

**INFORMATION TECHNOLOGY AND ORGANIZATIONAL PERFORMANCE
OF BANKING SECTOR IN BAYELSA STATE**

ANDABAI, PRIYE WERIGBELEGHA (Ph.D)

**Department of Finance and Accountancy,
Niger Delta University,
Bayelsa State.
+2348037046538,
privehc@yahoo.com**

&

ISAIAH, OYEINKORIKIYE STEPHAN

**Department of Business Administration,
Niger Delta University,
Bayelsa State.
+2348036823391
isaiahedu@gmail.com**

&

DICKSON RACHEAL KONYEFA (Ph.D)

**Department of Business Administration,
Niger Delta University,
Bayelsa State.**

Abstract

This study examined the relationship between information technology and organizational performance of banking sector in Bayelsa State. Primary data were used for the study and sourced from questionnaire and interviews. The population comprised some selected commercial banks in Yenagoa metropolis, Bayelsa state with a suitable sample size of 123 responds. Simple percentages, frequency, tables and Spearman Rank Order Co-efficient correlation were used for the analysis. The questionnaire was validated with the use of crombac alpha method; and, the result showed 84% reliability. The study revealed that there is a positive significant relationship between internet technology and banks' performance. There is a positive significant relationship between decision support system and banks' performance. Telephone technology had a positive significant relationship with banks' performance in Bayelsa State. The study recommended that top management should ensure that they give the necessary support to encourage information technology in the banks; because, such facilities can determine whether the organization will experience entropy or not. Managers should consider the fraudulent activities involve when using information technology in the banks. Banks' managers should apply the various means of securing information technology such as cryptography encryption and description. Cryptography is the process of changing a plain text into cipher text while the description is changing cipher text into plain text. Managers use encryption while customers use

description. Banks' managers should use register with the control switching system which enables customer access information anywhere and anytime.

Keywords: Information technology, organizational, performance, banking sector

Introduction

Information Technology (IT) is a general term that describes any technology that helps to produce, manipulate, process, store, communicate and disseminate information. Information technology is a combination of hardware, software, data base network and other related component which are used to build information system (Shelly & Hiti, 2004). Information technology has helped in improving the performance of our contemporary organizations. Some decades ago, business operations were performed in a traditional method where people had to travel from one country to another for business transaction. Information technology has made it possible where one can sit in his office and transact business with others through the internet technology or through the intranet facilities within and outside the organization (Brydolfesson & Hiti, 1996).

The advent of information technology has really improved organizational performance in terms of human capacity building, finance/ accounting operations, manufacturing operations, marketing practices, research and development. Managers today can sit and monitor the operational activities of different Strategic Business Unit (SBU). Technology has also made possible for managers to get involve in e-business and e-commerce thus creating virtual organizations. This is the buying and selling of goods and services in the global market space through the internet facilities such World Wide Web (www), email, fax etc. Technological advancement facilitates business transactions thus electronically makes every part accessible. This technological era has enhanced linkages within and outside the organization, proliferating, altering the ways in which firms acquire data as input, convert them into products/services. (Hammer, 2001; Straub and Watson, 2001) noted that information technology (IT) aids the improvement of firms' performance in terms of competition, cost efficiency and innovation. Organizations have had difficulties in making use of these modern technologies in facilitating and achieving its set goals. The exceptional, high performing and goal-driven organisations are those that use IT that have created competitive advantage over other firms (Wilcock and Straub, 1998).

Literature Review

The development of information technology can be trace back to 300B.C and 1450A.D which is seen as a pre-mechanical age when people were using languages or simple drawing known as petroglyphs. After that stage, they started using paper and stored it permanently. The name of the book was called Libraries. The second stage was the introduction of slide rule which now form the analog computer. The other stage was the invention of "Mors code" which later introduced the telephone.

