INFORMATION SYSTEMS AND ACCOUNTING PRACTICES IN GHANAIAN PUBLIC INSTITUTIONS

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ABSTRACT

This study examines the effects of Information and Communication Technology on accounting practices in public institutions in Ghana. Data was collected from public institutions in Ghana using a questionnaire. The study revealed positive effects of Information and Communication Technology, such as timely delivery of financial statements, producing error free financial statements and the creation of avenue to access financial information. However, lack of Information Technology expertise, suitability and cost of accounting software and data security were seen as a major challenge to the adoption and use of Information and Communication Technology in public institutions. Though Information and Communication Technology has the potential to improve the efficiency and effectiveness of public sector accounting in Ghana, it must be backed by constant employee training and regular software upgrades to meet international accounting standards.

JEL: M15, M41, M48

KEYWORDS: Public Institutions, Accounting Information Systems, Information and Communication Technology

INTRODUCTION

The role of accounting in the public sector is wider than the production of the annual financial statements. Financial management is usually a more important task including developing and managing financial management systems and policies. The profession of accountancy has experienced unprecedented change during the past 20 years. It has moved from paper-based to Information and Communication Technology (ICT)-based, and the Internet has become a prevailing tendency. Similar to other professions in the service sector, recent technological developments provide accountants the opportunity to incorporate information systems in their profession. Information and Communication Technologies (ICTs) are used for customers' book keeping and liquidation of income tax statements. Growth in Accounting Practices and Information System is coming from the adoption of ICTs such as Debit Cards, Tax Software, Statistical Package for Social Sciences (SPSS) into Accounting Practices of most Public Institutions. Most Public Institutions have devised a way of recording and reporting transactions.

While it is widely acknowledged that Information and telecommunication technology (ICT) plays an increasingly important role in the field of accounting, the effects of ICT on accounting practices in the public sector has been studied relatively little. Based on a literature review of earlier research, we found limited knowledge about the effects of ICT on accounting practices in the public sector. Existing research has focused mostly on the relation between ICT investment and company performance (Melville, Kraemer and Gurbaxani, 2004), notably in studies that attempt to measure the level of ICT investment and company productivity (Dedrick, Gurbaxani and Kraemer, 2003) or the financial return on ICT investments (Dehning and Richardson, 2002).

The purpose of this study is to focus on the effects of ICT on current accounting practices in the public sector. We seek to prepare public sector accountants for the effects which ICT will pose, and contribute to the body of knowledge about the extent that ICT affects accounting practices in the public sector. The public sector consists of organizations whose control lies in the hands of the public rather than private owners. Their primary objective is to serve the public and not to make profit (Agalega, 2013). The large nature of the public sector means that huge volumes of business transactions are undertaken and as such there is the need for an effective and efficient accounting system. However, this seems not to be the case in the current public services system. The current situation creates a direct challenge for public-sector entities to provide accurate, reliable and timely accounting information to their citizens, donors, investors, lenders, employees and other stakeholders. The remainder of the paper is organized as follows. The introduction is followed by a literature review. The next section presents the methodology of the study and it is followed by results and discussions. The paper ends with a conclusion section.

LITERATURE REVIEW

Accounting practice is linked to the history of accounting. This is intertwined with the development of trade between tribes. There are records of commercial transactions on stone tablets dating back to 3600 BC (Stone, 1969). Early accountants were 'scribes' who also practiced law. Stone (1969) noted that, in ancient Egypt in the pharaoh's central finance department . . . scribes prepared records of receipts and disbursements of silver, corn and other commodities. One recorded on papyrus the amount brought to the warehouse and another checked the emptying of containers on the roof as it was poured into the storage building. Audit was performed by a third scribe who compared these records (p. 284).

