

Effect of ICT on Accounting Information System and Organisational Performance

Taiwo, J.N. – PhD, ACIB

Department of Banking & Finance, Covenant University,
Ota, Ogun State
eMail: joseph.taiwo@covenantuniversity.edu.ng

Agwu M. Edwin – PhD, MSc, MBA, BSc (Hons), NCE

Associate Professor of Strategic Management and
Marketing, School of Business,
Covenant University, Ogun State, Nigeria AND Adjunct
Lecturer and External dissertation supervisor for Global
MBA students at Manchester Business School,
United Kingdom:
eMail: edwinagwu@yahoo.co.uk or
edwin.agwu@covenantuniversity.edu.ng

ABSTRACT

ICT has been a major factor of efficient accounting system and great organizational performance recently. ICT has been used to augment the reliability of accounting information and organizational performance. Accounting systems include the computer hardware and software fundamentals in recording accounting information. Organizational performance in this study was related to ability finances, ability to meet set goals and actions. However, to maximise the benefits of information technology systems, the appropriate implementation and adoption procedures have to used, or else, there is little or no impact of these technologies on the earlier mentioned variables. This study investigates empirically the impact of information technology on accounting systems and organizational performance. This study utilizes secondary data and Pearson's correlation was used for analysis using SPSS for a sample of 20 staff in financial services and other related accounting departments in Covenant University. The results of the empirical findings show that there is a significant positive relationship between ICT system and accounting system and a significant positive relationship between ICT and organizational performance.

Keywords: ICT, Accounting Information System, Organizations, Performance, Profits

1.0 Background of Study

The usage of Information Technology has been a challenge to some users and companies. This is due to the constant evolution of technologies and new things coming up daily. A challenge is that of language, as well as technicality, some of this computer software comes in languages that cannot easily be understood by the users, they have features that involve codes and other computer languages. Therefore, workers have to under-go a level of training before usage, to enjoy the benefits. Another challenge is the difficulty to adjust to such frequent changes. Some workers may lose interest and this may lower job morale, but others may see it as a task in order to maintain relevance and it gives them a job focus. Generically, there is difficulty in the measurement of the cost and benefits of ICT on organizational performance as it is a wide qualitative factor that cannot be measured easily, numerically. Though, proved that information technology has brought about positive changes in organizations, familiarization has not been the easiest. Organizations have to follow the trend, to be up-to-date, and so have to investment as much as they can.

In recent times, the usage of computers and other advanced technology have increasingly been adopted in most practices including accounting. Prior to this, accountants were vigorously involved in all accounting activities as the traditional methods were in place. Daily records had to be kept by humans, preparation of financial statements such as the statement of financial position and statement of comprehensive income were done manually by the accountant (Linus, 2012). According to Francis (2013), the implication of technology has indeed caused obvious changes in organizations relating to their accounting systems and organisational performance, which has been of great concern and interest. Accounting decisions and plans have to be made with consideration of ICT in order for companies to stay relevant and competitive. It is necessary to acknowledge that computerized systems, have improved the functionality of accounting departments in organizations. By so doing, has increased the timeliness of accounting information which enable accountants to prepare reports and operations analysis, which give a clear picture of current operations, useful to the management. Records can be kept and tracked more effectively with the use of computerized system increasing company efficiency and minimizing errors to ensure customer satisfaction. So far, ICT has improved corporate relationships, facilitated speed and enhanced quality delivery in jobs. It has also improved productivity and increased value creation of organizations. ICT is important for a firm's growth and survival, it is an integral part and fundamental to support, sustain and grow a business (Ali, Abbas & Reza, 2013). Gartner (2010), reports that despite the current economic slowdown, worldwide IT spending reached \$3,4trillion in 2010, a 4.6% increase from 2009, yet such great investment does not guarantee high returns. ICT is being increasingly setup to improve the infrastructure of foresight. It will likely be used to implement more routine and continuous foresight processes in companies and organizations in the future (Keller & Gracht, 2014).

