

Impact of Information and Communication Technology on Accounting Procedure and Systems in Corporate Organizations

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Abstract

This study evaluates the impact of information and communication technology on the accounting procedure and system (APS) in corporate organizations. The study reviews many resources and related literature about the impact of information technology on the accounting procedure to determine the main effects, enhance the development of these technologies to strengthen the APS, and reduce the errors in this system. The study conclude that information technology innovation contributed to the development of corporate accounting systems, improved business performance, and helped the emergence of cloud accounting, and one of the most important downsides of employing information technologies in APSs is the lack of standardized technologies used in all systems, as companies are usually selective in choosing technologies that suit their activities and this weakens the transparency of the outputs of APSs. Hence, now it is the time to think beyond the curtains and ensure proper implantation and maintenance of information and communication technology.

Keywords: Information and Communication Technology, Accounting Procedure and System (APS)

INTRODUCTION

Information technology had carved across all the aspects of modern day activities ranging from small to medium and medium to large applications and operations. The trends of human centric systems which are more common and popular at times are now slowly and gradually diminishing from our public and private corporate establishments. The new , most versatile, popular, advent, efficient technique wherein the basic approach is computer centric modus operandi have overridden almost all the modern day industrial practices from very basic step of requirement elicitation to final product outcome. Information and Communication technology is this computer centric system. ICT has increased efficiency, reliability, effectiveness, performance and other characteristics of modern day commercial operations. ICT has increased and renovated financial structure both in quality and quantity. ICT has sophisticated the way transactions are catered in any financial system with optimal levels of performance and efficiency. The manner in which accountants can potentially add value to economic entities and societies is undergoing a metamorphosis. Accountant worth is now reflected in higher order critical-thinking skills, such as designing, business processes, developing e-business, model in providing independent assurance and integrating strategic knowledge. Hence, most companies have derived a way of recording and reporting transactions. Accounting professionals are expected to take advantage of ICT to automate existing processes for conducting business in new and innovative ways. Growth within management accounting and information system is becoming prominent with the advent of ICT. Enterprise Resource Planning (ERP)system, Software and ancillary equipment such as Automated Teller Machine (ATM), Debitcards, Electronic commerce, Computer hardware, Database, Internet, Intranet, Telecommunication, Oracle, Peachtress, Accounting software and Statistical Package of Social Sciences etc. are related products emanating from ICT. Information and communication technology is presumed to have affected accounting profession positively in so ways. Researches in these areas have shown that ICT has perceived importance due to its usage across several groups of business firms, especially in the field of auditing.

In the recent past, before the inception of ICT, accountants of an organization were using a socially acceptable behavioral method of reporting accounting and economic reports, carried out during accounting year ends. Accounts prepared include statement of account, statement of financial position, cash book, and statement of cash flow. The ICT, on accounting practice in Nigeria has become a subject of fundamental importance and concerns to all business enterprise and is gradually becoming a prerequisite for local and international competitiveness. It is obvious that the way accountants plan and take decision on what and how to provide their service in the accounting profession has been affected immensely by Information and Communication Technology (ICT). This has continued to change the manner in which accounting practice and their corporate relationships are organized worldwide and the variety of innovative device available to

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improve and facilitate the speed and quality service delivery. A major ICT has been made on accounting is the ability of companies to develop and use computerized system to track and record financial transactions properly and accurately. The recording of business transaction manually on ledgers, papers, spread sheets etc has been translated and computerized for quick and easy presentation of individual financial transaction and give report on it (Granlund & Mouritsen, 2003). Shanker (2008) ascertains that the use of ICT in many organizations has assisted in reducing transactional cost, overcome the constraints of distance and have cut across geographic boundaries thereby assisting to improve coordination of activities within organizational boundaries. It is very clear that, the computerized accounting system have improved the functionality of accounting departments by increasing the timeliness of accounting information and report preparation of statement of cash flow, market shares report and departmental profit & loss are now more accessible with computerized system. Computerized accounting systems have internal check and balance measure to ensure that all transactions and accounts are properly balanced before the financial statement is finally prepared. It also will not allow journal entries to be out of balance when posting, ensuring that individual transactions are properly recorded. Since the inception of information and communication technology (ICT), accountants can now process large amount of financial information and process it quickly through computerized accounting system. Quicker processing time for individual transactions has also lessened the amount of time needed to choose out each accounting period. Transactions that would have taken an accountant months or years to prepare are done quickly and faster and thereby cutting high cost that would have resulted in preparing the reports (Pricewaterhousecoopers, 2008).