Accounting as we know it today began in the fourteenth century in the Italian city-states of Florence, Genoa and Venice as a result of growth of maritime trade and banking institutions. The first bank with customer facilities opened in Venice in 1149. The Lombards were Italian merchants who were established as moneylenders in England at the end of the twelfth century. Balance sheets were evident from around 1400 and the Medici family (who were Lombards) had accounting records of "cloth manufactured and sold". The first treatise on accounting (although it was contained within a book on mathematics) was the work of a monk, Luca Pacioli, in 1494. The first professional accounting body was formed in Venice in 1581. Much of the accounting language is derived from Latin roots. "Debtor" comes from the Latin "debitum", something that is owed; "assets" from the Latin ad + satis, to enough, i.e. to pay obligations; "liability" from" ligare," to bind; "capital" from caput a head (of wealth). Even "account" derives initially from the Latin "computare," to count, while "profit" comes from "profectus", advance or progress. "Sterling" and "shilling" came from the Italian "sterlino" and "scellino" respectively, while the pre-decimal currency abbreviation "LSD" (pounds, shillings and pence) stood for "lire", soldi", "denarii".

Chandler (1990) traced development of the modern industrial enterprise from its agricultural and commercial roots as a result of the Industrial Revolution in the last half of the nineteenth century. By 1870, the leading industrial nations (United States, Great Britain and Germany) accounted for two-thirds of the world's industrial output. One consequence of growth was separation of ownership from management. Although the corporation, distinct from its owners, had been in existence in Britain since 1650, the separation of ownership and control was enabled by the first British Companies Act, which formalized the law in relation to "joint stock companies" and introduced the limited liability of shareholders during the 1850s. The London Stock Exchange had been formed earlier in 1773 by stockbrokers, who had previously worked from coffee houses.

The second consequence of growth was the creation of new organizational forms. Based on his extensive historical analysis, Chandler (1962) found that in large firm's structure followed strategy and strategic growth and diversification led to the creation of decentralized, multidivisional corporations like General Motors, where remotely located managers made decisions on behalf of absent owners and central head

office functions. Ansoff (1988) emphasized that success in the first 30 years of the mass-production era went to firms that had the lowest prices. However, in the 1930s General Motors "triggered a shift from production to a market focus" (p. 11). In large firms such as General Motors, budgets were developed to co-ordinate diverse activities. In the first decades of the twentieth century, the DuPont Company developed a model to measure the return on investment (ROI). ROI was used to make capital investment decisions and to evaluate the performance of business units, including the managerial responsibility to use capital efficiently.

Differences in interests, specialties, and levels in an organization, have resulted in different kinds of ICT systems. No single ICT system can provide all the information an organization needs. Large and medium-size firms have thousands of computer programs and hundreds of different systems. According to Laudon and Laudon (2009), even small firms have a collection of different systems: a system for conducting e-mail campaigns to customers, a system for monitoring advertisement placed on Google, a system for keeping track of basic sales transactions, a system of keeping track of vendors and so forth.

At a glance it can be tedious to comprehend the different systems in an institution and even how they relate to each other becomes problematic. In an attempt to describe this complex situation, Laudon and Laudon (2009) looked at these different systems from two perspectives: functional perspective that identifies systems in terms of the major organizational groups they serve, and a constituency perspective which identifies systems by their major business function. This to some extent coincides with that of O'Leary and O'Leary (2004). They argue to examine an organization's structure is to view it from a functional perspective since in large and medium sized organizations, computerized information systems do not just keep track of transactions and day-to-day business operations. They also support the flow of information either vertically or horizontally within the organization.

Over the past few years, electronic financial management tools have been introduced in nations across the world. There have been a number of government initiatives all over the world that use information technology to enhance development programs and improve public services. Different institutions in different countries have unique information systems with either the same or distinct function(s). For instance, unlike in other countries where an institutions ought to go through a rigorous steps for filing returns and payment of tax, in Peru, the National Superintendent Tax Administration (an institution in Peru) is charged with the collection and submission of taxes with aid of a computerized tax system known as *Tributacion Online*. United Nations Public Administrations Networks (UNPAN) 2003. This is somehow not different from the tax system in Chile. Even though in Chile, the Internal Taxation Service is responsible for collection of both individual and corporate taxes, Chili uses another Information System known as Online Tax System. The new online tax service was implemented using Oracle's Internet-based technology to replace its manual system for filing tax returns. It could be seen the technological platform created can streamline the cumbersome tax-filing and information process in the aforementioned countries while maintaining reliability. The new online tax system saves money on printing, distribution and processing time and has increased the accuracy of tax collection in the said countries. It equipped the tax authority with the resources it needed for the foreseeable future and offered taxpayers a higher standard of service along with swift, easy access to vital tax information. For example, the new system allows tax payers to file returns online and receive an assessment in 12 hours instead of several days, as had been necessary under the earlier manual system.

