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Internet Based Communication and the Workplace Productivity of Banking Sector in Nigeria

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***Abstract**: This study examined the relationship between internet based communication and the workplace productivity of banking institutions in Port Harcourt. The objective was to examine the relationship between internet based communication and the workplace productivity of banking institutions in Port Harcourt. The population was the 22 commercial banks while the sample size was 357 respondents selected from 22 deposit money banks using the Taro Yemen technique. Questionnaire was administered to the branches of the commercial banks. Internet based communication was proxied by online collaboration and social media while workplace productivity was proxied by real time delivery and patronage. Simple percentage, means and spearman rank correlation coefficient were used as data analysis methods. From the findings, the study concludes that there is significant relationship between online collaboration and real time delivery of deposit money banks in Port Harcourt. The correlation coefficient of 86.9% shows positive and strong relationship between the variables. From the findings, the study concludes that there is significant relationship between online collaboration and patronage of deposit money banks in Port Harcourt. The correlation coefficient of 69.7% shows positive and strong relationship between the variables. From the study concludes that there is no significant relationship between social media and real time delivery of deposit money banks in Port Harcourt. The correlation coefficient of 91.6% shows positive and strong relationship between social media and real time delivery of deposit money banks in Port Harcourt. From the findings, the study concludes that there is significant relationship between Internet Based Communication and the Workplace Productivity of Banking Sector in Nigeria, and recommends amongst others that, a strategy should be put in place to integrate internet-based communication with other workplace functions during its implementation because it is difficult to separate customers from their mobile devices and gadget.*

***Keywords:** Banking Institutions, Internet Based Communication, Workplace Productivity.*

INTRODUCTION

The application of electronic and Information Communication Technology has changed the traditional bricks and mortar system of banks service delivery and has revoltionalized the bank customer relationship in the banking industry, workplace digitalization plays key roles in evolving modern banking system and is a product of electronic banking. Banks are required to reinforce their global reach and developed different financial services for increasing demanding for customers who already hold a number of different banking products often at multiple banks.The Internet provides any organization, large or small, a directlink to relevant publics and it can also serve as a link to other valuableWeb Sites. In other words, the information gathered from theInternet can help organizations adjust policies and actions before acrisis occurs.

Samuel and Elekwachi (2023**) o**pined that, internet-based communication is the use of internet technologies for exchanging information. It encompasses a wide range of tools and platforms that enables individuals and organizations to communicate, collaborate, and share information over the internet. The internet offers multiples ways of communications such as, email, instant messaging, video and web conferencing, social media, collaborative document, editing, blogs and other online communication tools. This form of communications has become integral to modern personal and professional interactions, facilitating real-time and a synchronous communication across different locations and tine zones.

The workplace is a physical or virtual location where individuals come together to perform work related activities as part of an organization or business. Traditionally a workplace referred to a physical office or workplace where employees gather to carryout their task. However, with the advent of remote work and digital technologies, the concept of a workplace has expanded to include virtual or distributed environments. The workplace is the setting where individuals engage in work-related activities (Samuel & Elekwachi, 2023). In modern context, the workplace can be a traditional office space, a co-working facility, a home office or any location where work is conducted. It is not limited by geographical boundaries, as remote collaboration and online communication technologies enable people to work together from different locations.

The combination of these two concepts, facilitated by digital tools and platforms, has transformed the way people work, communicate, and collaborate in contemporary professional environments(Samuel & Elekwachi, 2023). Through the internet-based communication, banks can communicate to as many as eight people via video calls on various applications. Banks host free web conference calls to connect with clients or colleagues and discuss work with stable internet access.Internet based services have been lately adopted by Nigeria since 1998 and then followed massively by national and government banks and be more commonly used by corporation and consumer to do financial transactions (Wu, 2014). The customers mainly use it to do fund transfer, various bill payments, and checking their balance, and other important fast-changing information such as foreign exchanges and stock changes. These kinds of web-based communication application have been regulated heavily by Central banks of Nigeria which shows serious attention given by the government to manage the risks as impacted by the usage of information and communication technology applications for financial transactions. It has been believed that web-based communication such as in banking area could provide many beneficial features, both for consumers and the industry players.

The internet-based communication gives more benefit features to their clients or even reducing the transportation costs, the usage of paper and better customer service interfacing therebyhave the capacity to increase productivity Xing, Sun, & Yan, (2023). Vikram and Gayathri (2012)noted that using self-service or automated services for their customers to see their cheques and invoice images, so as the customers has more independent to access or more conveniently doing financial transaction without leaving their daily works and keep productive. Despite its advantages the internet based communication has been perceived as risky and not fully accepted due-to various plausible factors including financial risk, social and security risks, especially most part of the population are relatively newly adopted this kind of internet - based communication.Productivity is a measure of the efficiency of production. Employing internet based communication into production activities enhanced and increased in workers' productivity. The upwardshift of aggregate economic productivity leads to increase in gross domestic product and export of a nation in general.Internet based communication has transformed the way businesses areconducted by impacting on almost all aspects of business operations including product development, automation of processes, storage of customer data, communication and interaction with customers and suppliers.