2.0 Literature Review

In recent times, great interests have risen on the impacts of information technology on accounting systems and organizational performance, in getting information about this study, one needs not to only gather new and fresh information, but as well get familiar with previous knowledge that has been made available in order to proffer solution to the problem under review (Linus, 2012). IT is not a new term, as in the most recent times, it has gained so much popularity and has been engaged by most humans. It has seemed to be a means by which some activities have been taken over and have produced better result. Accounting system as earlier said, is the manner in which accounting records are kept and managed. Accounting information system is basically the addition of IT in accounting operations. It is the advancement of accounting system. Organizational performance is a dependent factor on several variables, one of which includes the impact of IT on accounting systems. It a generic term for the various areas impacted by the adoption of IT.

2.1 Definition of Information Technology

According to Anonymous (2014), I.T is defined as a generic term that covers the acquisition, processing, storage and dissemination of information. It is the application of computers and communication technology in the task of information handling, information and information flow from the generation to the utilization levels. Information Technology is defined as hardware and software products, information system operations and management processes, IT controls frameworks, and the human resources and skills required to develop, use and control these products and processes to generate the required information (Greenstein-Prosch, McKee & Quick, 2008). Information technology was defined as computer software and hardware solutions that provide support of management, operations, and strategists in organizations (Choo & Shahryar, 2013). From the above definitions, it can be drawn that Information technology is a wide term on its own with a range of various definitions. But generally, it refers to any type of technology for the purpose of communication. The definitions provide explanations on the use of electronic devices and technology to manipulate information, noting that it is most common amongst firms and not in personal settings. It deals with computing. On a broader scale, Information Communication Technology (ICT), is often used an extended synonym for IT. It is a more extensive term that stresses the role of unified communications and the integration of telecommunications, computers, as well as necessary enterprise software, middleware, storage, and audio-visual systems, which enable users to access, store, transmit and manipulate information. This confirms the interrelatedness of ICT and IT, but stressing that ICT involves a larger scope than IT.

2.2 Components of Information Technology

According to Anonymous (2014), Information technology can be broken into;

Hardware: this refers to physical, tangible and touchable components. It is the part that can be touched and seen. They can be further classified into 4 groups, which are:

- **Input devices:** these are hardware devices used to send data into the computer. Examples are light pen, keyboard and mouse.
- **Output devices:** these are hardware devices through which information is sent out of the computer. They include speakers, printers and monitors.
- **Central Processing Unit (CPU):** this is the part of the computer that performs tasks as it comprises of the microprocessor which is the brain of the computer.
- **Storage devices:** these are hardware components that store data. There are two type- Primary (stores

information temporarily) and Secondary (stores information permanently). Examples are RAM and ROM respectively.

Software: this refers to intangible components that can only be seen. They include computer programs and codes that control the hardware devices. A computer program is a set of instructions written to perform a specific task. There are three categories of software, they are:

- **System software;** this provides the basic functionality of the computer. It is made up of the Operating system and Support system with Linux and Diagnostic tools as examples respectively.
- **Application software;** this helps the users to perform specific tasks. Examples are Web browsers and Media development software.
- **Programing software;** this is used by software developers to create, debug, maintain and support other programs and software. Examples are JAVA and BASIC.

Data: this refers to raw fact and figures that are processed into information. They are generally stored in the electronic devices until they are needed. An example is NAME.

Procedures: these are the laid down rules and regulations that govern the way information is processed and exchanged.

Internet/Network: the internet is a global system of interconnected computer networks that use the standard internet protocol suite or other network to link several billion devices worldwide.

People: this refers to the man-power that is involved in the steps of IT activities. They probably determine the success or failure of information systems.

2.2.3 Elements of I.T

The elements of Information Technology relevant to this study are (Anonymous, 2015);

- **Computer Technology**

A computer is an electronic device that is capable of storing and processing information in accordance with a set of instructions.

Computer technology is defined as the activity of designing and constructing and programming computers. It has caused massive developments in the transmission of information. In these recent times, you either live with computers or are left behind. The usage of computers now brings about accuracy, precision and efficiency of data.

