

# Sustainable Development in the Banking Sector Through Effective Computerization

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**Abstract :** *This paper reports the effectiveness of computerization of accounting system on the provision of information in the banking sector. The population of the research being reported consists of the entire population of selected banks in Nigeria. Using multistage and criterion of convenience sampling method, two of the six states in southwest Nigeria were sampled for the study. The study element consists of accountants: 42.9% with professional qualification and 57.1% without. The study variables are of nominal categories consisting of the effectiveness of computerization, which influences many items of variables grouped under two main variables; speed and accuracy. Data collected were both primary and secondary. Primary data were collected using questionnaire and oral interview while secondary data were gathered from materials or information collected previously by researchers stored in books, magazine and journals for future reference. Descriptive statistics was used to summarize the respondent characteristics and chi-square ( $X^2$ ) statistical method was used to establish association between nominal variable and the construct. Research findings indicate that computerization of accounting system impacted positively on the provision of information in the banking sector. It is recommended that the organization should provide additional training on computerization which will enable staff to perform better. Organizations are also advised to ensure regular availability of necessary software and to sensitize staff on the availability of latest accounting packages and regular updates in information technology.*

**Keywords:** Computerization of Banking, Accounting System, Information Technology software

## 1. INTRODUCTION

In recent years, rapid changes have occurred in firms at the front of globalization technology; part of these changes is in accounting information system. This is so because any change depends on data and information which in turn depend on collection of high quality information about the enterprise for planning, controlling and decision making. Computerized accounting uses the concept of database. For this purpose, accounting software is used to implement computerized accounting. It does away with the necessity to create and maintain journals, ledgers, etc which are essential parts of manual accounting. A database is a collection of data that is organized so that its content can easily be assessed, managed and updated. It is a system to manage collection of data ensuring at the same time that it remains reliable and confidential. Software are programs that makes the computer function along with the documentations and instructions for using the program. It also allows access to the data contained in the data base. The computer can be used to perform virtually every accounting function, including accounts receivable, accounts payable, payroll, inventory control, budgeting, cost volume profit analysis and general ledger. The availability of software for these accounting functions eliminates the need for specialized programming. In addition, there are electronic spreadsheet programs which support many important accounting applications. An electronic spreadsheet is a versatile computer program that can be utilized to perform numerous types of financial

analysis on a computer. The introduction of computers and the database technology in business has revolutionized the accounting system used by decision makers. An accounting information system is generally a computer based method for treating accounting activities in conjunction with information technology resources. The resulting statistical reports can be used internally by other interested parties including investors, creditors and tax authorities. Accounting Information System (AIS) is vital to all organizations (Borthick & Clark, 1990).

In Nigeria presently, the accounting information system has improved tremendously owing to advancement in technology. In fact, computer is gradually taking over all sphere of human endeavors especially the process of accounting information and can perform any function provided the information fed into it is accurate and complete. The problem of this study is to ascertain the effectiveness of computerized accounting system in the banking sector due to the deficiency posed by the manual system of processing information as regards accuracy and timeliness.

The study seeks to investigate the effect of computerized accounting system on the operations of the banking sector with a focus on how computerized accounting system has resulted in timely and accurate production of accounting reports in the banking sector.

### 1.1 Research Hypotheses

- i. Ho: Computerization of accounting system does not increase the speed of producing information in the banking sector.
- ii. Ho: Computerization of accounting system does not increase the accuracy of accounting report in the banking sector.

Computerized accounting has a great role in the provision of accounting information for sound management decisions and implementation. The importance of this study is to aid managers by way of drawing their attention to specific, measurable, attainable and relevant ways of applying the use of a computer system to the processing of accounting information.

This paper focuses on the effectiveness of computerization in the processing of accounting information in the banking sector with special reference to banks in Osun and Ondo state, Nigeria. Banks in the aforementioned areas were chosen as the case study for this research work as a result of some considerable factors such as convenience, low cost and distance. Although every effort was made to ensure that realistic dependable results are arrived at, but it is worth mentioning that the researcher encountered problems such as high cost of research materials as a result of the economic down-turn in Nigeria and unwillingness of the respondents to give out certain useful information to avoid revealing the organization's secret.