Internet based communication innovation is becoming more and more relevant, mainly as a result of threemajor trends; intense international competition, fragmented and demanding markets and diverse andrapidly changing technologies.Workplace productivity is a crucial factor that can enhance, strengthen and sustain a company's overall business performance. Internet based communication in banking services is focused on customer services tomeet the expectation of customers to emerging services, market transparency, and diversecustomer requirements.With the advantages that Internet based communication brings to commercial banks as described above, researchers believe that digital transformation can really help increase the workplace productivity of banking institutions Gimpel and Röglinger (2015). According to research about testing efficiency of transactions of commercial bank distribution channels in the period from 2012 to 2015, thenumber of customers had counter transactions at banking branches.

Internet based communication in the banking sector has brought about Internet banking and mobile banking, which has turned into the single greatest channel right now for reaching customers and for customers to be able to deal with their banking errands themselves (Deutsche Bank, 2016). The Internet based communication on Nigerian's banking institutions can undoubtedly be associated to the measure of individuals utilizing the internet banking and mobile banking services to pay their bills, which is the dominating factor on an average person's banking errands. The breakthrough techniques for reaching customers are becoming less expensive and less demanding than the traditional methods (Magatef & Tomalieh, 2015) (Wright, 2017).

However internet based communication is the norm of the developed countries banking environment and the process is on the emerging banking environment such as Nigeria is characterized with communication errors.A critical examination of the internet-based communication instrument such as the Media Communication and Online Collaboration functionality in Nigeria show that there are so many challenges facing the internet-based communication delivery channel,the communication channel has now been used as an easy means of defrauding customers' bank account by authorized persons. It is common in the

Automated Teller Machine where customer's account is debited and the card seized in the machine without having the amount and the card, the assumption that Automated Teller Machine will save time and break distance barrier is sometimes seen as an irony as customers spend significant proportion of their time looking for a functioning Automated Teller Machine. This makes customers to be indifferent between the manual service delivery channel and the so-called Internet Based Communication Banking System.Studies conducted on the effect of digital workplace on bank performance found inconclusive results, from the above this study examined the extent to which internet-based communication affect workplace productivity of banking sector in Port Harcourt.

LITERATURE REVIEW AND HYPOTHESES

Theoretical Framework

This study is anchored on the theory of Technology Acceptance Model, Theory of Financial Innovations and the Innovation Diffusion Theory. These are explained below:

Technology Acceptance Model

This model was originally put forward by Davis (1986) to expounding on attitude behind the urge to employ technological knowhow Monyoncho, (2015). TAM deals with perceptions and not systems real usage and argues when new technological advancement is introduced to the customers, either one of this occurs that is, Perceived Ease of Use (PEOU) and Perceived Usefulness (PU) influence their decision Lule, Omwansa and Waema (2012). PEOU is the level of confidence that people put on a system and if users perceive a new technology to be beneficial in support of both short and long-run, there is that encouragement to use the system. Further, the level by which an individual considers a system will boost performance in the short and long-run is the PU (Mojtahed, Nunes & Peng, 2011).

Theory of Financial Innovations

The theory of financial innovations was proposed by Silber (1983) premised on the idea that benefit expansion of money related foundations is the key reason of financial inclusion (Li & Zeng, 2010). The theory demonstrates that the primary thoughts behind the new innovations are the defects of the money related business sector, mostly the deviated data, office expenses and exchange costs Błach, (2011). According to the theory, financial related innovations can be very new resolutions or simply customary means whereby latest component of development has been offered, enhancing firms' liquidity as well as expanding quantity new applicants, due to their qualifications on the situation (Ionescu, (2012).

According to the theory, financial innovation is a critical motivating force of the financial system, which leads to better economic competence and enhanced economic advantage derived from the new and frequent changes Sekhar, (2013). Financial innovations define financial developments by coming up with new ways of production, technological solutions, creating better return rates hence boosting the country's economy in general. The theory posits that the innovativeness improves the firms' competitive edge of a corporate and generates more earnings to the investors Błach, (2011). Innovation is a tool used to solve, manage and transfer the entire extra burden. The application of innovations promotes growth of financial entities through improved allocation, efficiency and a reduction of financial and administration costs Sekhar, (2013).

Innovation Diffusion Theory

The Diffusion of Innovations (DOI) theory was proposed by Rogers (1995) to explain the approach through which innovation can be passed via different ways over certain period among different users Sarker and Sahay, (2004). The theory explores the ways in which innovative ideas are passed from one generation to the other. According to DOI theory, an innovation is conveyed through various channels continually among individuals of the same social beliefs (Echchab & Hassanuddeen, 2013). The dispersion of Innovation hypothesis looks at the rate at which new advancement are spreading, how the new development is spreading and reasons why it is spreading with a specific end goal to research the elements influencing the selection of new data innovation advancement (Monyoncho, 2015).