Conceptual Issues

Information and communication technology (ICT)

Information technology (IT) is the application of computers and telecommunication to store, retrieve, transmit and manipulate data often in the context of a business or other enterprise. It is also a term that encompasses all forms of technology used to create, store, exchange, and use information in its various forms (business data, voice conversation, still images, motion pictures, multimedia presentation, and other forms, including those not yet conceived. Information and communication technology (ICT) can be defined as the sharing and impacting of information through the study and use of computers, microelectronic, etc. for the storing and transferring of information. The world we know today is transforming into a global village where information and communication is of global importance. ICT infrastructure is the key to rapid economic and social development of a country, which has also impacted on accounting profession in one way or the other (Hajela, 2005). An information system is an assortment of connected branches that gather, process, preserve, convert, and allocate preparation, decision-making, and handle information jointly (Dandago & Rufai, 2013).

Accounting Systems

An accounting system is a set of accounting processes with integrated procedures and controls. The intent of an accounting system is to record business transactions, summarize those transactions into an aggregated form, and create reports that can be used by decision makers to monitor, analyze, and improve operations. The accounting system is one of the most important foundations for the success of any company, as the correct and efficient application of the accounting system contributes to enhancing the economic efficiency of the company, reduces the excess costs, and reduces the risks that the company can be faced (Kamal, 2015). Therefore, the development of the accounting system was largely coincident with the continuous development in corporate management and the emergence and great development of information technologies had a major impact on the company's accounting system and its efficiency (Cavalluzzo & Ittner, 2003).

Impact of IT on Modern Accounting Systems

1. **Money Saving:** The application doesn't need to travel to the consulate two times, first time for collecting the application form and for physical presentation. He needs to go to the consulate only once the application form would have been filled online. The cost for travelling the first time is saved. Also, the potential wastage of paper is removed. Reducing paper consumption helps improve the quality of environment, reduce forest destruction since paper is produced from wood and reduce of waste processing.

2. **Time Saving:** The main time saving factor is the flexibility of scheduling when to engage on a process. For example a visa application form can be filled when the applicant has a free time and not necessary during the opening hours of the

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consulate. The data filled are verified immediately for validity. Acknowledge is sent immediately as prove of application. Payment is made online with credit card thereby saving the time of passing through the cashier.

3. **Communication:** Communication by email is faster and costs less than sending a paper letter by post. The business communication in various commercial organizations has widely accepted email as main medium for information dissemination across platforms. Email systems not only carry out information in textual formats rather provides the way to transmit multimedia information from customer to client and vice versa.

4. **Global Financing:** Information technology allows finance to function on a global level. Financial markets can be thought of as the first organized, global information markets operating through network computers. Without information technology, financial markets could not react to global development and finance companies couldn't consistently acquire information at the same time as their competitors. For example, the internet allows continuous access to credit scores and credit rating to all lenders, insurance companies and businesses that need financially responsible customers.

5. **Economic Efficiencies:** Information technology resources can significantly reduce accounting costs. Redundant tasks can be centralized in one location through the use of information technology infrastructure. Economic efficiencies can be realized by migrating high-cost functions into an online environment. Companies can also offer email support for customers that may have a lower cost than a live customer support call. Cost savings could also be found through outsourcing opportunities, remote work options and lower-cost communication options.