As part of the pending public financial management reforms in Ghana, The Controller and Accountant General's Department launched a new system of record keeping of state budgeting and financial management. The new system known as Ghana Integrated Financial Management Information System (GIFMIS) aids Ministries, Departments and Agencies to carry out processes of requesting, purchasing, receiving, paying and accounting for goods and services via electronic system. The system (GIFMIS) uses the latest version of Oracle E-Business Suite software and rallies on improved organization and business

processes. The catchment area of the new system includes seven Oracle E-Business suites modules namely: General Ledger, Accounts Payable, Account Receivable, Cash Management, Budgeting, Fixed Assets and Human Resource Management. The full implementation of the GIFMIS serves as the single source system for official budget creation and management, cash and treasury management, financial control, accounting and reporting for the country as a whole.

The application of ICT on accounting practice has become a subject of fundamental importance and concern to all public institutions and indeed a prerequisite for local and international competitiveness. The way accountants plan and make decisions on what and how to provide their service in the accounting profession has been greatly affected by ICT. This has continued to change the manner in which accounting practices and corporate relationships are organized worldwide and the variety of innovative device available to enhance and facilitate the speed and quality of service delivery. It is clear that the biggest favorable effect of ICT has been made on accounting. In creates the ability of companies to develop and use computerized system to track and record financial transactions properly and accurately. The recording of business transactions manually on ledgers, papers, spread sheets among others has been translated and computerized for quick and easy presentation of individual financial transactions and reports on them (Granlund and Mouritsen, 2003). Shanker (2008) ascertains the use of ICT in many organizations assists in reducing transactional cost, overcoming constraints of distance and have cut across geographic boundaries thereby assisting to improve activities within organizational boundaries

Computerized accounting systems enhance functionality of various accounting departments by increasing just in time accounting information. By enhancing timeliness of financial information, accountants can prepare reports and operations analysis that provides management an accurate view of current operations. The number of financial reports has been improved by computerized systems. Cash flow statements, market shares reports and departmental profit and loss are now more accessible with computerized system. A prior observation shows a computerized accounting system has internal check and balance measures to ensure transactions and accounts are properly balanced before the financial statements are finally prepared. It also ensures that individual transactions are properly recorded in journal entries.

Since the inception of ICT, computerized accounting systems have allowed accountants to quickly process large amounts of financial information through the accounting system. Quicker processing time for individual transactions lessens the amount of time needed to close each accounting period. Complex and difficult transactions that would have taken months or years to prepare would be done quickly and faster at a far cheaper cost. The question that most people, including the various users of financial reports often ask is, Does the incorporation of IT into business operations only affect accounting practices positively? Companies continue to spend more on ICT, yet ICT's contribution to productivity growth has been declining steadily. ICT in most institutions and accounting departments are commonly used for purposes other than intended. For instance, some vital information on financial reports are being sent to unauthorized places. On several instances files are being corrupted especially when money scandals are been detected. It also has financial implications especially when a particular accounting software is mishandled. For instance, it can cost an institution hundreds or thousands of Cedis each year depending on the degree of mishandling.