The diffusion of innovations theory explains that innovationists apply normal distribution curve which can be partitioned into five segments to categorize users in terms of innovativeness. Diffusion theory explains that the crucial aspect in establishing implementation of innovation is: absolute advantage, companionable, simplicity, trial ability as well as ease to be detected (Monyoncho, 2015). DOI also classifies users as modernizer, early modernizers, and timely mass, late mass and stragglers (Echchab & Hassanuddeen, 2013). DOI theory perceives innovations to be passed on via several ways several in a span of time as well as a certain system (Sarker & Sahay, 2004). DOI theory tries to explicate as well as illustrate the approaches in which innovations that are digital financial services are adopted and becomes successful.

Internet Based Communication

Internet based communication is a process which enables bank customers to get access to their accounts and general information in bank products and services through the use of bank's website, without the intervention or inconvenience of sending letters, faxes, original signatures and telephone confirmations (Thulani Tafara & Langram, 2009) cited in Yahiya, 2011). Siyanbola (2013) puts it that Internet banking transactions on the internet (www) using electronic tools such as the computer without visiting the banking hail. E-commerce is greatly facilitated by internet banking and is mostly used to effect payment. Internet banking like mobile banking also uses the electronic card infrastructure for executing payment instructions and final settlement of goods and services over the internet between merchants and the customers. Commonly used internet banking transactions in Nigeria are settlement of commercial bills and purchase of air tickets through the websites of the merchants. Level of awareness of the advantages of this product to the saving populace is still very low; hence there is every room for improvement if cashless banking would be effective as expected Siyanbola, (2013). Funds transfer, airtime top, balance enquiring, password change, bill payment etc can also be conducted on the internet banking platform.

Collaboration

This is, 'I win you win strategy' where you cooperate with the other party to find a resolution with mutually satisfying outcome, collaboration aims at finding same solution that can satisfy both parties. It is based on a willingness to accept a valid interest of the other party whilst protecting one's own interest. Collaborating aims to find a solution to the conflict through cooperating with other parties involved. Hence, communication is an important part of this strategy. In this mechanism, effort is exerted in digging into the issue to identify the needs of the individuals concerned without removing their respective interests from the picture. Collaborating individuals aim to come up with a successful resolution creatively, without compromising their own satisfactions Walker *et al.* (1974).

Collaboration plays a major role within conflict resolution and requires great courage and much consideration. Collaborating with the other party involves listening to their side, discussing areas of agreement and goals, and ensuring that all parties understand each other. Collaboration requires thinking creatively to resolve the problem without concessions. Collaborators are usually admired and well-respected. Collaboration or Joint or mutual problem solving is a process of collaborating with others to resolve difficulties that are being experienced. The collaboration rule works when people are willing to collaborate, when there is enough time for discussion, when the issue lends itself to collaboration, where resources are limited and negotiation would be better, and when conflict and trust levels are not too high. The concern is to satisfy both sides. It is highly assertive and highly cooperative**;**the goal is to find a win/win solution.

Social Media

The term Social Media covers the usage of online tools and web sites that allow interaction between users to share information, opinions and interests. Social media is the layout of applications and technologies that ease the productive interaction between new business forms, the encouragement of social forms and technological presentations using humans, content and data it is an online platform where the participants convey their ideas, mutual interest and experiences by conversing with each other in a natural and sincere way Evans, (2008). Social media is defined as electronically used subscribers' activities, exercises and practices linking millions of people happening through the web by means of sharing data, information, ideas andfeeling. Social media defines creation and sharing of texts, videos, pictures and other messagesvia an electronic platform (Ray, 2008).

Social media by way of definition is any website whichallows users to share their content, opinions, views and encourages interaction and community building. Examples are facebook, youtube, twitter, digg, myspace, delicious, scribd, flickretc, (Sisira, 2011).Social media is the social interaction among people in which they create, share or exchangeinformation and ideas in virtual communities and networks Ahlqvist, (2008). Andreas Kaplanand Michael Haenlein defined social media as a group of Internet-based applications that buildon the ideological and technological foundations of Web 2.0, and that allow the creation andexchange of user-generated content (Kaplan & Haenlein, 2010). Furthermore, social mediadepend on mobile and web-based technologies to create highly interactive platforms throughwhich individuals and communities share, co-create, discuss, and modify user-generated content.

The following are social media platforms examples of SNSs; facebook, watsapp, QQ, Wechat,Qzone, Tumblr, Instagram, Twitter, Google+, Baidu Tieba, Skype, Viber, Sina Weibo, Line,Snapchat, Y.Y.com, Vkontakte, Pinterest, LinkedIn, Telegram, Reddit, Taringa, Foursquare,Renren, Tagged, Badoo, Myspace, Stumble upon, The dots, Kiwi box, Skyrock, Snap fish,Reverbnation, Flixster, Care2, Cafemom, Ravelry, Nextdoor, Wayn, Cellufun, Vine, Classmate, My heritage, Viadeo, Xing, xanga, we heart it, Buzznet and Flickr Sisira, (2011).Facebook has been described as one of the important social media networks and websitesPaxson, 2010, Abubakar, (2011).

