technology (Shin et al., 2018). According to TAM, Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) are two main factors that influence users' intention. Severally, studies have emphasized the importance of perceived usefulness and perceived ease of use as predictors of persons' behaviour (Davis, 1985). In addition to the above two key factors (Lai, 2017), due to continues development and dynamic growth of technologies, it acceptance is dependents on technology availability, convenience, consumers' needs, security. With focus to Poland PEOU, we are referring to the ease with which people can use a technology, and the related benefit. However, in this study, its truth that service-based innovations could be technology and non-technology based. But in general, we view it from point view of technology, where use usually ascertain the two key factors before they can be involved or decide to adopt a technology.

## Literature Review

### The Concept of Service Innovation

Service innovation has been increasing in recognition as many scholars have given different views of the concept. According to Sundho & Gallouj (2000), the concept involved a combination of reproduced innovations and small non-reproduced transformations employed in remedying problem of customers; it is the rebirth of a running service or a new service brought to provide some gains to the practicing organization, this gains and achieved from the added values the new or renewed services offers to the customer (Toivonen & Tuominen, 2006). Morrar (2014) stated that innovation in occurring in service is regarded as an essential economic development pathways, that fosters success and growth or

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organizations; and organizations have been urged to be innovation in service since it's pivotal to an organization's existence and growth (Agarwal et al., 2003). According to Gallouj (2002), service innovation is associated and recognized for its ability to attract economic wellness and growth; as the plays positive impact on the general economy of an organization and country of large (Awais, 2001); in different contexts, service innovations have been applauded based on its strategic importance in driving economic growth and performance, sustainable competitive advantage, as well as survival (Durst et al., 2015; Merrilees et al., 2011; Hong et al., 2016).

There is no consensus as to the definition of the concept service innovation; different scholars with their diverse views and definition of the concept. For instance, it is seen as that innovation introduced in different situation in the service sector, which comprises the development of entirely new services, or the processes that seek improve existing services (Durst et al., 2015). From the perspective of manufacturing, Rubalcaba et al. (2012) defined service innovation as any innovation by organizations in service, as the creation of service strategies in manufacturing. It also involve the creation of value for customers, human resources, owners, partners, and the general society via unique and enhance service products, service processes, and service business models (Ostrom et al., 2010). In the view of Dorathy (2008), innovative services can take place in three distinct ways: the first way is that can be changes entirely to service itself or that which is being provided. In this case, what you witness this time is that which has never seen previously, or that which has been hugely modified in order to meet the increasing desire of customers more effectively, and according to the author, this is the type of innovation that is usually obvious to the customer. The second is changes to the process of service delivery; this may involve new or enhanced production process, delivery process, or process of distribution, usually introduction of IT aid distribution process. Accordingly, these processes may equally involve various roles of staff, strategic partners, and/or customers. This type of innovation is mostly enhancement of accessibility and introduction of high level of self-service channels. The third aspect of this innovation change in organizational structure; and this may involve changes or entirely new methods of management, revisiting of organizational structure, and/or significant adjustment to organizational strategies, and according to the author, it is the hard to identify by customers.

### Mobile APPs

The role information and communication technology is playing are quite enormous, that is why discussion and arguments related it cannot be exhausted. The growing emphasis is dependent on the attendant benefits. Through ICT, mobile applications are developed; mobile app as it is popularly known is a short form for mobile application, it is application software aimed to run on perspicacious phones, tablet computer and other mobile gadgets (Mobile App History). An application (APP), thrive on its ability to encourage interactive engagements among users, or to make available applications that are needed to work like computer program than a website. These apps are equally made through some distribution platform such in the different app stores (Venkata et al., 2014). The original purposes for which apps were created were information and productivity, which included email, calendar, contacts, calculator and information on whether. But, given proliferation of technology, the app developers included for issues like mobile games, GPS, banking, ticket purchases, social media, video chats, factory automation, location-based service, fitness apps and most recently, mobile medical apps.