6. **Accuracy:** Information technology assists in the computations. Since accounting work is very detailed, accuracy in recording and reporting is greatly valued. One of the positive effects of this system is the fact that it lessens the possibility of incurring mathematical errors which is one of the problems experienced in the manual system.

7. **Improved Internal and External Reporting:** Because of the improved speed and accuracy in the processing of information, financial reports can be easily generated and reported to internal and external users. External users can use these reports to assess the condition of the entity. Internal user which is the management benefits from this development for they need to know the details first in making economic decisions. On the impact of computer technology on accounting, Nickelset al. observed that most companies have found that computers greatly simplify the task, enabling managers and other employees to get financial reports exactly when they want them.

8. **Flexibility:** Flexible technology is severely needed in accounting departments. The accounting system must have the capability to adapt with changes in business practices. Information technology associated with accounting creates flexibility to accommodate the changes. Some systems are capable for upgrade when the entity's volume of transaction increases.

9. **Reduction of Paper Usage:** The utilization of electronic envelopes and documents reduce the usage of papers in accounting processes. Thus, it reduces costs and of course it draws the entity away from the environmental issues regarding trees and paper usage.

10. **Graphics Software:** This software creates photos, graphs and charts from data input in order to facilitate better understanding of the topic. This is usually used in financial reporting.

11. **Increased Functionality:** Computerized accounting systems have also improved the functionality of accounting departments by increasing the timeliness of accounting information. By improving the timeliness of financial information, accountants can prepare reports and operations analyses that give management an accurate picture of current operations. The number of financial reports has also been improved by computerized systems; cash flow statements, departmental profit and loss, and market share reports are now more accessible with computerized systems.

12. **Faster Processing:** Computerized accounting systems allow accountants to process large amounts of financial information and process it quickly through the accounting system. Quicker processing times for individual transactions has also lessened the amount of time needed to close out each accounting period. Month- or year-end closing periods can be especially taxing on accounting departments, resulting in longer hours and higher labor expense. Shortening this time period aids companies in cost control, which increases overall company efficiency.

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13. Storing and Protecting Information: Information technology creates electronic storage system to protect company's valuable records. According to Graziadio Business Report, Published by Pepperdine University, secure maintenance of customer and patients files is vital to business integrity, storage systems, such as vital vaults, keep information safe by only allowing certain users within the company to access, withdraw, add or change the documents and protect from being hacked, or wiped out during a technological disaster. Electronic security means your valuable records will remain safe. You may already use computer for data storage for business, inventory, sales, receivables' and payable stored in excel, and open office or a similar program keeps these figure at your fingertips. Accounting software stores your payroll information, tax records and specialized data for your business.

14. Reliability: Computer systems are immune to boredom, tiredness or fatigue. Therefore, these can perform repetitive functions effectively and are highly reliable as compared to human beings.

Limitations of IT

- 1. Heavy Cost of Installation:** Computer hardware needs replacing and software needs to be updated from time to time with the availability of newer versions.
- 2. Cost of Training:** To ensure effective and efficient use of computerized system of accounting, newer versions of hardware and software are introduced. This requires special training and cost is incurred to train the staff personnel as specialists.
- 3. Fear of Unemployment:** Reflects the feelings of the staff on the introduction of computerized accounting system. The staff fears redundancy and show less interest in computers.
- 4. Disruption in Work:** When computerized system is introduced, there might be loss in the work time and certain changes in the working environment.
- 5. System Failure:** The danger of a system crashing due to some failure in hardware can lead to subsequent loss of work. This occurs when no back-up is retained.
- 6. Time Consuming:** In order to avoid loss of work at the time of system failure, there is a need for providing backup arrangements which is a time-consuming process.
- 7. Unanticipated Errors not Known:** Unlike human beings, computers do not have the capability to judge or detect unanticipated errors in the system.
- 8. Breaches of Security:** The danger of viruses and hacking into the system from outside creates a strong need for security of system. Similarly, the person who has created the specific program can easily defraud by tempering with the original records.
- 9. Health Dangers:** Extensive use of computers may lead to many health problems such as eyestrain, muscular complaints, backache etc. resultantly reducing working efficiency as well as increasing medical expenditure.