Workplace Productivity

Work productivity is a very expected factor in working because it directly contributes to the achievement of organizational goals. This is no exception in educational organizations such as schools; work productivity is also very important factor so that what is the goal of the school can be realized. Judging from the origin of the word in English, work productivity comes from the word "produce “which means to produce. So work productivity is the ability to produce, or the level of results obtained by someone. Conceptually, the notion of work productivity was put forward by Gomez, *et al*. (2012) provides the definition, productivity is a measure of how much the individual value of employees adds the goods or services that the organization produces. This opinion has the understanding that work productivity is measuring how much the employee's added value for the goods or services produced The keyword of this definition is the measurement of value-added performance(value-added) so that people who have high work productivity will be able to provide great added value to the organization. Added value in this case is related to goods, services, or jobs produced by someone. According to Robbins and Coulter (2012), productivity is a performance measure of both efficiency and effectiveness. Work productivity is a measure of performance, both in terms of efficiency and effectiveness. Work productivity is the quality of performance that can measure how well the organization's goals are achieved (Kemal, Suryadi & Rosyidi, (2019).

Real Time Delivery

Ensuring customer satisfaction is essential for any business's survival. In the world of e-commerce, providing customers with a great order fulfillment process is key to achieving high customer satisfaction. Every customer expects businesses to go the extra mile in their delivery services. With this in mind, businesses need to be thinking of ways to offer value-added services to their customers to avoid losing them to competitors. There are different ways of doing this, but one of the most valuable is to offer customers real-time delivery tracking. Real-time tracking offers customers an accurate picture of a given delivery's location as it moves through the supply chain. With a combination of GPS tracking and real-time status updates from the field, customers can see the exact location of their orders in real time.

Patronage

Patronage is an exchange process where one receives a service or goods in exchange for money or other considerations. Customer patronage is therefore, the purchase of goods and service from a vendor by a customer or a business. The customer purchases and expects to derive benefits or satisfaction from the goods or services as consideration for the exchange for money paid. According to Anderson and Sullivan (1993) customer expectations of satisfaction lead to an increase in tendencies to purchasing a particular brand, they reiterated that firms that providehigh quality products and services on a regular basis will have more satisfied customers and these customers will likely re-patronize the service and products next time.

These assertions are supported by Kivela, Inbakaran and Reece (1999) when indicating that comparatively, firms that offer service of superior quality is bound to get their customers satisfied as well as get higher economic returns more than their competitors. Oftentimes managers use customer satisfaction to forecast brand loyalty that ultimately leads to repurchase. On this basis it is expected that customers of restaurants with opt for the sources that meet their quality and value expectations over those that do not; and ignorant will experience customer traffic decline as guests support competing restaurants Stevens, Knutson & Patton, (1995).

The client is as old as business. The sole purpose of every business is to "Create client" (Ogwo & Igwe, (2012). Ogwo and Igwe (2012) opined that the only economic and social justification for the existence of any business is to create customer satisfaction. The importance of the customer and customer patronage is so germane. It includes financial and non-financial dimensions. Various studies have been carried out on what influences or impacts on level of customer patronage. They include-firm's capability, product or services attributes, economic situation, political forces, social and psychological factors, situational, competition, marketing mix programs (Schiffman & Kanuk, 2019). Experience shows that defining and measuring patronage is a difficult task.

Attitude and actual usage patronages have been used as measures of customer patronages (Ogwo & Igwe,2012). Dick and Basu (1994) precisely suggested that favorable attitude and repeat purchase were pre-requisites to defining patronage. Intention to use is defined as a specific desire to continue relationship with a service provider patronage motive is defined as the carters of behavior that bring customers to the marketplace to satisfy their interior needs Jim & Kim, (2013). But in its growth, a person is driver to the market not only because there is need to be purchased. The fact shows that a visit to the restaurant shop is felt not only by the desire to eat a plate of meal. Because of patronage motives a customer makes purchase from one restaurant rather than from another. These motives can be either rational or emotional.

Empirical Review

Tunay *et al*. (2022) in their research work on effect of internet payment on the performance of banks in Europe, adopting a panel causality tests approach to examines the impact of internet payments and bank profitability of a member of the European Union and non-European of 30 countries discovered that more advanced internet banking practices in European countries illustrate the more performance of the strongest banks.