## 2. LITERATURE REVIEW

Ama, (2004), defines a computerized accounting system as a system that uses specialized machines called calculator in gathering information. The accounting Information System (AIS) is a computer based system of records, which amalgamate accounting principles and concepts which is used to examine and record business transaction for the purpose to prepare financial statement and provide accounting data to the users. An adequate accounting information system helps to make their accounting activities more easily, quickly and more accurately as accounting records are examined and financial statements are prepared within the system which allows to save time of employees, eschew mistakes and provides information about financial position of the company (Alrabei1, Haija & Aryan, 2014). Akesinro and Adetoso (2016) added that a computer system gives room for the analysis of stored information and this particularly is crucial in the crafting of business and strategic plans which guarantees success in a competitive market amongst rivalry. Proper implementation of the technology in the organization can help in three dimensions one is Management information system, employee's act, payroll structure or systems, control and monitoring of the employees and over all organization activities (Sinan, 2010). Landon and Landon (2012) revealed that the technology specification is a specification that can be used to improve system compatibility and communication network used. According to them, "information system is a set or several components that process, store and distribute information to

support decision making within an organization". Banarjee and Lloyd (2011) postulated that the use of computer enables the user to manage, find, retrieve and compose the information at a faster rate which in turn would enable management to make decisions, more accurate planning and resources allocation. Amidu, Effah and Abor (2011), examined the benefits of computerized accounting among small and medium enterprises in Jordan using ten examples of SMEs in the area. The finding revealed that the use of computer reduces cost, enhances clerical works, and provides sufficient space to store data and process information for management decision. George (2001), asserted that there are various factors involved in financial control over which computer based accounting information systems has depicted the nature of management decisions. The types of decisions that managers make describing various reports used for management planning and control were also detailed. The finding therefore revealed that accounting information system helps to improve the quality of services for planning, control and making decisions. Sajady and Hashem (2008), study the evaluation of the effectiveness of accounting information systems. The most important area of this study is the effectiveness of accounting information systems on finance managers. The result indicates that the implementation of accounting information systems brought about the improvement of managers' decision making process, internal control and the quality of financial reports. Ogidan (1998) says 'a computer is a complex system of electronic, capable of solving problems, accepting data, performing described operations on the data and supplying the result through an output unit such as visual display unit (monitor) and printer.'

Grande, Estébanez, & Colomina, (2011), suggests that AIS's functions are not solely for the purpose of producing financial reports. Its role goes beyond this traditional perspective. Generally, literature on accounting in the AIS shows that several scholars have investigated the adoption of the system among large companies only. However, Alrabei1, Haija and Aryan, (2014), specified that the most important characteristics which makes the accounting information systems as effective and efficient, are the accuracy and speed of processing financial data into accounting information, therefore providing management with the necessary accounting information on time; in order to perform functions like planning, control, evaluation, speed and accuracy in retrieving stored overall and descriptive information when it is needed; adequate flexibility; general acceptance of workers; simplicity, and to be associated with other information systems in the entity. Onaolapo and Adetayo (2012) asserts that the main function of Accounting Information System (AIS) is to assign quantitative value of the past, present and future economics events. AIS through its computerized accounting system (Contract Plus) produces the financial statements namely income statements, balance sheets and cash flow statement. The system will process the data and transform them into accounting information during

input, processing and output stages that will be used by a wide variety of users such as internal and external users (Wilkinson, Cerullo, Raval & Wong-On-Wing, 2000). Wilkinson noted that an effective Accounting Information System (AIS) performs several key functions throughout these three stages such as data collection, data maintenance, data Accounting Information Systems (AIS) and Knowledge Management; data control (including security) and information generation.

**3. METHODOLOGY**

This research was carried out in the selected banks located in the south western part of Nigeria. Specifically, two out of the six states in the south west were selected on the basis of convenience and the states are Ondo and Osun state. The population of this research consists of the population of banks in Ondo and Osun State respectively. The criterion of convenience was used in selecting the sample banks. As it is not possible to include all banks in the south western part of Nigeria, only two states out of six states in the south west were selected. The study element consists of accountants.

**3.1 Study Variables**

The study is on the impact of computerization of accounting system on provision of information in the banking sector. It is not a study for predicting the value of one variable from the value of another variable(s) hence, there is no dependent and independent variable. The researcher uses the term “*Research Variable*” which is defined as the variables taken up in a study (Avwokeni, 2006). The variables used in this study are of the nominal categories. They consist of impact of computerization, which influences many items of variables grouped under two main variables (construct).