The fourth stage is the electronic stage which introduced the first high speed digital computer capable of being reprogrammed to solve problems. The machine had 680 square feet and weight 30 tones – the huge. It mainly used vacuum tubes to do it calculations (Kenneth and Carol, 1996).The development of Information Technology came into Nigeria in early 1960s as a result of the National Census Data that was to be computed. In 1973, the number of computers in Nigeria was about 20 to 25 which six of them were from

multinational companies. In 1977, the total number of installations had grown to about 70 (Ogis & Ododo, 1988). It was in that period that government departments and parastatals such as West Africa Examination Council (WAEC), Joint Admission and Matriculation Board (JAMB) and Universities began to show much interest in the use of computer. Up to 1977 there were only three computer vendors in Nigeria such as JCL, IBM and NCR were the only manufacturers dealing with mini and mainframe computers. (Ogis and Ododo, 1988) opined that government introduced the indigenous decree which gave room for Nigerians to venture into information technology.

This decree motivated Nigerians to use information technology (Onunaku, 1985). Although both business and government agencies/ organizations have not effectively use computer based applications and programmes in their business transactions as well as operations in Nigeria. Information Technology has been defined in various ways by different authors. Over the years, information technology (IT) has been conceptualized and measure differently by different people. Frenzel (1999) defines Information Technology as the term that describes the organization computing and communication, infrastructures, including computer system, telecommunication networks, and multimedia (combined audio, text and video) hardware and software. (Shelly, 2005) narrated that information technology (IT) includes hardware, software, database, network and other related component which are used to build information system. Many others researchers also have come with the same idea and argued that information technology (IT) is the technology that support activities involving the creation, storage, manipulation and communication of information together with their related methods and management application (Vlosky, 2002 & Gupta, 2000). (William and Sawyar, 2005) define information technology (IT) as a general term that describes any technology that help to produce, manipulate, process, store, communicate or disseminate information. (Chan, 2000) sees information technology as anything related to computing technology such as networking, hardware, software, the internet, or the people that work with these technologies. (Rehman, 2005) argues that information technology is the application of computer and telecommunication equipment to store, retrieve, transmit and manipulate data. (Kendall and Kendall, 2000) see information technology as computer networking such as information distribution technologies and it includes television and telephone.

The Information Technology Associate of America (ITAA, 2002) defined information technology as the study, design, development, application, implementation, support or management of computer base. (Laura, 2001) sees information technology as the use of computer and software to manage information. According to the business dictionary.com, information technology can be described as tools, that process, and methodologies (such as coding/ programming, data communications, data conversion, storage and retrieval, system analysis and design, system control) and associated equipment employed to collect, process and present information in a broad term. The “Standard for Information Technology describes IT as anything related to computing technology such as networking, hardware, software, the internet, or the people that work with these technologies. Information technology is a term that encompasses all forms of technology used to create, store, exchange, and use information in various forms. IT as the collection of tools that make it easier to use, create, manage and exchange information (Guptei, 2000 & Kohli, 2008). Firms or organizations that make use of the internet technology, database management, decision support system and the telecommunication technology can be in a higher advantage over its’ competitors (Chan, 2000)

One major problem about information technology is the inability of modern organization to apply the internet technology. The internet is a global system of interconnected computer networks that use standard internet protocol suite. The internet carries an extensive range of information, resource and service such as the internet linked hypertext of the World Wide Web (www) and the infrastructure to support e-mail. The benefits of internet to business includes; Doing fast business, trying out new ideas, gathering opinions, allowing the business to appear alongside other establish business, improving the standard of customer service support, support managerial function(Kelvin,2004& Stephen, 2002). The internet has also enabled and accelerated new forms of human interaction through instant messaging, internet forums and social networking. Another issue associated to information technology is that of data warehousing. Data warehousing, simply involve show information in respect to business relating to the organization are created and disseminated within and outside the firm. It could be stored in terms of manufacturing, finance and human resources. But over the past decades, it has become a problematic issue affecting our contemporary organizations. Information has not been properly stored for effective decision making, which eventually affect the firm's performance. The inability of business organizations to involve in the decision support system becomes a rising issue that calls for investigation. The decision support system (DSS) is a computer-based information system that support organizational decision making. It also serves the management, operation and planning levels of an organization and help management to make effective decisions. Decision support system can either be fully computerized, human or combination of both when such is absent in organization it becomes a problem for competition (Kelvin, 2004). Telephone network technology is also an issue for proper competition in a business environment. The higher the phone, the higher the information gathered but the lower the phone the lower the information gathered. Telecommunication has facilitated business operations, and currently there is a fascinating growth even in the public sector in terms of IT applications. It has also increased the organization control span and facilitated interpersonal communication (Efraimsaronson, 2008).