- **Communication Technology**

Communication is the act of communicating- the share or exchange of information. It is a process of exchanging facts, ideas, and opinions amongst individuals.

Communication technology is defined as the activity of designing and constructing and maintaining communication systems. This involves communicating using electrical devices. Due to the development of information technology, means of communication have also advanced with the use of telecommunication devices.

- **Telecommunication Technology**

Telecommunication is the transfer of information across locations through electronic means. Telecommunication technology refers to techniques and devices that are used to transmit information over long distances via wire, radio or satellite without loss or damage of information due to interference or noise. The major trend now in telecommunications is a shift from mechanical to electrical, and in electrical, from analogue to digital modes of transmission (Anonymous, 2014).

- **Computer Communication Technology**

Computer communication technology relays the convergence between computing and communication. Communication is the exchange of information. As computing is being done, information is being transformed and can be transferred. It is hard to distinguish where computing begins and where communication stops as they are both intertwined. Recent developments in computer and communication technology have led to a higher degree of information management.

2.2.4 Categories of Information Technology

According to Harvard Business Review, there are three categories of I.T.

- **Function I.T**

This refers to technologies that make it easier to perform singular tasks. They enhance the efficiency of such tasks. These technologies are mostly used by accountants, which is most relevant to this study and other professionals such as design engineers and doctors. The most common forms of function IT are Word processors and spread sheets.

- **Network I.T**

This refers to technologies that provide media for people to communicate. It is similar to communication technology as explained in the elements of IT earlier. Network technologies allow for users to interact as they want without limitations. They include emails, instant messaging and blogs.

- **Enterprise I.T**

These are technologies adopted by organizations to manage interactions among employees or with business partners. They are purchased and implemented by the organizations. They constitute of applications that specialise in business processes and enhance business communications.

2.2.5 Monetization of ICT

The money spent on IT worldwide has been most recently estimated as US \$3.5 trillion and is currently growing at 6% per year – doubling every 15 years. The 2014 IT budget of US federal government is nearly \$82 billion. IT costs, as a percentage of corporate revenue, have grown 50% since 2002, putting a strain on IT budgets. When looking at current companies' IT budgets, 75% are recurrent costs, used to “keep the lights on” in the IT department, and 25% are cost of new initiatives for technology development” (Keller & Gracht, 2014).

The average IT budget has the following breakdown:

31% personnel costs (internal)

29% software costs (external/purchasing category)

26% hardware costs (external/purchasing category)

14% costs of external service providers (external/services).

2.2.6 Definition of Accounting System

It is a particular way in which an organization records and reports its financial information. It refers to the methods, principles, procedures and standards followed by an organization in recording and reporting business events and transactions. This system is made up of all the people and machines informed in accounting information. From the Business Dictionary, it is referred to as 'an organized set of manual and computerized accounting methods, procedures, and controls established to gather, record, classify, analyse, summarize, interpret and present accurate and timely financial data for management decisions'. An accounting system is used to manage the income, expenses and funding of a business. In old times, accounting systems were commonly manual but now they are mostly computer-based.

2.2.7 Types of Accounting System (Anonymous, 2015)

There are various types of accounting system. The size of an organization, nature of business, extent of computerization and management style determine the choice of system. They have been categorized in to 3, namely:

- **Manual System:** this system refers to one where there is no computer involved in the accounting process. Financial transactions and reports are recorded and prepared manually. This is most common among small businesses. The accountants and relevant workers are involved in all the accounting processes which form a great work load on them. This method helps to save cost of acquiring computers and software programs.
- **Legacy System:** this system can be said to be an old-fashioned computerized system. It existed before information technology became so sophisticated and engulfing in the world. It has a purpose of storing old time information of organizations thereby serving as a back-up system. But due to its old nature, maintenance cost is high as hardware and software parts of this system have become obsolete.
- **Computerized System (Modern, Integrated It Systems):** this is a system that makes use of computers and software programs for all accounting processes. There is little human effort from the accountant that is needed as the IT experts and specialists are most important to train the accountant to use the system efficiently. This system incurs cost on the business investing in the technical infrastructures. Computerised system is most common in large organizations, and in most organizations these days.