**3.2 Method of Data Collection and Analysis**

The study was carried out using two categories of data namely; primary data and secondary data. Primary data were collected from questionnaire and oral interview conducted in the process of carrying out the research. Due to time factor, the researcher visited quite a few numbers of the respondents. The questionnaire consisted of both open-ended questions and close ended questions (with Yes or No and multiple choice). Section A contained questions which describe the respondents while section B

(part 1) contained questions with Yes or No options alongside multiple questions and section C contained questions addressed to the departmental heads of the organization. Secondary data refers to materials or information collected previously by researchers and stored in books, magazine, journals and so on for future references. This method was also used because it is cost effective and does not involve much problem in the collection of such data. For the purpose of this research, two measuring techniques were employed in analyzing the data collected and in testing the hypotheses, these are; descriptive statistics to summarize respondent characteristics such as age, gender, education, etc. and chi – square statistical method used to establish association between nominal variable and the construct. The chi – square ( $X^2$ ) is a non-parametric test commonly used in testing the probability that the observed relationship between one variable and another is by chance. The chi-square formula is given as Equation 1.

$$X^2 = \frac{(O-E)^2}{E} \tag{1}$$

Where;

O is the observed frequency and E is the expected frequency. The hypotheses were tested at the 95% level of confidence that is at 5% level of significance. The degree of freedom used to determine the value of the critical point (or cut off value) on chi-square table was calculated using Equation 2.

$$df = (m - 1)(n - 1) \tag{2}$$

Where;

the contingency table is of size m x n; df is the degree of freedom; m is the number of columns and n is the number of rows.

The Expected Frequency (EF) is determined from Equation 3.

$$EF = \frac{\text{column total} \times \text{row total}}{\text{grand total}} \tag{3}$$

**3.3 Discussion of Findings**

The response regarding the computerization and speed of producing information is presented in Table 1.

**Table 1: Computerization and speed of producing information**

No	Questions	Yes		No		Total	
			%		%		%
1	Do you process accounting information with computers?	24	85.7	4	14.3	28	100
2	Has computerization provided sufficient space for processing information and data storage?	28	100	-	-	28	100
3	Has computerization helped to retrieve and compose data/ information at a	28	100	-	-	28	100

	faster rate?						
4	Are software required for computer always available?	19	67.9	9	32.1	28	100
5	Has it been difficult to adjust the computerization system to change in circumstances of the organization?	10	35.7	18	64.3	28	100
6	Does the computerization of accounting result in timely production of information?	26	92.9	2	7.1	28	100

Table 1 shows the analysis of responses to questions relating to computerization and speed of producing information by frequency and percentage of responses. The majority of the respondents ranging from 68% to 100% responded positively to the question. The 64% negative answer to question 5 means there are no difficulty in adjusting the computerized

system to change. However, it is to be noted that significant negative response was recorded in respect of availability of software 32% gave positive response in respect of difficulty in adjusting to change in circumstance (36%). Management need to address these areas for greater efficiency.

Table 2 presents the response on computer and accuracy of accounting reports.

**Table 2: Computer and Accuracy of accounting reports**

No.	Questions	Yes		No		Total	
			%		%		%
7	Has computerized accounting system improved the efficiency and reliability of accounting information in your organization?	28	100	-	-	28	100
8	Has computerization of accounting information resulted in completely error free reports?	16	57.1	12	42.9	28	100
9	Has computerization made the processing of accounting information difficult?		7.1	26	92.9	28	100
10	Have you acquired any computer training?	24	85.7	4	14.3	28	100

Based on the questions described in Table 2, efficiency, reliability, ability to produce error free reports as well as engaging personnel in computer training are the major factors that can result in accurate information as regards computerization. The inclusion of the first question is indisputable, i.e. an information that is not reliable or efficient in nature has no quality of accuracy in it. Basically, for information to be accurate, it must convey a good level of understanding and meaningful nature to the users. However, it should be noted that difficulties in processing accounting

information caused by such things as virus, wrong input as a result of individual intervention will surely affect accuracy of report and if the computer is operated by the trained personnel, the accuracy of information produced is doubtful. Moreover, all the two null hypotheses were rejected. Consequently, the results show that;

For Hypothesis 1, the hypothesis was tested and there is no significant relationship between computerization and the speed of producing information as analyzed in the Table 3.