Methodology

The study used a survey method, which has to do with the investigation of the behaviour, opinion or other manifestation of a group of people by questioning them (Anyanwu, 2000).The researcher conveniently selected three commercial banks operating in Yenagoa the capital city of Bayelsa State using a convenience sample of (123) one hundred and twenty-three as the sample size. The researcher selected only branch managers, supervisors and operation managers. The human resource units each of these banks played a significant role in achieving the studies objectives. The banks include; Diamond Bank, First Bank and Guaranty Trust Bank respectively. We randomly (simple random) selected the sample subjects. The essence of this exercise was to ensure that all persons within the population have equal chance of representativeness. The source of data used in this study was primary source; and, the method of data collection consists of questionnaire and personal interview. Techniques used for the analysis were simple percentages, frequency tables and Spearman Rank Order Co-efficient. The Spearman Rank Order Correlation Coefficient is usually designated as RHO, respectively. It measures the degree of correlation between two sets of observation. In other word, it indicates the degree of effectiveness in predicting one ranked variable, RHO assumes any values from t_0 +1indicating perfect correlation and "O"

indicating no correlation. The spearman rank correlation co-efficient has the following formula.

$$RHO = \frac{1 - 6\sum d^2}{N^3 - N} \quad \text{or} \quad \frac{1 - 6\sum d^2}{N(N^2 - 1)}$$

Data Analysis and Discussion

The raw data obtained from the fieldwork were analyzed using the earlier stated statistical tools. The data were generated from the questionnaire served on the subjects in each of the commercial banks in Yenagoa, Bayelsa State.

Table 1: Questionnaire Distributed and Retrieval

Bank Management	No. of Questionnaire Administer	No. of Questionnaire Retrieved	No. of Questionnaire not Retrieved	% of Success
Managers	13	11	3	85
Supervisors	38	21	10	55
Operations	48	39	5	81
TOTAL	99	71	18	100

Source: Survey Data, 2017

Table 1 shows data on how many copies of the questionnaire were distributed and retrieved from the data we have administered 13 questionnaires on managers of the banks, 38 questionnaires to supervisors while 48 questionnaires were served to the operation in the banks.

Table 2: Demographic Characteristics of Respondent

Sex		Educational Qualification		Marital Status	
Type	Respondent	Qualification	Respondent	Status	Respondent
Male	48	O/L	-	Married	29
	(68%)				(41%)
Female	23	HND/B.SC	56	Not married	42
	(68%)		(79%)		(59%)
		MASTER	15	Divorce	-
			(21%)		
		PhD	-	-	-
		OTHERS	-	-	-
Total	71				

Source: Survey Data, 2017

Table 2 above shows the demographic details of the respondent in the study from the data on sex of respondent 48(68%) of them are male and 23(32%) were females. From the educational qualification of the respondent, 56(71%) of them have the first degree or its equivalent while is 15(21%) of them are master degree holders. The other level of qualification does not have respondent for the marital status of the respondent, 29 of them are married while 42 which respondent 59% are not married from these characteristic, it important to note that our respondent sample is stable and knowledgeable enough to provide objective data in relation to the phenomenon investigated in this study.