2.2.8 Elements of Accounting System

There are six elements that make up an accounting system (Nzomo, 2013);

- **People** – these are referred to as the system users.
- **Procedure and Instructions** – these are the methods for retrieving and processing data.
- **Data** – this is information relevant to the organization's business practices.
- **Software** – they are computer programs used to process data.
- **Information Technology Infrastructure** – these are hardware used to operate the system.
- **Internal Controls** – they are security measures to protect sensitive data.

2.2.9 Functions of Accounting System

- Efficient and effective collection and storage of data.
- Appropriate classification and interpretation of financial information.
- To summarize and communication financial information to users for decision making.
- Ensuring control measures are put in place for consistency of the system.

2.2.10 ICT and Accounting System

Accounting system on its own is very tasking as it entails dealing with great figures and numbers, bulk calculations and much writing but ICT has made it easier to maintaining the system.

An accounting information system is generally a computer-based method for tracking accounting activity in conjunction with information technology resources. The resulting statistical reports can be used internally by management or externally by other interested parties including investors, creditors and tax authorities (Dumitru et al., 2010). Accounting system and Accounting Information System are used interchangeably as they serve the same purpose. AIS is the most frequently used due to the high adoption of information technology in accounting systems in recent times.

2.2.11 The Concept of Electronic Data Processing

Electronic Data Processing (EDP) is a process by which raw data and facts are converted into information that is meaningful to management and accountants to make decisions. EDP is a function of planning, recording, managing and reporting business transactions using computer and associated peripherals. In accounting practice, the accountant gets data from source documents which includes the receipt, invoice, payment vouchers, written cheques and others, before they are imputed into the computer and processed into information that are relevant to the users as output.

2.2.12 Impact of ICT on Accounting System (Francis, 2013)

- **Speed:** compared to manual accounting systems, computerised accounting systems are much faster. Information using accounting software does not have to be imputed at every instance as it is stored the first time, thereby processing information faster. Calculations are done automatically which saves times also.

- **Cost:** ICT has increased the cost of accounting system as expenses are incurred on purchase of computer hardware and software.
- **Reliability:** ICT has provided accounting system with a high level of reliability of accounting information as a result of valid procedures that are efficient and effective.
- **Back-Up:** there is greater assurance of a back-up of all information as ICT provides measures to store data more than once easily. If one source gets lost, you can rely on another source to be as accurate.
- **Flexibility:** ICT on accounting system has provided a less rigid form of keeping accounting information. As there are various accounting software, an accounting process can be done in diverse manner. There is no one-way method.
- **Timeliness:** financial information can be gotten easily at the time when they are required with ICT. As similar information have been classified and stored precisely, it is easy to access when needed.
- **Security:** ICT provides a great deal of security of information compared to manual systems. There is high level of privacy and confidentiality. Information is limited to only those authorized.
- **Efficiency:** in general, accounting system is more efficient with ICT, due to increased accuracy of financial information as computers do most of the work, reducing human error.

2.2.13 Definition of an Organization

An organization is an organized group of people with a particular purpose. According to the Business Dictionary, an organization is a social unit of people that is structured and managed to meet a need or pursue collective goals.

From the above definitions, organization can be said to involve people of similar goals and interest, coming together to actualize such goals. It is the effective coordination of activities and efforts of two or more persons. Organization involves leadership, planning, division of labour and specialization.

2.2.14 Definition of Performance

According to the Business Dictionary, performance is 'the accomplishment of a given task measured against pre-set known standards of accuracy, completeness, cost, and speed.' Performance is the action or process of performing a task or function in relation to how well it performed. It refers to the results of an organization or investment over a given period of time.