Akwam and Yua (2021) conducted research on effects of e-money products on the financial performance of some commercial banks in Nigeria using volume of POS, mobile payments and ATM transactions as proxies of financial products and return on assets, return on equity and earning per share as proxies of banks performance. A time series annual data from 2005-2019 of mobile payment, POS and ATM were employed to determined their impact on ROA, ROE and earnings per share, respectively. The findings revealed that Mobile payment and POS have significant positive effect on ROA and ROE, respectively. Also, ATM transactions have significant positive effect on earnings per share.

Anselm Ngwa (2020) in his study on electronic banking transactions and their effect on financial per formance of some selected commercial banks in Cameroon, using econometric techniques of descriptive analysis, and adopting regression analysis on quarterly data of 4 commercial banks from 2012-2018 to examines the effect of mobile payment, ATM, prepaid cards (PPV), and DTF on return on assets of banks. The findings revealed that mobile money transfer, Domestic Transfer Fund equivalent of RTGS transaction and Electronic Point Terminal via all have positive impacts on return on assets, however Prepaid cards such as ATM. Debit cards have negative impacts on the return on assets of the banks. Specifically, the overall finding indicated that e-payment transactions have significant effect on the financial performance of banks in Cameron.

Frank and Binaebi (2019) examined the impact of electronic payments system implementation on the financial performance of Nigerian's commercial banks. The research uses annual data ranging from 2009 to 2018 and adopts the ordinary least square regression technique. Four measures of payments system technology namely; ATM transactions, POS transactions, internet payments, and mobile payments were used with aggregated asset base used as the measure of performance of commercial banks. The empirical results of the study provided that an implementation of payments system innovations has had a mixed effect on the financial performance of banks in Nigeria. ATM, internet payment, and mobile payments have a positive effect on the financial performance of banks, while POS terminals have a negative effect on the bank performance.

Harcourt and Ikegwuru (2019) examined the influence of internet distribution conduit on services market in the Nigerian banking Industry. The population consists of 21 deposit money banks located in Port Harcourt metropolis. The random and convenience sampling methods were exploited in the study to draw 126 management staff as respondents. Data were analyzed using descriptive statistics, simple regression, analysis of variance (Anova) and the t- test. and the study revealed tha,t success of services market depends significantly on Internet low cost of product commercialization; Success of services market depends significantly on Internet fast distribution of information products.

Yao *et al*. (2018) investigated the impact of payment technology on the financial performance of the banking sector of China, using the Vector Auto-Regression impulse model to analyze third- party Payment (TPP) data ranging from 2007 to 2014. The findings revealed that TPP increases money turnover and positively affect the financial sector earning growth. Hence, the results empirically indicate that innovations of payment technology contribute to industry synergist in the evolution of the financial industry in China. Also, Dong *et al*. (2020) looked at the effect of web finance on commercial bank's performance in China. The paper inventively utilizes multi-source information to fabricate a web account list, which contains Internet search information and Internet monetary exchange information. The outcomes show that the improvement of Internet finance decidedly affects the benefit, security, and development of banks, hence, contrarily affects their liquidity. The investigation likewise indicated that web finance has advanced the enhancement of the thorough business execution of banks in China.

Vikram and Gayathri (2018) investigate the effect of information technology on the financial performance of banks in India, employing panel data consisting of cross-sectional and time-series data of 21 banks for the period 2011-2015, discovered that investment in IT increases profitability for banks. Kamboh and Lighari (2016) undertook a study on the effect of cashless payments system on the financial performance of the Pakistani banking industry, using OLS regressions analysis on quarterly data from Q2, 2007 to Q4, 2014 and the results indicated that that POS transaction and Mobile payment are positively significantly correlated to ROE, while ATM transactions are negatively, significantly, related with profitability. This finding is in contrast with that of Zu *et al*. (2019) who discovered in their studies on Impacts of payments system technology on the performance evidence of electronic banking in Africa adopting descriptive research design and panel regression model that ATM affects banks profitability positively, while POS and internet payments affect profitability negatively.

Vekya (2017) adopted a descriptive research design on data from 43 commercial banks to investigate the impact of electronic banking on the financial performance of banks in Kenya, established positive significant relationship between ATM transactions and bank profitability. This finding corroborated with Muisyo*et al*. (2014) findings on their study on the impact of mobile payment on the financial performance of banks in Kakamega Town of Kenya, which revealed that mobile payments have contributed positively to the performance of banking institutions. Cherotich*et al*. (2015) conducted a study on the impact of payments system innovations on the financial performance of banks in Kenya, using a secondary data of a five-year period from 2009 to 2015 from a population of 43 commercials banks operating in Kenya as at End-December, 2013. The findings revealed that financial performance proxies by electronic fund transfers (EFTs), cheque and RTGS revealed a positive impact on return on equity of commercial banks in Kenya.