H₀₁: There is no significant relationship between internet technology and banks’ performance.

Table 3: Shows the Correlation between Internet Technology and Banks’ Performance

			Internet Technology	Firm Performance
Spearman rho	Internet technology	Correlation Coefficient Sig(2-tailed) N	1.000 71	.851** .000 71
Banks’	Performance	Correlation Coefficient Sig(2-tailed) N	.851** .000 71	1.000 71

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

Table 3 shows the correlation outcome on the relationship between internet technology and banks’ performance. The results as shown with rho= 0.851 and p = 0.000<0.01, it means a strong positive and significant relationship exist between internet technology and banks’ performance. This simply means that the null hypothesis earlier stated is rejected.

H₀₂: There is no significant relationship between Decision Support System and firm performance

Table 4: Shows the Correlation between Decision Support System and Banks’ Performance

			Decision Support System	Banks’ Performance
Spearman rho	DSS	Correlation Coefficient Sig(2-tailed) N	1.000 71	0.732** 71
Banks’	Performance	Correlation Coefficient Sig(2-tailed) N	0.732** .000 71	1.000 71

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

Table 4 shows the inferential statistical outcome on the nature of relationship between decision Support System and banks’ performance. From the result, the rho value= 0.72 shows a strong positive relationship exist. Further, from the p= 0,000< 0.01, it shows that it is a significant relationship. This suggests that the null hypothesis earlier stated rejected. In other words, a positive and significant relationship exists between decision support system and banks’ performance.

H₀₃: There is no significant relationship between telephone technology and banks’ performance

Table 5: Shows the Correlation between Telephone Technology and Banks' Performance

			Telephone technology	Banks' Performance
Spearman rho	Internet technology	Correlation Coefficient	1.000	.564**
		Sig(2-tailed)		
		N	71	71
Banks'	Performance	Correlation Coefficient	.564**	1.000
		Sig(2-tailed)	.000	
		N	71	71

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

Table 5 shows the inferential result on the nature of relationship between telephone set and banks' performance. It was shown with rho value = 0.564, $p = 0.000 < 0.01$. It simply means that the null hypothesis earlier stated is rejected, which says there is no significant relationship between internet technology and firms' performance. From a proper examination of the data collected it revealed that the respondents agreed to the fact internet facility is the reason why they closely relate with their customer, and as such internet technology influences organizational performance. The respondents also strongly agreed that a firms' Decision Support System (DSS) influence organization because they have a mean score 3.62 when approximated will have a mean score of 4.00. The respondents also agreed to the fact that top management commitment to information technology influence firm performance. Hypothesis was also tasted about the relationship between internet technology and firm performance. The result shows 0.851 and $p = 0.000 < 0.01$ that means that there is a strong significant correlation exist between internet technology and organizational performance. This means that the null hypothesis that was earlier stated is rejected. The second hypothesis that was tasted look at the inferential statistical outcome on the nature of relationship between decision support system and firm performance from the result, the significant value = 0.71 shows a strong positive relationship exist from the $p = 0.000 < 0.01$, it shows that it is a significant relationship. This suggested that the null hypothesis earlier stated is rejected. In other words, a positive and significant relationship exists between decision support system and banks' performance.

Conclusion and Recommendations

The role of information technology and organizational performance can never be over emphasized. Information technology has played a key role in facilitating banks' profitability. The study recommends that top management should ensure that they give the necessary support to encourage information technology in the banks; because, such facilities can determine whether the organization will experience entropy or not. Managers should consider the fraudulent activities involve when using information technology in the banks. Banks' managers should apply the various means of securing information

technology such as cryptography encryption and description. Cryptography is the process of changing a plain text into cipher text while the description is changing cipher text into plain text. Managers use encryption while customers use description. Banks' managers should use register with the control switching system which enables customer access information anywhere and anytime.

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