2.2.15 Definition of Organizational Performance

Organizational performance, from the combination of the definitions of organization and performance can be simply put as the 'outcome of the effective coordination of activities in an organization'. We can say that it relates to how well an organized group of people have been able to perform a specific task. It is the manner in which a company is organized to reach its set objectives and the way in which it manages to reach them (James, 2012). Organizational performance refers to the general output of an organization gotten from its input. It could be measured in physical or non-physical terms. Organizations use different variables to measure organizational performance, depending on the one that best suits them and are convenient. In this context, organizational performance would be relating to profits, efficiency, effectiveness and productivity. These are factors that affect the way in which an organizations input resources can be maximized to full potential meeting desired results and goals.

2.2.16 Distinction between Organizational Performance and Operational Performance

Operational performance refers to all non-financial outcomes from the activities a particular organization. They include the results of management styles on performance. Organizational performance deals with mostly the economic and financial results produced by an organization. It can be based on profitability of such organization, (Malik, 2013).

2.2.17 Dimensions of Organizational Performance

In an organization, performance can be measured from 3 different dimensions (Dumitru, Glavan, Dumitru & Glavan, 2010).

Performance result: this is also known as financial performance, which is most relevant to this study. It compares between the result achieved and the objective set.

- **Performance action:** this refers to the means, competencies, procedures and qualities put in place to obtain desired results.
- **Performance success:** this depends on the representation of the organizational goals.

2.2.18 Measures of Organizational Performance

These are the standards used to judge whether or not an organization is performing well. They are:

- **Effectiveness:** this refers to the degree which the output or results match with the requirements or set objectives. It helps to understand the ability of the organization to meet its goals.
- **Efficiency:** this measures the extent of minimisation of resources. That is, the minimum cost of producing the required outputs; meeting set targets.
- **Profitability:** this is a measure of the ability of an organization to enjoy excess revenue less costs. It relates to how much gain is earned on investments carried out.
- **Quality:** this refers to how much the outputs meet customer requirements and expectations. It measures the level of consumer satisfaction.
- **Productivity:** this is the total amount of output divided by the total amount of input. This means the ratio of value added to amount of labour and capital invested.

2.2.19 ICT and Organizational Performance

Organizations see investment in ICT as a means by which they can improve their organizational performance based on the earlier mentioned measures. Such investment has produced positive effects over subsequent periods and can be said to have increased the company's productivity (Ali, Abbas & Reza, 2013).

2.2.20 Impacts and Benefits of Information Technology on Organizational Performance

ICT has enhanced all performance measures listed earlier- profit, efficiency, effectiveness, productivity and quality. This has made way for organizations to enjoy the benefits listed below (Dumitru, Glavan, Dumitru & Glavan, 2010).

- **Competition:** ICT has enabled organizations to stay competitive by increasing quality and efficiency.
- **Analysis:** better detailed analysis of information can be done with the use of computer software which increases reliability.
- **Control:** management has greater control over the business with IT, as managing organizational activities has been made easy for them with less human error to worry about.
- **Direction:** ICT provides a sense of direction for organizations as they can stay up-to-date and relevant with information, identifying the right processes to take on, the ways to avoid and the most profitable means of running the firm.
- **Decision Making:** better decisions can be made with the help of ICT for the organizations as computers provide certain details which humans cannot, thereby increasing accurate decisions.
- **Identification of Business Opportunities:** from the direction provided by ICT, profitable business opportunities can be identified by the organizations.

2.2.21 Challenges in the Adoption and Implementation of Information Technology

Despite the great impact ICT has had on accounting system and organizational performance, there are still some drawbacks. This part of the study covers the sources of challenges that arise when it comes to adopting and implementing IT in business organizations (Eija, 2011). They are:

- **Infrastructure:** In order to set up an information technology system, all the components of IT are required. IT infrastructure here also includes IT experts that can design, install, fix and maintain the systems and special IT personnel to maximise the usage of such technologies and systems and even train others. A company that is unable to provide such infrastructures cannot enjoy the maximum benefit of adopting IT. The absence of the required elements such as communication and computer technologies in organizations makes IT adoption difficult.
- **Training and Qualification:** In most organizations, there is great investment in IT, which means that the staff and workers of such organizations have to be trained and qualified in order to make efficient use of the new technologies. It is not easy to continuously train staff as it is of great expense and cost to the organization, and where the workers lack required qualifications and skills, there is difficulty in implementing IT.
- **Adaptability and Responsiveness:** Even when organizations invest in training of their staff to boost their qualifications, it is an entirely different aspect for the workers to adapt very well changes and relay positive responses. In a situation where the workers in the company are not willing to go along with the change and are unresponsive, they tend to be less productive and so therefore the obvious benefits of adopting IT in the system would be buried.
- **Management Systems:** In organizational settings where the management systems are rigid, IT adoption and implementation is hard. Here, the management is not willing to change and evolve with the world. In such organizations, there is little or no IT system present. If such management continues like that, eventually the business will become irrelevant and become less competitive. To avoid this, a management system ought to be volatile, in order to influence the lower level workers positively to become IT inclined.
- **Cost:** ICT is great investment. It involves investing money, time, intellect and others. There is a cost on acquiring the components such as the hardware, and setting up the software. Cost is incurred on maintenance of such components and elements. Additional cost is incurred on hiring of IT specialists

and training of staff. Furthermore, when an organization has most of its activities taken over by computers and other electronics, the amount of staff needed may be reduced. This is a possible cost to the workers of such organizations and may lead to resistance to change, low job security and morale, thereby causing a high level of unproductivity and inefficiency. The inefficiency of these kinds of workers can cost the business its profit and overall success. Adoption and implementation of IT may not only cost the business and staff, but also the economy. If workers are laid off from their work places due to being replaced by machines, this leaves them jobless and so increases the number of unemployed people in the economy.

2.4 Empirical Framework (Greenstein, McKee & Quick, 2008)

A broad body of literature has been on the usage, adoption, and implementation of Information Technology. However, most of the existing studies have concentrated on the general use of IT. Some researchers explored the relationship between organization characteristics and the use of IT, and factors manipulating the use of IT in organizations.

According to Apulu and Lathan (2010), they informed that ICT allows customers to receive quick feedback that allow companies to respond fast to customers' requests and further be able to see new market opportunities. This provides that organizations able to exploit the advantages offered by ICT can deal with different kinds of innovative procedures in their businesses since ICT has effect on the performances of an organization in various ways.

Alam and Noor (2009) argue that ICT presents enterprises with ways to compete on a global scale with developed efficiency. Therefore, ICT should be seen by businesses as a valuable strategy to remain competitive.

Calhoun et al. also studied the effect of national culture on information technology use in organizations and stated the association between some organizational characteristics and use of IT. On the other hand, culture, control and competition as the constitution of subjectivity, define the locus of IT implementation in organizations. These studies do not consider the relationship between types of software used in organizations and their internal operations.

For the US, Bresnahan et al. (2002) researched about the positive effects of joining ICT and organisational design on growing firm productivity. Similar results were offered by Black and Lynch (2001), who studied the impact of ICT, human resource practices, and firm reorganization on productivity.

Whisler (1970) explained how IT has had effects on the structures of the organization. He insinuated that the influence of IT would not be restrained to one department of a firm, but would have a vivid impact all-round the organization.

Argyres (1999) suggested why the implementation of IT was more operative than a centralized and formalized structure: The information systems helped coordination directly by making information processing less costly. This boosted information processing and made the control of the project more efficient. It is obvious from prior studies that types of IT tools in Human Resource Management functions were given due consideration. James, (2013) raise an important caveat that must be kept in mind when interpreting the results of these studies. Firm performance essentially depends on how information and communication technologies are implemented. Successful implementation of these technologies needs a

human resource approach to grow the relevant skills of workers. It means that firms need to overcome financial challenges associated with obtaining new and untried technologies. And, it requires innovation followed by the development of best practices in quality control and engineering. The collective determination of investing on IT is to enhance organization's competitive advantages and, thus, its performance (Shanker, 2016). Li and Ye (1999) reported that IT implementation increases a firm's overall performance.