Choudand Bharttachargee (2016) used the survey method to examine the nexus between electronic banking channels and customer loyalty. The study was based on data collected from a sample of 400 salaried employees selected through the stratified random sampling method. Electronic banking service delivery channels were evaluated based on Ease of use, Usefulness, Cost-saving, and Self-control while loyalty was measured in terms of attitudinal loyalty and Behavioural loyalty. The result showed that electronic banking delivery channels have strong positive impact on customer loyalty. Oluwagbemi, Abah and Achimugu (2011) examined how adoption of information technology impacted the banking industry in Nigeria. They found that IT adoption fundamentally transformed the content and quality of banking services delivery thereby strengthening the competitiveness of Nigerian banks. The authors identified information technology as a major component of economic development and a backbone of knowledge-based economies in terms of operations, service quality and productivity.

From the review of literature, the following research model was designed:

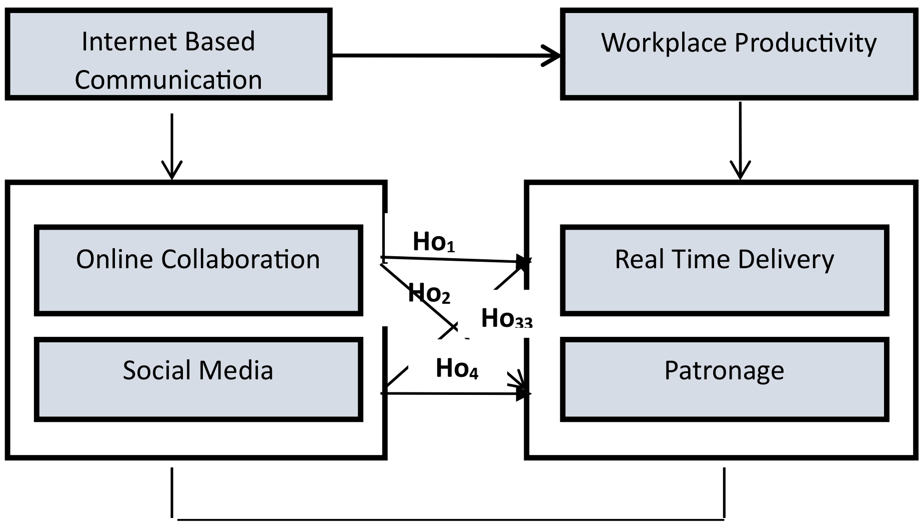

Figure1: Research Model of internet-based communication and workplace productivity

Source: Designed by the Researchers, 2023,

From the research model, the following hypotheses were raised:

H_{O1}: There is no significant relationship between collaboration and real time delivery of banking institutions in Port Harcourt

H_{O2}: There is no significant relationship between collaboration and patronage of banking institutions in Port Harcourt.

H_{O3}: There is no significant relationship between social media and real time delivery of banking institutions in Port Harcourt.

H_{O4}: There is no significant relationship between social media and patronage of banking institutions in Port Harcourt.

METHODOLOGY

The design related with this study is correlational approach. The rationale behind this approach is that the quantitative data and subsequent analysis provide a general understanding of the research. Moses (2014) stressed in his study that a correlation research is a quantitative in nature and two or more variables are taken into consideration in order to determine the relationship.

Population of the Study

The target population for this study is the employees of 24 deposit money banks in Port Harcourt. Therefore the population of the study comprised of 3318employees from the regional offices of the deposit money banks. (Source:www. businesslist.com.ng) (See table below).

Table 1: Population of the Study

S/N	List of Banks	Number of Managers
1	Access Bank	275
2	Ecobank	189
3	First City Monument Bank,	205
4	Fidelity Bank	195
5	First Bank	298
6	Guarantee Trust Bank	301
7	Heritage Bank,	174
8	Keystone Bank	102
9	Skye Bank,	126
10	Stanbic IBTC	157
11	Sterling Bank,	128
12	United Bank for West Africa,	204
13	Union Bank,	194
14	Unity Bank	186
15	Wema Bank	153
16	Zenith Bank	264
17	Jaiz Bank	21
18	Standard Charted Bank	36
19	Main Street Bank	57
20	City Bank	29
21	Suntrust bank	24
	Total	**3,318**

Source: Financial Statement and Annual Reports

Sampling Procedure and Size Determination

The sampling for this study constituted the employees of the Deposit Money Banking Institution. The sample size used for this study was determined mathematically using the Taro Yemen's formula:

$$n = \frac{N}{1 + N(e)^2}$$

Where: n = Sample Size Sought

N = Population (3,318)

e = Level of Significance (5%)

The sample size sought (n) is:

$$n = \frac{3,318}{1 + 3,318(0.05)^2}$$

$$n = \frac{3,318}{1 + 8.295}$$

$$n = \frac{3,318}{9.295}$$

n = 357

357 copies of questionnaires were distributed to the respondents, and the retrieved data were analyzed by means of the Spearman Rank Correlation Coefficient

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF RESULTS

Presentation of Data

The source of data used in the study is questionnaire which was administered to twenty –one (21) commercial banks in the study. Out of three Hundred and fifty seven (357) questionnaires administered, three Hundred and Thirty-Four (334) were retrieved which represents 93.6% while twenty three (23) questionnaires which represent 6.4% were not retrieved. The table below gives the details.