DATA AND METHODOLOGY

We selected and interviewed 40 employees of 30 public institutions in the Kumasi Metropolis. The employees were conveniently selected because of their expertise and experience which puts them in a best position to answer the research questions. The public institutions were selected using a purposive sampling method. The study relied on the mixed method strategy to gather primary data because it allows both quantitative and qualitative methods to overcome weakness of each other. Sources of secondary data included the institutions strategic plan, annual reports and accounting and auditing policies. This process

was instrumental in drafting the questionnaire. The questionnaire contained both closed-ended and opened questions. It was pre-tested to assess its effectiveness and also measured the most probable outcome of the study. The data was collected in April 2013 using a cross sectional method. The study was used to test the following hypothesis;

H0: ICTs have affected accounting practices since their introduction in Public Institutions' Accounting practices.

H1: ICTs have created no significant effect on public institutions' accounting practices

Model formulation

A linear regression was used to establish and ascertained the relationship between the effect of ICT on accounting practices in public institutions and the independent variables. Specifically, a logistic regression model was used since the level of measurements of the variables is nominal. Based on the variables identified above, the following function was formulated:

EITP = f (The effect of ICT on accounting practices in the public institutions) (1)
Consequent on the function, the following model is constructed:

$$EITP = \beta o + \beta_1 TFR + \beta_2 EFR + \beta_3 AFI + \beta_4 SC + \beta_5 RCW + \beta_6 CE + \mu \quad (2)$$

Where:

EITP = effects of ICT on accounting practices,
ß0 = a constant which indicate how a change in one of the independent variables affects the values taken by the dependent variable
TFR = timely delivery of financial reports,
EFR = provision of error free reports,
AFI = avenues to access financial information,
SC = large storage capacity,
RCW = reduction of clerical works,
CE = cost effectiveness,
μ = stochastic error term

RESULTS AND DISCUSSION

Table 1 shows the age variables. The category 21-30 years represented 15.0%, the category 51-60 years of age represented 20.0%. The category of 31-40 years represents 50.0% while those within the ages of 41-50 years represent 15.0%. In short, the sample shows that majority of the respondents were in their middle ages (31-40). The study had fewer representatives of both young and old respondents.

Table 1: Age of Respondents

Age	Frequency	Percentage
21-30	6	15.0
31-40	20	50.0
41-50	6	15.0
51-60	8	20.0
Total	**40**	**100.0**

This table depicts the age range of the respondents. The age column shows the age categories of the respondents. The column labelled frequency presents the number of respondents belonging to each category.

In relation to gender, the data shows that 75.0% of respondents were male while females accounted for 25.0%. The marital status of the respondents showed that, married respondents represented 45.0%, while the percentage of single respondents was also 45.0%. With regard to the respondents' educational level, Table 2 shows that the majority of the respondents were graduates (55.0%), with 15.0% of Diploma certificate holders, and 30.0% of post-graduate were represented.

Table 2: Educational Level of Respondents

Educational level	Frequency	Percentage
Diploma	6	15.0
Graduate	22	55.0
Postgraduate	12	30.0
Total	**40**	**100.0**

This table shows the educational background of the respondents. The educational level column indicates the degree levels of the respondents. The column labelled frequency indicates the number of respondents in each degree level. The percentage column indicates the fraction of respondents who belong to each degree level.

Information and Communication Technology Use in Accounting

In recent years, ICT has found itself in every sphere of life. It is used in the entertainment industry, manufacturing, health system, educational system, football as well as every aspect of work. In the same way, ICT is being used by accountants in every organization. There are now accounting software used in reporting accounting and economic reports, carried out during accounting year ends, the preparation of accounting records, statements such as Statement of Comprehensive Income, the Statement of Financial Position, cash flow statement, and income and expenditure accounts. The aim of this section is to identify types of accounting software and how they are used in organizations that formed this study. Data collected from the respondents as presented in Table 4.3 shows that, 90.0% of respondents are skilled in ICT while 10.0% are unskilled. This suggests the majority of respondents have what it takes to handle ICT in their organization and use them for accounting purposes. It also means the correct respondents have been selected for this study and can give the appropriate response in terms of the effect of ICT on accounting practices and the challenges associated with them.