According to Khaled et al (2019), mobile banking came to limelight when banks began their operations only; its applications have attracted several benefits to the service providers, e.g., it has displaced restriction on locations, banks now operate in new marketplace, they have widened their delivery options, improvement on performance is on the increase, enhance customer loyalty, and brings the costs of operations down. It is now benefiting customers by offering customized and personalized services, and

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has aided in reducing the amount of time customers have had to wait, as well as convenience in carrying activities (Liao & Chueng, 2008; Chang et al., 2008; Chueng & Lee, 2005; Yee & Faziharudian, 2010).

## ATM

ATM Automated Teller Machine is an electronic banking platform that enables customers to complete some transaction without the involvement of a representative or teller; they are usually convenient, by encouraging customers to swiftly perform self-service transactions like deposits, cash withdrawals, bill payment, ad transfer of funds from one account to another (Julia & Khadija, 2020). As supported by our experiences, ATM is believed present, to make very easy like of people based on the fact that people can have access to their monies anytime and anywhere they need it (Mosabber, 2006). One major benefit of ATM platform is that it has assisted in reducing bulky cash. ATMs are positioned not only close or inside the bank premises but it is also found in places like supermarkets, airports, grocery stores, petrol/gas stations, restaurants, or any environment where large number of people usually gather (church, etc.) (Steve, 2002). The original internet for ATMs were developed was cash to dispense cash, but advance in ICT ad increasing demand by customers for improved services, prompted inclusion of other feature that have helped to facilitate quality service delivery (Adelowo & Minna, 2010). Walking through some cities, ATMs are found at most locations close to you, this is designed to reduced customers presence in the banking halls, and to increase convenience and the reduction of amount of time usually spend when visiting the banking halls.

## Organizational Success

There is consensus that organizations are those that are able to achieve results which will enable them to be profitable and competitive in their respective industries or marketplace (Charles, 1998); those results can appear in different ways, such as realization of sales, revenues, or market share, the achievement of some production level or maintenance of quality standards. General success of it is dependent on the ability of individuals and work groups to achieve some results. That is, the ultimate well-being of any organization is the combination of the total outputs of employees and work groups; enabled by how innovative they are able to create for service delivery, and organizational success can be gotten through effectiveness and efficiency of employee actions (Charles, 1998; Onukwufor & Umoh, 2018).

## Productivity

Productivity from organizations point of view, is the determination of how efficiently and effectively resources are used to achieve organizational goals (Ajalie, 2017), it represents the amount of work accomplished in a unit of time though the means of factors of production; productivity equally shows the association between inputs and outputs, and it is said to be on the increase when there is a record of increase in output which is greater than the amount of input (Ilo, 2005). Productivity is a measure performance which comprises both efficiency and effectiveness. It is also an act of output or production capacity of employees in an organization (Bhatti & Qureshi, 2007). According to Ajalie (2017), productivity is a factor which shows useful application of organizational vital resources to achieve some objectives which appears in term of quality and quantity in a specific time period. Productivity is seen as how good people or employee combine resources like raw materials, labour, skills, capital, equipment, land, intellectual property, managerial capability and financial capital for the creation of goods and services (Sonal & Theophilus, 2016; Tokarcikora, 2013). Accordingly, productivity is simply reduction in the amount of resource wastage of resources organization uses in production, e.g., man, material, machine, time, space, capital, etc (Hardiki & Rashmi, 2019).