2.5 Summary

Information Technology has proved to be a relevant and inevitable factor in accounting system and organizational performance. It can be said that IT has been able to increase the speed in preparation of accounting reports, reliability and accuracy of such reports, which has an effect of transparent and honest dealings of the organization with customers, partners and outsiders, thereby boosting the overall success of such organization. ICT has had great effects on both accounting system in an organization and their organizational performance. The extent to which is so high that it covers for the few disadvantages. It has been provided advantages on communication, globalization and creation of jobs. The efficiency of accounting practice and increased productivity and high turnover as well as the profit of any organization is as a result of the impact of ICT.

All the studies examined contain the idea that, to get to a more competitive position, the firm should balance ICT investments with a suitable use of these technologies, for which, supporting resources are required. As the world is going global and electronic, most organizations are encouraged to stay in business by adopting technology and involving computers in most of their operations. ICT is similar everywhere, so therefore its usage cannot just be limited to a certain category of places, people or machines. It is universal.

5.2.2 Empirical Findings

Several findings were put together based on the study:

1. There is a significant relationship between information technology and accounting systems.
2. There is a significant relationship between the challenges and the usage of information technology.
3. There is a significant relationship between information technology and organizational performance.

5.3 Conclusion

From the foregone research work, we can say there is a significant impact of ICT on accounting systems and organizational performance. We can conclude that ICT has had great impacts on accounting system and organizational performance. In recent time, it has been firms' desires to stay relevant by incorporating ICT systems into their operations. Businesses now go the extra mile to invest greatly in ICT without being guaranteed of a rich return, which is a huge risk. The findings in this research work show that in the implementation and adoption of information technology systems, not only the firms are relevant but other external factors such as social influences and control, norms, beliefs and so on, determine the extent to which ICT can be adopted. As a way to add to existing knowledge, this study aims to educate managers, employees, government and other stake holders. This study serves as a platform to educate managers on this area. This study further serves to provide information to employees on impact of ICT on their jobs and the manner in which they can adjust to the frequent changes.

5.4 Recommendation

Based on the analysis carried out and the findings deduced in addition to the review of relevant literature, the following recommendations can be summarised;

1. It has been proven that there is a significant impact of ICT on accounting systems and organizational performance; so therefore, organizations are encouraged to invest more in such technologies.
2. Managers when implementing ICT should consider the external factors and how they affect adoption procedures.
3. Staff training should always be provided in firm's that wish to evolve with ICT, so as to increase staff participation and not to make them redundant and unproductive.