Table 3: Knowledge in ICT

Knowledge	Frequency	Percentage
Skilled	36	90.0
Unskilled	4	10.0
Total	**40**	**100.0**

This table shows the knowledge level of the respondents in ICT. The column labelled knowledge shows a distinction between the knowledge levels. The Frequency column depicts the number of respondents who are knowledgeable in computers and those who are not.

With the above data giving a clear indication that the appropriate respondents have been selected for the study, it is also important to identify if their organizations have accounting software. From Table 4, we see that 95.0% of the respondents indicated that their respective institutions have accounting software. This also gives an indication that the right organizations were selected for the study.

Table 4: Does your Institution use an Accounting Software System

Response	Frequency	Percentage
Yes	38	95.0
No	2	5.0
Total	**40**	**100.0**

This table presents the results of respondents' organizations using ICT. It depicts that most of the respondents are familiar with ICT because their organizations are using it.

There are various accounting software used by these respondents. Similarly, they know some accounting software that are used in other organizations. Therefore both the accounting software their organizations use and those that they know of are presented in Table 5.

Table 5: Accounting Software Known and Used

Accounting Software Used	Accounting Software Familiarity
Sun Accounting	Branch operation system
Flexcube 6.9	Quickbooks
Repac	Topaz
Medicalpro	Tally
Sage accpac	Oracle
Ebos-E	Scala

This table shows the various accounting softwares being used by Public Institutions in Ghana. The column labelled "accounting softwares known of" indicates the softwares known to staff of Public Institutions but may not have used it before.

Effects of Information and Communication Technology on Accounting Practices

The biggest impact ICT has made on accounting is the ability of companies to develop and use accounting software to track and record financial transactions properly and accurately. This study sought to determine how ICT has affected accounting practices. We found that all respondents (100.0%) are of the view that ICT has affected accounting practices in their organizations. It is not surprising that ICT brings change wherever it is used. Table 6 presents findings on the effect of ICT on accounting practices. We see that only 5.0% strongly disagree that ICTs have helped in the timely delivery of financial statements. On the other hand 35.0% and 60.0% of respondents agree and strongly agree respectively that ICTs have help in the timely delivery of financial statements. Similarly on the issue of ICT helping in the issue of error free financial statements, 55.0% and 5.0% agree and strongly agree respectively. On the other hand, 5.0% and 5.0% of the respondents strongly disagree and disagree respectively that ICT helps in delivering error free financial statements to their companies. However, 30.0% of respondents remained neutral as to whether ICT helps in delivering error free financial statements.

On the issue of creating an avenue to accessing financial information, 50.0% and 30.0% of respondents agree and strongly agree respectively that ICT creates an avenue to access financial information. Table 6 shows that, 15.0% of respondents remained neutral on the issue of whether ICT creates an avenue to access financial information. The capacity of ICT to store large data cannot be doubted and this is clearly shown by the respondents. Some 65.0% of respondents strongly agree that the effect of ICT on their accounting practice is large storage capacity. Another 30.0% of respondents agree that ICT has enabled them to store large data easily while 5.0% of respondents remained neutral. The use of ICT involves the use of less paper and other clerical work. As can be seen from Table 6, 35.0% and 45.0% of the respondents strongly agree and agree respectively that one of the effects of ICT on accounting practices is the reduction of clerical work. However, 15.0% of respondents remained neutral as to whether accounting practices really had an effect on the reduction of clerical work. Running accounts is very expensive considering the time and the number of people involved. With the introduction of accounting software, it is expected that the time and number of people involve will be reduced. Indeed data from the field as presented in Table 6 shows that 30.0% and 40.0% of respondents strongly agree and agree respectively that the effect of ICT on accounting is cost effectiveness. The above findings show that, ICT has an enormous positive effect on the accounting practices of the organizations involved in this study.