**Table 3: Computerization and the Speed of Producing Information**

Variable	R	O	E	O-E	(O-E) <sup>2</sup>	(O-E) <sup>2</sup> /E
Do you process accounting information with computers?	Yes	24	22.5	1.5	2.25	0.1
	No	4	5.5	-1.5	2.25	0.41
Has computerization provided sufficient space for processing information and data storage?	Yes	28	23.17	4.83	23.33	1.01
	No	-	-	-	-	-
Has computerization helped to retrieve and compose data/information at a faster rate?	Yes	28	23.17	4.83	23.33	1.01
	No	-	-	-	-	-
Are software required for computer	Yes	19	21.67	-2.67	7.13	0.33

always available?	No	9	6.33	2.67	7.13	1.13
Has it been difficult to adjust computerization system to change in circumstances of the organization?	Yes	10	20.17	-10.17	103.43	5.13
	No	18	7.83	10.17	103.43	13.21
Does the computerization of accounting information result in timely production of information?	Yes	26	22.83	3.17	10.05	0.44
	No	2	5.17	-3.17	10.05	1.94
Total						24.71

The result indicated that the null hypothesis was rejected. There is significant relationship between the computerization of accounting system and the increase in the speed of information processed by the organization. This implies that computerization has helped to retrieve and compose data/information at a faster rate and has also provided sufficient space for processing information and data storage.

Furthermore, the fact that computerization system has been a difficult task to adopt was only supported by ten (10) of the respondents while the remaining eighteen (18) opposed this notion.

For hypothesis II, the hypothesis was tested and there is no significant relationship between computerization and the accuracy of accounting report as analyzed in the Table 4.

**Table 4: Computerization and Accuracy of Producing Information**

Variable	R	O	E	O-E	(O-E) <sup>2</sup>	(O-E) <sup>2</sup> /E
Has computerized accounting system improved the efficiency and reliability of accounting information?	Yes	28	17.5	10.5	110.25	6.3
	No	-	-	-	-	-
Has computerization of accounting information resulted in completely error free reports?	Yes	16	14.5	1.5	2.25	0.16
	No	12	10.5	1.5	2.25	0.21
Has computerization made the processing of accounting information difficult?	Yes	2	11	-9	81	7.36
	No	26	14	12	144	10.29
Have you acquired any computer training?	Yes	24	10.5	13.5	182.25	17.36
	No	4	8.5	-4.5	20.25	2.38
Total						44.06

The result indicated that the null hypothesis was rejected. There is significant relationship between computerization and accuracy of accounting reports which further implies that the process of computerization of accounting information has improved the accuracy of accounting reports. From this hypothesis, the researcher observed that 12 out of 28 of the respondents disagreed with the fact that computerization of accounting information has resulted in completely error free reports while the remaining 16 respondents agreed with this fact.

**4. CONCLUSION**

The computer age is definitely here, computerization is no longer an expensive experiment. Both the public and private establishments are finding it increasingly difficult to operate and compete effectively without the use of computers. Incredible speed of operation, vast storage capacity, accuracy, diligence and versatility all make the computer an important system in the modern age and particularly for the processing of accounting information. However, the use of

accounting information technology in the banking industry has led to the timely and accurate preparations of reports, as customers have limitless access to banking service through the aid of internet banking.

**5. RECOMMENDATION**

Although computerized accounting system is so advantageous to the banking sector, the researcher is of the opinion that, several critical success factors still need to be given greater attention by the top management of the organization. The critical success factors include; clear goals and objectives, top management support, interdepartmental co-operation and project management so as to ensure unrestricted effectiveness and efficiency in their operation. It is recommended that the organization on its part should try to educate the users of accounting information or employees on the benefit of computerization in the processing of accounting information thereby ensuring the successful operation of the system towards the achievement of the organization objectives.