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## Customer Satisfaction

In as much as business are established to make profits, those profit cannot just start pouring to the pulse of the organization, it means that organizations have major task of satisfying their customers. The ability to satisfy customer give an organization opportunity to be ahead. Customer satisfaction is regarded as customers' feeling of pleasure or disapproval emanating from comparing a product or service perceived performance (or outcome) in connection to his/her expectation (Ilieska, 2009). It is when organization are able to meet and exceed customers' expectations customer satisfaction is see as an overall assessment of a product or service depending on the experience of purchase and consumption over time (Khadka & Maharjan, 2017). Organizations can satisfy their customers only when they are able to provide products and services of high quality (Ma et al., 2014). It has been established that satisfied customers are those who re-buy the same product, are loyal, and have high tendencies of giving recommendations to other customers, and are less sensitive price (Khadka & Maharjan, 2017; Yongping & Hee, 2020). Enyonam (2011) stated that in a marketplace where competition is high, it is customer satisfaction that can serve as a key differentiator, and a strong business strategy. It is an asset that organization must monitor and manage as a physical asset. It is also believed any organization that satisfy

## The Linking between Service Innovation and Organizational Success

Empirical studies demonstrate that innovative firms show higher profits, higher market value, better credit ratings, higher market share, and higher probabilities of survival in the market (Blundell et al., 1999, Cefis & Marsili 2005, Czarnitzki & Kraft, 2004, Hall, 2000). Service innovation is a new service strategy; and it is argued that organizations can gain in various ways through service-based strategies. That is, it can aid organizations achieve excellence in service offerings, cost structure, delivery system, technology, and attainment of customer satisfaction (Gronroos, 2007; Susanne et al., 2015). It is believed that the widespread acceptance of service innovation by policy makers and researchers is its perceived ability and positive impact of the whole economy (Miles, 2005; Tipu, 2011). According to Morrar (2014), various innovation occurring in service and different service areas is regarded as a fundamental driver and engine towards economic growth and success; economic well-being (Gallouj, 2002); playing positive impact to the economy as a whole (Awais, 2011).

Scholars have discovered continued importance of innovation whether in the service or production sectors, is pivotal to the growth and success of any organization or country (Agarwal et al., 2003; Mohammad & Mohammad, 2018); it has become a smooth sailing route that can be used to achieve economic growth and performance, sustainable competitive advantage, as well as survival of the organization or country at large (Durst et al., 2015; Merrilees et al., 2011; Hong et al., 2016). Berry et al. (2006) opined that most organizations have become IT oriented so that they can improve and enhance their products/services; these innovations are used to add new services, make expansion of existing ones and/or enhance the services delivery processes. According to them, these activities are very strategic, but to achieve success, organization must know how best to implement those creative ideas to productive services. Process of innovation as a form of service innovation, is believed to have attracted operational efficiency and effectiveness; and they will assist in creating improvement of brand image, sales growth, and market ranking enhancement; and these will result to organizations' launching of technically products that are high innovative with low cost, which will create more value to meet its desires of customers reliably, quality and less expansion (Ibrahim, 2014). The study of Ayhan et al. (2017), the effect of innovation activities on organizational performance: a research on hotel business. It was opined that any organization that wants to stand the wave of high competitive, must highly emphasize on innovative activities to enable them remain firm and strong in the market. The study of Mairesse & Mohnen (2003) found that there is a positive and significant impact play by innovative behaviour or activities on organizational productivity;

meanwhile, it is said be contributing immensely to the performance, productivity and improvement of new goods and services, leading to competitiveness and growth (Mayor, 2003).

It is that innovation of various firms have contributed in achieving business performance, however, organizations have been asked to constantly implement some kinds of innovation overtime which will aid them in achieving competitive advantage and on improvement in performance (Henard, 2001; Zaid et al., 2015; Walker et al., 2010). According to Narentheren & Hairn (2014), organizations (such as hotels) desiring to achieve differentiations in their strategies and offering, must use service innovation for the actualization of better performance.

### Mobile Banking Apps and Organizational Success

In the study of Maringo (2010), which evaluated the impact of mobile payments on success and growth of micro-business: the case of M-Pesa in Kenya? The result found that through different mobile application and mobile payment system, it is convenient, accessible, costs friendly, support and ensures security, and through which customers' behavioural intention to use and actual usage of mobile devices increase, which is leading to success and growth. In Arunga & Kohara (2007), it was concluded that payments via mobile applications, such as mobile phones, have become a good and benefiting platforms that organization are using to attract more savings and gain access to new services and more customers. Yein et al. (2018) stated that the use of internet, smart phones, application and social media have been utilized by several organizations to create channels to enable their communication and establish tight link with customers, which result to increase awareness and success.