Challenges of Information and Communication Technology on Accounting Practices

Despite numerous benefits of ICT to accounting practices listed above, they are not without challenges. The aim of this section is to identify challenges associated with ICT as applied to accounting practices in the organizations. As a result, 85.0% of the respondents indicated that there are number of challenges in

the use of ICT in accounting practices while 15.0% did not have any challenge with respect to the use of ICT in accounting systems and practices in their organizations. Table 7 shows some challenges of ICT on accounting practices adopted by the studied organizations. The adoption of an ICT accounting system means there must be employees with skills in IT to handle these systems. However from Table 7 shows that 10.0% and 25.0% of the respondents agree and strongly agree respectively that a lack of IT expertise is a challenge to the adoption of IT on accounting practices. On the other hand, 10.0% and 20.0% of respondents strongly disagree and disagree respectively that lack of IT expertise is a challenge to the adoption of IT on accounting practices. Some 35.0% of the respondents remained neutral. Clearly this is not a serious challenge of ICT on accounting practices.

Table 6: Effects of ICT on Accounting Practices

Effects	SDA	DA	N	A	SA
Timely delivery of financial statements	5	0	0	35	60
Provision of error-free financial statements	5	5	30	55	5
Creation of other avenues to access financial information	0	5	15	50	30
Large storage capacity	0	0	5	30	65
Reduction of clerical works	0	5	15	45	35
Cost effectiveness	0	0	30	40	30

This table presents the effect of ICT on Accounting Practices. The identified effects is presented under the column labelled 'effects'. The other columns are labelled as follows; Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree.

This study involves a series of public sector institutions with various purposes and accounting software programs. Some programs have been customize while others are general. This presents s challenge of suitability to the organization in question. From this perspective, only 10.0% and 10.0% of the respondents agree and strongly agree respectively that the suitability of the accounting software is a challenge. On the contrary, 20.0% and 35.0% strongly disagree and disagree respectively that suitability of the accounting software is a challenge while 30.0% remained neutral. The majority do not see suitability as a challenge. Part of the reason could be that, preparing financial statements and other accounting information and data are almost the same in every organization. Therefore, the generality and specificity of the accounting software is not a big issue. Cost associated with the acquisition of accounting software is another issue of concern. It could be a challenge to an organization depending on its financial status. Table 7 shows that purchase cost and implementation of accounting software is not a significant challenge to the respondents as 15.0% and 50.0% of them strongly disagree and disagree respectively that the cost of purchase and implementation of accounting software is a challenge to ICT and accounting practices. A minority of respondents, 5.0%, strongly agree that the cost of purchase and implementation of accounting software is a challenge to ICT and accounting practices.

The use of ICTs involves the use of electric power. It is important that power is available and in constant supply. We wished to determine if instability of power is a challenge to the use of ICT in accounting practices. The data as presented in Table 7 shows that 15.0% and 25.0% strongly disagree and disagree respectively that the instability of power is a challenge to the use of ICT in accounting practices. This may be due to the fact that, most of these organizations have installed generators and power plants and therefore are not affected by frequent power outages in the country. On the other hand, 15.0% and 20.0% of the respondents agree and strongly agree respectively that instability in power sy6stems is a challenge to the use of ICT in accounting practices. This could be due to the fact that these organizations don't have generators and power plants in place to respond to a loss of power. On the whole, a majority of respondents do not support the idea that instability in power is a challenge to accounting practices.

Frequently accounting deals with money and security is paramount in monetary matters. However, there is a huge outcry about security of IT and software in this fast moving technology era. It is imperative to identify whether data security and financial information is a challenge to the use of ICT in accounting practices. The data shows this is not a challenge as 10.0% and 50.0% strongly disagree and disagree

respectively that security of data and financial information is a challenge to the use of ICT in accounting practices. On the other hand, 25.0% and 10.0% agree and strongly agree respectively that security of data and financial information is a challenge to the use of ICT in accounting practices. Finally, machines and software are subject to breakdowns which can represent a challenge. Data as presented in Table 7 shows that 20.0% and 45.0% strongly disagree and disagree respectively that frequent system breakdowns is a challenge to ICT in accounting practices. Only 10.0% agree that that frequent system breakdowns is a challenge to ICT in accounting practices.