Measures against Information Technology Fraud

Proactively employing the following logical and physical access control measures can minimise the nefarious activities of IT savvy fraudsters. On the logical steps should be taken:

- i. Firewall Systems; Firewall systems should be installed. A firewall is a device that forms a barrier between a secured and open environment. Usually, the open environment is considered hostile. The most notable hostile environment is the internet. Generally, the types of firewalls available today fall into three categories; Router Packet filtering; Application firewall system; and Tasteful inspection.
- ii. Password; Passwords should be used to protect logical asset. However, passwords should be change frequently. When an employee leaves the organisation. His/her password/s should be deactivated immediately. Determine ahead of time what a person should do if he/she discovers that his/her passwords is compromised. Reasonable senior officers should handle the management and administration of passwords in the organisation. The following password rules should be obeyed:

- Passwords should be five to eight characters in length. Anything shorter will be too easy to guess. Anything longer will be too hard to remember.
- Passwords should allow for a combination of alpha, numeric, upper and lower case as well as special characters;

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- Passwords should not be particularly identifiable with the user (such as first name, last name, spouse name, pet's name, etc)
- Previous passwords should not be allowed to be used after being changed.
- Logon IDs not used after a number of days should be deactivated to prevent possible misuse
 - The system should be able to disconnect a logon session automatically after unsuccessful attempts to apply a password.
 - Don't use default passwords or vendor-installed passwords
- iii. Encryption; Use encryption techniques during data/program storage and transmission. Encryption is a technique used to protect a plain text by coding the data so that it is unintelligible to the reader.
- iv. Intrusion Detection Systems; Install intrusion detection systems (IDS). These systems work in conjunction with routers and firewalls by monitoring network usage anomalies. It protects an organisation's information system resource from external as well as internal misuse. An ID operates continuously on the systems, running in the background and notifying administrators when it detects a perceived threat.
- v. Biometrics; Personal attributes for identity verification can be used to determine or not a person should be allowed to gain access to an information technology facility. This entails the use of biometrics such as fingerprints, voice, eye, colour, iris and a host of other personal features to verify the identity of an individual. The shape of a person's hand i.e. hand geometry has also been found to exhibit sufficient interpersonal variability to serve as a basis for distinguishing one individual from another. Equipment's have been developed that automatically measures one aspects of the hand, namely the lengths of the fingers, and used this information as a means of verifying a person's identity. In addition to all the above, Access Control List (ACL) should be maintained. This list specifies various users and what they have access to. Furthermore, access rules in the organisation should indicate who can access what. Access rights are usually at four levels (create, update or delete) only; and a combination of the above.

On the physical level, the following steps should be taken to check the activities of fraudsters:

- a. Personal Computer: Determine whether office computer could be used for other purposes such as games, etc. Determine also who is authorised to use which PC or should everyone have unrestricted access to all available computers. There should be a clear instruction as to which software are allowed on the systems, which types of antivirus should be used, what operating systems are allowed on PCs should not be located in such a way that the information displayed on the VDU can be read through the wind or door.
- b. Web Access: Rules must be set as to which websites are restricted from being accessed. It should also be spelt out whether employees can access the web at all times or will there be web logon hours. Also determine which PC would have access to the internet. There should be rules as to the use of e-mails.
- c. Remote Access Facilities: There should be clear instruction as to whether remote access to the Organisation network and how the access is to be controlled. Determine whether remote access is for all officers. List the devices (hardware and software) as well as media through which remote access is allowed e.g. State whether access through internet cafes is allowed or not.
- d. Infrastructures: Adequate infrastructures should be made available with serious security considerations. In essence, proper climatic condition, adequate power supply, communications, burglary and fire fighting facilities should be maintained.