Kombe & Wafula (2015) argued that most banks have realized providing services via internet banking will result to enhanced service quality and more direct association with customers; and have assisted banks to achieve increased revenue, higher profits, low costs, and risks reduction. Using mobile through its different applications improves banks performance which further increases their market shares and satisfaction of customers (Mwange, 2011); and through these applications banks are able to lengthen their services, personalize products and reduce costs of operation (Adewoye, 2013; Laura et al., 2019). It's believed and limpid that using mobile banking and mobile apps have offered several benefits to the banks; for example, it has reduced restriction from operating in locations, expanded delivery options, enhance performance, enhances loyalty, and it's used to cut cost of operation leading to general well-being and success of an organization (2019); and customers have and are still gaining from the use of mobile banking and applications. Customized and personalized services, reducing waiting time to the least, as well as satisfaction (Liao & Chueng, 2008; Cheng et al., 2008; Cheng et al., 2005; Yee & Faziharudean, 2010).

### ATMs and Organizational Success

The use of ATMs have been a strong avenue that banks use to gain competitive advantage through delivery of high quality service which is safer, quicker and in more effective way that can satisfy customers, and through the dimension of ATM, there is significant association with customer satisfaction (Nshiniyimana & Wenpei, 2019). It is also essential and established fact that through ATMs, banks achieve service provision and customer satisfaction and remain competitive in the face of increasing competition (Charles, 2014). With the aim of determining the association between use of ATM and customer satisfaction in Nigeria, it was discovered that there is a significant connection between ATM usage and customer satisfaction (Mohammed & Dada, 2014; Odusina, 2014; Rashinge & Kosala, 2017), that through ATM 24/7 monitoring, there is a significant impact of customer service on banks' profitability (Alex, 2014). According to study of Hussein & Richard (2017), the use of ATM has positive

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and significant effect on operational performance. Despite the several benefits and positive impact of ATMs, there are several complaints that been recorded using ATM (Katono, 2011).

### Methodology

The study seeks to evaluate the nexus between service innovation and organizational success of commercial banks in Port Harcourt. The study is descriptive, yet empirical. The study is concerned with quasi-experimental research design. The general population of this study shall comprise of all the commercial banks in Port Harcourt, whereas our target population are the employees of the selected banks (Access Banks, Zenith Banks, Guarantee Trust Banks (GTB), Polaris Banks, and Key Stone Banks). The study adopted a non-probability sampling method, whereby, convenience and judgmental approaches were used to determine the sample size. Consequently, three (3) branches of each of the new generation bank were visited, with 10 copies of questionnaire to managers of different levels, cashiers, customer service and marketing departments respectively. Thus, the total sample or the sample size of the study is 150. The study is relational in nature, prompting for the adoption of Spearman rank order coefficient to test the hypotheses. The analysis was performed using Statistical Package for Social Sciences (SPSS) 23.

### Data Presentation, Analysis, and Test of Hypothesis

#### Questionnaire Distribution and Retrieval

S/n	Description	Frequency	(%)
1	Administered number of questionnaire	150	100%
2	Number of retrieved questionnaire	139	87%
3	Not retrieved	11	13%
4	Number usable	128	92%
5	Not fit for use	11	8%
	<b>Total</b>		<b>100%</b>

#### Survey data, 2022

In the above table, it was shown that total number of 150 copies of questionnaire was issued to respondents, 139 (87%) copies were returned and 11 (13%) copies were not retrieved. Further, it was revealed that 128 copies (92%) of the total number retrieved were found useful for analysis, and 11 (8%) were not fit enough to be used for the analysis.