Table 2 Analysis of questionnaires administered

S/No	Questionnaire	No Retrieved	% Distribution
1	Questionnaire retrieved and used	334	93.6
2	Questionnaire not Retrieved	23	6.4
	Total	357	100

Source: Field survey (2023).

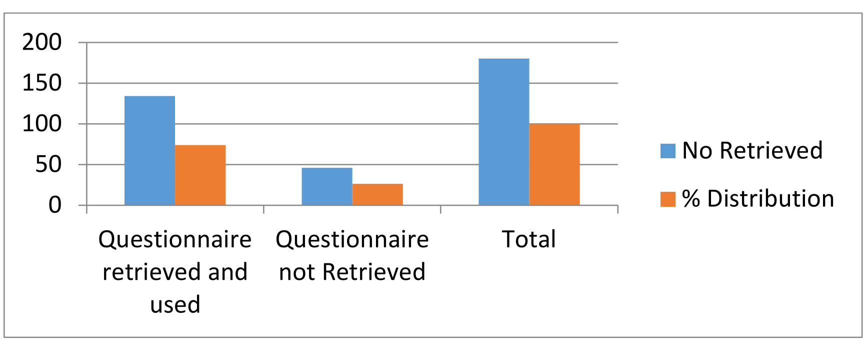

Fig. 1: Bar chart showing questionnaire administered and retrieved

Table 7: Analysis of Hypotheses I

Probability	.000
Correlation coefficient	.869
No. of observation	334
Level of Significance	5% 2 tailed

Source: SPSS 20.0 Output.

The Spearman ranking coefficient shows a p- value of .000 and a correlation coefficient of .869, the null hypothesis is rejected at 5% confidence level and the alternate accepted there is significant relationship between collaboration and real time delivery of banking institutions in Port Harcourt.The correlation coefficient of 86.9% shows positive and strong relationship between the variables.

Table 8: Analysis of Hypotheses II

Probability	.000
Correlation coefficient	.697
No. of observation	334
Level of Significance	5% 2 tailed

Source: SPSS 20.0 Output

The Spearman ranking coefficient shows a p- value of .001 and a correlation coefficient of .697. The null hypothesis is rejected at 5% confidence level and the alternate accepted that there is significant relationship between collaboration and patronage of banking institutions in Port Harcourt. The correlation coefficient of 69.7% shows positive and strong relationship between the variables.

Table 9: Analysis of Hypotheses III

Probability	.000
Correlation coefficient	.916
No. of observation	334
Level of Significance	5% 2 tailed

Source: SPSS 20.0 Output

The Spearman ranking coefficient shows a p- value of .000 and a correlation coefficient of .916. The null hypothesis is rejected at 5% confidence level and the alternate accepted that there is no significant relationship between social media and real time delivery of banking institutions in Port Harcourt. The correlation coefficient of 91.6% shows positive and strong relationship betweensocial media and real time delivery of banking institutions in Port Harcourt.

Table 10: Analysis of Hypotheses IV

Probability	.010
Correlation coefficient	.599
No. of observation	334
Level of Significance	5% 2 tailed

Source: SPSS 20.0 Output

The Spearman ranking coefficient shows a p- value of .010 and a correlation coefficient of .599. The null hypothesis is rejected at 5% confidence level and the alternate accepted that there is significant relationship between there is significant relationship between social media and patronage of banking institutions in Port Harcourt.. The correlation coefficient of 59.9% shows positive and strong relationship between social media and patronage of banking institutions in Port Harcourt.

DISCUSSIONOF FINDINGS

The study found positive and significant relationship between collaboration and real time delivery of banking institutions in Port Harcourt.The Spearman ranking coefficient shows a p- value of .000 and a correlation coefficient of 89.6 percent. This indicates that career online collaboration has positive and significant relationship on real time delivery of the deposit money banks. This finding confirms the expectations of the results and the objective of human resource development. . Empirically, the findings confirm the findings of Akhisar*et al*. (2015) that payment innovations affect profitability positively except for POS and internet payment which affect profitability negatively, Tunay *et al*. (2015) that more advanced internet banking practices in European countries illustrate the more performance of the strongest banks and the findings of Yao *et al*. (2018) that the improvement of Internet finance decidedly affects the benefit, security, and development of banks, hence, contrarily affects their liquidity.