Empirical Review

James (2013) examines the effects of information and communication technology on the performance of public sector secretaries' in Bayelsa state, Nigeria. Both primary and secondary data were used for the sake of this study. The primary data was obtained through a wellstructured questionnaire administered to ninety-five public sector secretaries' in Bayelsa State and the data obtained were analysed with econometric models of multiple regression and diagnostic test. The Cronbach's alphas model was used to verify the reliability of the instrument. The study found that the usage of computer, telecommunication and video techniques positively and significantly related to the productivity (performance) of public sector secretaries' in Bayelsa State, Nigeria. The target population of this study was all secretaries' in the Nigerian public sector. However, the accessible population was a total of two and twenty-three hundred (223) secretaries' in the Bayelsa

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State Public Sector in January 2012 to February 2013 from the Civil Service Commission, Yenagoa, Bayelsa State. Simple random sampling technique was used to arrive at the sample of the study. The sample size of one hundred and forty-three (143) for the study was derived from the application of YaroYamen model. The study found that the usage of computer, telecommunication and video techniques positively and significantly related to the productivity (performance) of public sector secretaries' in Bayelsa State, Nigeria. The study also showed that ICT use is correlated with workers skills suggesting that firms that use high levels of ICT also employ more knowledge workers. ICT use is also found to be correlated with organizational innovations in production and efficiency practices, HRM practices and product/service quality related practices, supporting the view that ICT and organizational changes are complements.

Abisola (2014) examined the impact of information and communication technology on internal auditors and their immediate external environments. Data were collected through 510 semistructured questionnaires administered on internal control staff of financial institutions in Nigeria. 218 questionnaires were found usable and were combined with 23 face-to-face interviews of top financial institutions' executives. The population chosen were restricted to only financial institutions that substantially make use of computer system in processing and controlling their data operations. The findings revealed that the spread in the use of information and communication Technology (ICT) has brought new opportunities to many professionals including Accountants and internal auditors especially in breaking the old cultural debacle by enhancing their reporting and operational independence. Oladejo and Yinus (2014) examined the impact of information technology on cooperative services as a basis for attainment of MDG objective relating to E-commerce. Data collected from the stakeholders in cooperative organizations in Nigeria was analyzed using frequency table, percentage and non-parametric statistical test, ANOVA was used to test the formulated hypothesis using STATA 10 data analysis package/software. The result of the finding shows that information technology is positively significant to cooperative service in Nigeria. Investment in IT by Cooperative organisations will improve their performance through high level of patronage by members. This study recommended that the cooperative management should provide adequate IT facilities to the cooperative staff and proper training should be given to the employee in other to meet the quality of service needed by the members. Also there should be free flow of information between the cooperative organizations and their members. This study concludes that Information Technology has impact on the cooperative services in Nigeria, the principal impact being better management efficiency, service delivery, increased members surplus and patronage.