### Testing $H_{01}$

**$H_{01}$ :** There is no significant connection between mobile app and productivity of commercial banks in Port Harcourt.

Correlations				
			Mobile apps	Productivity
Spearman's rho	Mobile apps	Correlation Coefficient	1.000	.748**
		Sig. (2-tailed)	.	.000
		N	128	128
	Productivity	Correlation Coefficient	.748**	1.000
		Sig. (2-tailed)	.000	.
		N	128	128

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

**Source:** Field Survey Data, 2022, SPSS 21 Output

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### Decision:

From the output above, it was shown that the spearman rank correlation coefficient ( $\rho$ ) = (0.748), is greater than significant level ( $\text{Sig} < 0.05$ ). Therefore, is said that there is a strong significant association between mobile app and productivity of commercial banks in Port Harcourt; thus, the null hypothesis is rejected, while we accept the alternate hypothesis.

### Testing $H_{02}$

**$H_{02}$ :** There is no significant link between mobile app and customer satisfaction of commercial banks in Port Harcourt.

Correlations				
			Mobile apps	Customer satisfaction
Spearman's rho	Mobile apps	Correlation Coefficient	1.000	.817**
		Sig. (2-tailed)	.	.000
		N	128	128
	Customer satisfaction	Correlation Coefficient	.817**	1.000
		Sig. (2-tailed)	.000	.
		N	128	128

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

**Source:** Field Survey Data, 2022, SPSS 21 Output

In this analysis table, it was revealed that the spearman rank order coefficient ( $\rho$ ) = (0.817), and discovery is higher than the probability/significant level ( $\text{Sig} < 0.05$ ). Consequently, the null hypothesis is rejected, while the alternate hypothesis is accepted, which states that there is a significant association between mobile apps and customer satisfaction of commercial banks in Port Harcourt.

### Testing $H_{03}$

**$H_{03}$ :** There is no significant linkage between ATM and productivity of commercial banks in Port Harcourt.

Correlations				
			ATM	Productivity
Spearman's rho	ATM	Correlation Coefficient	1.000	.847**
		Sig. (2-tailed)	.	.000
		N	128	128
	Productivity	Correlation Coefficient	.847**	1.000
		Sig. (2-tailed)	.000	.
		N	128	128

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

**Source:** Field Survey Data, 2022, SPSS 21 Output

From the analysis table above, we found that the outcome of the Spearman's rank order coefficient ( $\rho$ ) = (0.847), and it's higher than the significant level of significant level ( $\text{Sig} < 0.05$ ). Hence, it is evident that using ATM is a strong tool that banks can use to improve productivity. Thus, we reject the null hypothesis, and accept that there is a significant connection between ATM and productivity of commercial banks in Port Harcourt.

#### Testing Ho<sub>4</sub>

**Ho<sub>4</sub>:** There is no significant relationship between ATM and customer satisfaction of commercial banks in Port Harcourt.

Correlations				
			ATM	Customer satisfaction
Spearman's rho	ATM	Correlation Coefficient	1.000	.863**
		Sig. (2-tailed)	.	.000
		N	128	128
	Customer satisfaction	Correlation Coefficient	.863**	1.000
		Sig. (2-tailed)	.000	.
		N	128	128

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

**Source:** Field Survey Data, 2022, SPSS 21 Output

Based on the above table, it was revealed that Spearman's analysis found  $(\rho) = (0.863)$ , and it's greater than the probability value or significant level  $(\text{Sig} < 0.05)$ . Consequently, the null hypothesis is rejected, and accepts the alternate hypothesis which states that there is a significant correlation between ATM and customer satisfaction of commercial banks in Port Harcourt.