The study found positive and significant relationship between online collaboration and patronage ofbanking institutions in Port Harcourt.The Spearman ranking coefficient shows a p- value of .000 and a correlation coefficient of 69.7 percent. This indicates that online collaboration have positive and significant relationship on real time delivery of the deposit money banks. This finding confirms the expectations of the results and the objective of technology adoption. The findings confirm the findings of Oluyemisi, Muideen, Benneth and Nurudeen (2020)that an improvement in training and career development tends to enhance banks employees' performance. Empirically, the positive relationship confirm the findings of Vikram and Gayathri (2018) that investment in IT increases profitability for banks, Kamboh and Lighari (2016) that POS transaction and Mobile payment are positively significantly correlated to ROE, while ATM transactions are negatively, significantly, related with profitability, the findings of Zu *et al*. (2019) that ATM affects banks profitability positively, while POS and internet payments affect profitability negatively, the findings of Anselm Ngwa (2020) that mobile money transfer, Domestic

Transfer Fund equivalent of RTGS transaction and Electronic Point Terminal via all have positive impacts on return on assets and the findings of Vekya (2017) established positive significant relationship between ATM transactions and bank profitability.

The study found positive and significant relationship between social media and real time delivery of deposit money banks in Port Harcourt.The Spearman ranking coefficient shows a p- value of .000 and a correlation coefficient of 91.6 percent. This indicates that social media have positive and significant relationship on real time delivery of the deposit money banks. This finding confirms the expectations of the results and the objective of technological integration in the work place. Empirically the findings of this study is in line with the findings of Muotolu and Nwadialor(2019) that volume of ATM transactions has significant positive impact on ROA of banks in Nigeria, however, Volume POS, internet, NEFT and NIP have insignificant positive impact on ROA of banks in Nigeria, De Young *et al*. (2007) that internet adoption improved community bank profitability, largely through increased revenues from deposit service charges, Lerner and Tufano (2011) that financial innovations like venture capital, equity funds, mutual and exchange traded funds and securitization lead the way to financial deepening and growth. Cherotich *et al*. (2015) found out that there is a strong relationship between financial innovations and financial performance in Kenya commercial banks suggesting that the innovation is also effective for undeveloped countries too and the findings of Beck, Chen, Lin and Song (2012) that financial innovation is associated with higher growth volatility among industries more dependent on external financing and on innovation and with higher idiosyncratic bank fragility, higher bank profit volatility and higher bank losses during the recent crisis.

The study found positive and significant relationship between social media andpatronage of deposit money banks in Port Harcourt.The Spearman ranking coefficient shows a p- value of .000 and a correlation coefficient of 59.9 percent. This indicates that social media have positive and significant relationship on patronage of the deposit money banks. The positive relationship between the variables confirms the a-priori expectations of the study and in line with theories such as technological adopted theory.The finding confirms the findings of Roberts and Amit (2003) that innovative activity significantly affects its current financial performance, Abir and Chokri (2005) that the legal framework influences in a large way the innovative behavior of the Tunisian banking system, Nodern, *et al*. (2012) that the magnitude of the risk management effect remained unchanged during the crisis period of 2007-2009 and the findings of Domeher *et al*. (2014) that innovation attributes such as lack of complexity, compatibility and perceived usefulness provided by financial innovation, increase the likelihood of e-banking adoption.

CONCLUSION AND RECOMMENDATIONS

This study investigated the relationship between internet based communication and the workplace productivity of Banking Sector in Nigeria and found a significant relationship between online collaboration and real time delivery with a correlation coefficient of 86.9% showing positive and strong relationship between the variables, a significant relationship between online collaboration and patronage, with a correlation coefficient of 69.7% showing positive and strong relationship between the variables, a significant relationship between social media and real time delivery with a correlation coefficient of 91.6% showing positive and strong relationship between social media and real time delivery, and a significant relationship between social media and patronage. The study therefore concludes that, there is a significant relationship between internet based communication and the workplace productivity of Banking Sector in Nigeria, and recommends the following:

i. The study recommended that a strategy should be put in place to integrate internet-based communication with other workplace functions during its implementation because it is difficult to separate customers from their mobile devices and gadget.
ii. The study recommended that banks should improve on their internet-based communication channels for them to remain relevant in the face of global competition through proper integration of digital technology.
iii. The study recommended that Management of banking sector should enhance application of internet-based communication to increase satisfaction and patronage of their customers, develop more friendly, easyand efficient applications of internet.
iv. The study recommended that staff training and development should be enhanced in the banking industry in order to render quality and timely services to their customers.
v. The study recommended remote access policies:Develop and communicate clear policies for remote access to banking systems.
vi. The study recommended customer communication platform: Utilized secure channels for customers communications, such as encrypted chat on banking websites or secured customers portals.
vii. The study recommended data backup and recovery: Implement regular data backup procedures, ensure that recovery process is in place, test backup periodically to verify their effectiveness.
viii. The study recommended a secure of video conferencing: Choose video conferencingtools that prioritized security, end-to-end encryption and educate employees on bestpractices for secure virtual meetings.
ix. The study recommended virtual private networks (VPNs): Encourage the use of VPNs, especially data remotely and encourage that employees are aware of the potential risk associated with public Wi-Fi.

It is crucial to align these recommendations with the specific regulatory framework and security standard applicable in Nigeria banking sector. Regular training, audits, and updates are essential to maintaining a robust and secure technology infrastructure in financial industry.

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