## REFERENCES

- [1] Akesinro, S. A. & Adetoso, J. A. (2016). The Effect of Computerized Accounting System on the Performance of Banks in Nigeria. *Journal of Economic and Sustainable Development*. ISSN:2222-2855(Online). 7(14):
- [2] Al-Habil, W. (2017). Al hila, AA, Al Shobaki, MJ, Abu Amuna, YM, & Abu Naser, SS (2017). The Impact of the Quality of Banking Services on Improving the Marketing Performance of Banks in Gaza Governorates from the Point of View of Their Employees. *International Journal of Engineering and Information Systems (IJEAIS)*, 1(7), 197-217.
- [3] Al-Habil, W. I., Al-Hila, A. A., Al Shobaki, M., Abu Amuna, Y., & Abu Naser, S. S. (2017). The Impact of the Quality of Banking Services on Improving the Marketing Performance of Banks in Gaza Governorates from the Point of View of Their Employees. *International Journal of Engineering and Information Systems (IJEAIS)*, 1(7), 197-217.
- [4] Al-Hanjori, M. M., Shaath, M. Z., & Abu Naser, S. S. (2017). Learning computer networks using intelligent tutoring system. *International Journal of Advanced Research and Development*(2), 1.
- [5] Alhelou, E., Al hila, A., Al Shobaki, M., & Abu Naser, S. (2017). The Quality of Banking Services as an Input to Improve the Marketing Performance of Banks in Gaza Governorates from the Point of View of Customers. *International Journal of Information Technology and Electrical Engineering*, 6(5), 58-66.
- [6] Al-Hila, A. A., Alhelou, E. M., Al Shobaki, M., & Abu Naser, S. S. (2017). The Quality of Banking Services in Light of the Financial Transformations and Their Impact on the Marketing Performance of the Banks in Gaza Strip. *International Journal of Engineering and Information Systems (IJEAIS)*, 1(8), 36-57.
- [7] Alrabei1, A. M., Haija, A. A. & Aryan, L. A., (2014). The Relationship between Applying Methods of Accounting Information Systems and the Production Activities. *International Journal of Economics and Finance*; Vol. 6, No. 5; 2014 ISSN 1916-971X E-ISSN 1916-9728 Published by Canadian Center of Science and Education
- [8] Ama, G. A. N. (2004). *Simlified Financial Accounting*. Nigeria. John Jacob's Classic Publishers Ltd
- [9] Amidu, M., Effah J. & Abor., J. (2011). "E- Accounting Practices Among SMEs in Ghana". *Journal of Management Policy and Practice* 12(4):
- [10] Avwokeni, A. J. (2006) *Research Methods, Process Evaluation & Critique*, Port Harcourt, Unicampus Tutorial Services.
- [11] Banarjee. A. & Lloyd, L. (2011), "The uses of Computer Among SMEs" in Nagoya, *Computer Programme Research Journal*, Lloyd's Greater Britain Publishing Company.
- [12] Borthick, A. F. & Clark, R. L. (1990). Making Accounting Information systems work: An empirical investigation of the creative thinking paradigm. *Journal of Information Systems*, 4(3): 48-62.
- [13] Elzamly, A., Hussin, B., Abu Naser, S. S., Shibutani, T., & Doheir, M. (2017). Predicting Critical Cloud Computing Security Issues using Artificial Neural Network (ANNs) Algorithms in Banking Organizations. *International Journal of Information Technology and Electrical Engineering*, 6(2), 40-45.
- [14] Elzamly, A., Hussin, B., Abu Naser, S., Khanfar, K., Doheir, M., Selamat, A., & Rashed, A. (2016). A New Conceptual Framework Modelling for Cloud Computing Risk Management in Banking Organizations. *International Journal of Grid and Distributed Computing*, 9(9), 137-154.
- [15] George, H. B. (2001); *Accounting Information System* New Jersey: Prentice – Hall, Inc. A Pearson Education Company. 8th Edition
- [16] Grande, E. U., Estébanez, R. P., & Colomina, C. M. (2011). The impact of accounting information systems (AIS) on performance measures: Empirical evidence in Spanish SMEs. *The International Journal of Digital Accounting Research*, 11, 25-43.
- [17] Landon, K. C. & Landon, J. P. (2012). *Management Information Systems: Managing the Digital Firm* (12th Ed.), NJ Prentice Hall.
- [18] Ogidan, S. O. (1998) *Micro Computers Appreciation* (4th Ed.), London, Cree Publishing Companies.
- [19] Onaolapo A. A. & Odetayo T. A., (2012). Effect of Accounting Information System on Organisational Effectiveness: A Case Study of Selected Construction Companies in Ibadan, Nigeria. *American Journal of Business and Management* Vol. 1, No. 4, 2012, 183-189 ISSN 2167-9606 Print/ ISSN 2167-9614 Online © 2012 World Scholars
- [20] Sajady, M. & Hashem, H. M. S. (2008), "The Evaluation of the effectiveness of Accounting Information Systems." *Jordan, International Journal of Information Science and Technology*. 6(2)
- [21] Sinan A., (2010), *Assessing Three-Way Complementarities: Performance Pay, Monitoring and Information Technology*, Sloan School of Management.
- [22] Wilkinson, J. W., Cerullo, M. J., Raval, V. & Wong-On-Wing, B. (2000). *Accounting information systems: Essential concepts and applications*. New York: John Wiley and Sons.