#### Discussion of Findings

**Ho<sub>1</sub>:** In this instance, it was found that there is a significant and strong relationship between mobile apps and productivity of commercial banks in Port Harcourt. By implication, it means that banks' adoption of mobile apps has to great extent assisted in improving success of the firm, which emanate from the innovation's ability to enable self-service, which enhances service convenience. In the study of Maringo (2010), which evaluated the impact of mobile payments on success and growth of micro-business: the case of M-Pesa in Kenya? The result found that through different mobile application and mobile payment system, it is convenient, accessible, costs friendly, support and ensures security, and through which customers' behavioural intention to use and actual usage of mobile devices increase, which is leading to success and growth. In Arunga & Kohara (2007), it was concluded that payments via mobile applications, such as mobile phones, have become a good and benefiting platforms that organization are using to attract more savings and gain access to new services and more customers.

**Ho<sub>2</sub>:** Just as in hypothesis one, hypothesis two found a very strong and significant association between mobile apps and customer satisfaction of commercial banks in Port Harcourt. Similarly, utilizing mobile apps pose as a good medium that banks can harness to improve customer satisfaction. Supportively, Kombe & Wafula (2015) argued that most banks have realized providing services via internet banking will result to enhanced service quality and more direct association with customers; and have assisted banks to achieve increased revenue, higher profits, low costs, and risks reduction. Using mobile through its different applications improves banks performance which further increases their market shares and satisfaction of customers (Mwange, 2011); and through these applications banks are able to lengthen their services, personalize products and reduce costs of operation (Adewoye, 2013; Laura et al., 2019).

**Ho<sub>3</sub>:** ATM has been revealed as a good approach or strategy that has helped to cushion the effect of long queues in the banking halls; customers do not have to wait very long, rather, most of the bank services are being performed using the ATM machines usually positioned outside of the bank halls and other strategic places. Hence, there is a very strong and significant connection between ATM and productivity of commercial banks in Port Harcourt. The use of ATMs have been a strong avenue that banks use to gain

competitive advantage through delivery of high quality service which is safer, quicker and in more effective way that can satisfy customers, and through the dimension of ATM, there is significant association with customer satisfaction (Nshiniyimana & Wenpei, 2019). It is also essential and established fact that through ATMs, banks achieve service provision and customer satisfaction and remain competitive in the face of increasing competition (Charles, 2014). With the aim of determining the association between use of ATM and customer satisfaction in Nigeria, it was discovered that there is a significant connection between ATM usage and customer satisfaction (Mohammed & Dada, 2014; Odusina, 2014; Rashinge & Kosala, 2017)

**Ho<sub>4</sub>:** Similar to hypothesis three, using ATM for various bank transactions has proven to be a formidable medium that have assisted bank operators with the opportunity to regularly satisfy their numerous customers. This is evidenced in an outcome of 0.847. There is an argument supposing that organization (established ones) can have their innovation performance enhanced through working hardly with clients and consumes during the innovation process (Chesbrough, 2003; Laursen & Salter, 2006; Lichthanthler, 2008). It is believed that innovation arising through market-orientation (focusing on customers), can play key role in determining success of an organization (Han et al, 1998; Lukas & Farrell, 2000, etc.).

## Conclusion

Haven gone through the analyses and discussions, it is obvious that innovating for services has great impact on how successful service organizations can become. In this scenario, one can boldly say beyond manufacturing or product-based organizations, adopting innovative behavior or technological applications that enhance service speed is very fundamental achieving sustainable customer satisfaction.

## Recommendations

The study recommends that banks must keep track of any latest innovation with capabilities of fostering speed in service delivery. We equally recommend from experience that commercial banks are under the obligation of ensuring that they adopt modern machines (ATM) that are very fast, as most machines take longer time to complete a single transaction. Based on the concept of service dominant-logic, customer have become one of the most valuable resource that organizations can not just overlook; that is, they must try as much as they can at all times, seek customers' opinions during service delivery decisions or decisions that will aid boost customer experiences. Besides these, banks should also push for more innovations with regard to service delivery and customer satisfaction since customers have become more sophisticated in the taste and preferences.

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