Ayatse (2012) conducted a research on the impact of ICT on corporate performance focusing on six (6) cement plants in Nigeria. The study was conducted on the operations of selected cement manufacturing firms in Nigeria. These cement companies include Dangote Cement Company DCC(formally Benue Cement Company), Dangote Cement Company (Abajana plant), Ashaka Cement, Unicem, Cement Company of Northern Nigeria (CCNN) and Lafarge cement. The research work was descriptively design in order to evaluate the impact of ICT(independent variable) and corporate performance (dependent variable).The population of the research is made up of 6080 respondents comprising strictly the staffs of 6 leading cement manufacturing industries in Nigeria. It can be deduced that Nigerian cement manufacturing industries embraces the use of ICT in all their departments and processes. ICT have greatly improved corporate performance of cement manufacturing industries in Nigeria positively. It was also seen that production in Nigerian cement manufacturing industry improved significantly since the advent of ICT. The conclusion was drawn that ICT has positively contributed to corporate performance, recommendation on improved investment and control in ICT were given and finally the researchers proposed future grey areas for research such as the impact of ICT investment on revenue and market share, and optimal level of investments for firm's ICT. Abisola (2013) explores the Impact of Information and Communication Technology (ICT) on internal control effectiveness in preventing and detecting fraud within the financial sector of a developing economy – Nigeria. Using a triangulation of questionnaire and interview techniques to investigate the internal control activities of Nigerian Internal Auditors in relation to their use of ICT in fraud prevention and detection, the study made use of cross-tabulations, correlation coefficients and one-way ANOVAs for the analysis of quantitative data, while thematic analysis was adopted for the qualitative aspects. The Technology Acceptance Model (TAM) and Omoteso et al.'s Three-Layered Model (TLM) were used to underpin the study in order to provide theoretical considerations of the issues involved. The study's shows that Nigerian Internal Auditors are increasingly adopting IT-based tools and techniques in their internal control activities. Secondly, the use of ICT-based tools and techniques in internal control positively impacts on Internal Auditors' independence and objectivity. Also, the study's findings indicate that Internal Auditors' use of ICT-based tools and techniques has the potential of preventing electronic fraud, and such ICT-based tools

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and techniques are effective in detecting electronic fraud. However, continuous online auditing was found to be effective in preventing fraud, but not suited for fraud detection in financial businesses.

Technology Acceptance Theory

The most cited theory was the Technology Acceptance Model (TAM). Davis (1989) presented a Theoretical model aiming to predict and explain ICT usage behaviour, that is, what causes Potential adopters to accept or reject the use of information technology. Theoretically, TAM is Based on the Theory of Reasoned Action (TRA). In TAM, two theoretical constructs, perceived Usefulness and perceived ease of use, are the fundamental determinants of system use, and predict attitudes toward the use of the system, that is, the user's willingness to use the system. Perceived usefulness refers to "the degree to which a person believes that using a particular System would enhance his or her job performance", and perceived ease of use refers to "the Degree to which a person believes that using a particular system would be free of effort" (Davis, 1989).

CONCLUSION AND RECOMMENDATION

It is deduced that Information and Communication Technology has an impact on accounting procedure and systems in organizations. Information and Communication Technology is vital to companies' survival. ICT helps in reporting the financial transaction of companies. The effective implementation of ICT helps companies to measure their financial performance. However, there are challenges associated with the integration of ICT in accounting procedure but companies should strive to have an effective information technology system in place in other to improve their financial performance. ICT is important in the training requirement of an accountant in organization. Information and Communication Technology offers some advantages like processing more information quicker, and errors are less common. Also, with ICT in place financial information can be stored for several years with relative ease, giving the company the opportunity to review previous year's information easily

References

- Abisola J.O, (2013). The Impact of Information and Communication Technology on Internal Controls' Prevention and Detection of Fraud" Being a Thesis Submitted for the Award of PhD Degree at De Montfort University, UK
- Abisola J.O, (2014). The Impact of Information and Communication Technology on Internal Auditors' Independence: A PEST Analysis of Nigeria. *Journal of Scientific Research & Reports Vol. 3(13)*
- Oladejo M.O., & Yinu, O. (2014). An Influential Analysis of the Impact of Information Technology (IT) on Cooperative Services in Nigeria, *European Journal of Business and Innovation Research*, 2(3), 11-24.
- Yadav, M. S. (2016). The Impact of Information Technology on Modern Accounting Systems With reference to Pune Region. *International Journal of Research in IT and Management (IJRIM)*, 6 (8), 87-94.
- Cavalluzzo, K. S., & Ittner, C. D. (2003). Implementing performance measurement innovations: Evidence from government. *Accounting, Organizations and Society*, 29(3-4), 243-267.
- Dandago, K., & Rufai, A. (2013). Information technology and accounting information system in the Nigerian banking industry. *Asian Economic and Financial Review*, 4(5), 655-670.
- Kamal, S. (2015). Historical evolution of management accounting. *The Cost and Management*, 43(4), 12-19.