References

1. Adeosun, Y. (2006). Effects of ICT on Employees in General Retrieved March 28, 2016 from <http://yemiadeosun.blogspot.com.ng/2006/11/effects-of-ict-on-employees-in-general.html>
2. Ali, A., Abbas, A., & Reza, A. (2013). The effect of Information Technology on Organizational Structure and Firm Performance: An analysis of Consultant Engineers Firms (CEF) in Iran. *Procedia-Social And Behavioural Sciences*, 81, 644-649. <http://dx.doi.org/10.1016>
3. Amit, M., Adebayo, O., Abdullahi, S., & Mabayoje, M. Application of Information Technology and Its Challenges (1st ed.). Ilorin. Retrieved January 10, 2016 from [http://unilorin.edu.ng/publications/mabayoje/Information%20of%20Information%20Technology%20and%](http://unilorin.edu.ng/publications/mabayoje/Information%20of%20Information%20Technology%20and%20)
4. Anonymous,. (2014). Components of Information Technology (1st ed.). Retrieved Dec 31, 20145 from http://shodhganga.inflibnet.ac.in/bitstream/10603/3814/14/14_chapter%204.pdf
5. Anonymous,. (2015). An Empirical Analysis Of The Value Of Accounting Information System In An Organization. Nairaproject.com. Retrieved 11th March 2016, from <http://nairaproject.com/projects/1103.html>
6. Anonymous,. (2015). What is Information Technology - Types of IT. WiFi Notes. Retrieved 12 March 2016, from <http://www.wifinotes.com/computer-networks/types-of-information-technology.html>
7. Choo, W., & Shahryar, S. (2013). Mini Literature Analysis on Information Technology Definition. *Information And Knowledge Management*, 3(2). Retrieved Feb 18, 2016 from <http://www.iiste.org/Journals/index.php/IKM/article/viewFile/4287/4355>
8. Dumitru, V., Glăvan, E., Dumitru, M., & Glăvan, N. (2010) The Impact Of Information Technologies On The Performance Of The Financial-Accounting Department Of The Company (1st ed.). Romania. Retrieved March 18, 2016 from <http://fse.tibiscus.ro/anale/Lucrari2010/061.%20Dumitru%20Madalina.pdf>
9. Eija, K. (2011). Theories of ICT System Implementation and Adoption – A Critical Review (1st ed.). Finland. Retrieved from http://lib.tkk.fi/SCIENCE_TECHNOLOGY/2011/isbn9789526041506.pdf
10. Francis, P. (2013). Impact of Information Technology on Accounting Systems. *Asia-Pacific Journal Of Multimedia Services Convergent With Art, Humanities, And Sociology*, 3(2), 93-106. <http://dx.doi.org/10.14257>
11. Gartner,. (2010). Gartner Says Worldwide IT Spending To Grow 4.6 Percent in 2010. Gartner.com. Retrieved 3 March 2016, from <http://www.gartner.com/newsroom/id/1284813>
12. GAVREA, C., ILIEȘ, L., & STEGEREAN, R. (2011). DETERMINANTS OF ORGANIZATIONAL PERFORMANCE: THE CASE OF ROMANIA. *Management & Marketing Challenges For The Knowledge Society*, 6(2), 285-300. Retrieved from <http://www.managementmarketing.ro/pdf/articole/226.pdf>
13. Greenstein-Prosch, McKee, & Quick,. (2008). A Comparison of the Information Technology Knowledge of United States an German Auditors. *IJDAR*. http://dx.doi.org/10.4192/1577-8517-v8_3
14. James, L. (2012). What is Organisational Performance?. *Growth.pitcher.com.au*. Retrieved 2 March 2016, from <http://www.growth.pitcher.com.au/resources/articles/what-is-organisational-performance>
15. James, B. (2013). Effects of Information and Communication Technology on Secretaries' Performance in Contemporary Organisations in Bayelsa State, Nigeria. *Information And Knowledge Management*, 3(5). Retrieved from <http://www.iiste.org/Journals/index.php/IKM/article/viewFile/5609/5721>

16. Keller, J., & Gracht, H. (2014). ICT and the Foresight Infrastructure of the Future: Effects on the Foresight Discipline. SAGE, 6(1), 40-47. <http://dx.doi.org/10.1177>
17. Linus, P. (2012). UPA FOREX AND ICT: The impact of ICT on accounting practice in Nigeria. Retrieved from <http://linexupah.blogspot.com.ng/2012/09/the-impact-of-ict-on-accounting.html>
18. Magloff, L. (2016). Advantages & Disadvantages of Computerized Accounting. Chron. Retrieved from <http://smallbusiness.chron.com/advantages-disadvantages-computerized-accounting-4911.html>
19. Nzomo, S. (2013). Impact of Accounting Information System on Organizational Effectiveness of Automobile Companies in Kenya (1st ed.). Retrieved from <http://chss.uonbi.ac.ke/sites/default/files/chss/RESEARCH%20PROJECT%20-%20SAMUEL%20NZOMO%20-%20D61-63152-2011.pdf>
20. Patrick, O., Anthony, A., & Yaw, B. (2013). The Adoption Of Information And Communication Technology In The Public Sector; A Study Of The Financial Management In The Ghana Education Service (GES). International Journal of Scientific & Technology Research, 2(12)
21. Maik P. & Hamann, F. S. (2013). Retrieved February 20, 2016, from management ink: <https://managementink.wordpress.com/2013/02/21/what-is-organizational-performance/>
22. Shanker, S. (2016). Differences between Manual and Computerised Accounting Systems.Chron. Retrieved from <http://smallbusiness.chron.com/differences-between-manual-computerized-accounting-systems-3764.html>