Table 7: Challenges of ICT in Accounting Practices

Challenges	SDA	DA	N	A	SA
Lack of IT expertise	10	20	35	25	10
Technology not suited to institution	20	35	30	10	10
Cost of purchase and implementation	15	50	5	20	5
Electrical power instability	15	25	25	15	20
Security of data and financial information	10	50	5	25	10
Frequent breakdown of systems	20	45	25	10	0

This table shows the challenges posed by ICT to Accounting Practices. The identified challenges is presented under the column labelled 'challenges'. The other columns are labelled as follows; Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree.

Testing Hypothesis of the Study

Linear regression was used to test the hypothesis that there is no significant effect of ICT on accounting practices. A positive effect of ICT on accounting practices was used as the dependent variable. The independent variables were timely delivery of financial reports, provision of error free reports, avenues to access financial information, large storage capacity, reduction of clerical works and cost effectiveness. The finding of this hypothesis is presented in Table 8 below. The test was conducted at a 95% confidence level. We see that all the independent variables were not significant (timely delivery of financial reports = 0.214, provision of error free reports = 0.860, avenues to access financial information = 0.837, large storage capacity = 0.129, reduction of clerical works = 0.297 and cost effectiveness = 0.300). This insignificance of the independent variables is highly reflected in the overall insignificance (0.506) of all the variables. It can also been seen that, the adjusted R square (0.300) was not strong enough to reject the hypothesis. It can therefore be concluded that the hypothesis "there is no significant effect of ICT on accounting practices in public institutions" was confirmed. These variables explain 54.8% of the hypothesis that "there is no significant effect of ICT on accounting practices in public institutions".

Table 8: Regression Results

Variables	B	Sig	R	R^2	Sig
Constant	1.761	0.006	0.548	0.300	0.506
Timely delivery of financial reports	0.121	0.214*			
Provision of error free reports	-0.015	0.860*			
Avenues to access financial info	-0.018	0.837*			
Large storage capacity	-0.251	0.129*			
Reduction of clerical works	0.090	0.297*			
Cost effectiveness	-0.084	0.300*			

This table reports the regression results used to test the hypothesis. The model reported here is:

$EITP = \beta o + \beta_1 TFR + \beta_2 EFR + \beta_3 AFI + \beta_4 SC + \beta 5 RCW + \beta 6 CE + \mu$: where the dependent variable is Accounting Practices. The symbol * *indicates significant at 5 percent level.*

DISCUSSION OF FINDINGS

This section discusses the findings of the study in conjunction with the literature. The first objective of this study was to identify various types of accounting software used in public sector institutions involved in this study. We found that different accounting software are being used including Sun Accounting,

Flexcube 6.9, Repac, Medicalpro, Sage accpac, Ebos-E, Quickbook, Topaz, Tally, Oracle and Scala. This finding confirms that of Laudon and Laudon (2009) that there are collections of different accounting software used by different organizations for different purposes. The proliferation of ICT and its advancement has resulted in many software and ICT facilities in every field.

The second objective of this study was to identify the effect of ICT on accounting practices. This was done through the use of simple frequency tables with percentages and a linear regression to test the statistical significance or otherwise of the hypothesis. We found that 35.0% and 60.0% of the respondents agree and strongly agree respectively that ICT have helped in the timely delivery of financial statements. Similarly on the issue of ICT helping in the issue of error free financial statements, 55.0% and 5.0% agree and strongly agree respectively. We also found that 50.0% and 30.0% of respondents agree and strongly agree respectively that ICT creates an avenue to access financial information. The findings also shows that 65.0% of the respondents strongly agree that the effect of ICT on their accounting practice is the large storage capacity. Another 30.0% of respondents agree that ICT has enabled them to store large data easily. Again, 35.0% and 45.0% of respondents strongly agree and agree respectively that one effect of ICT on accounting practices is reduction of clerical work. Finally, 30.0% and 40.0% of respondents strongly agree and agree respectively that the effect of ICT on accounting is its cost effectiveness.

The benefits and effects of ICT on accounting practices identified here are similar to other studies. Mouelhi (2009) and Majumdar, Carare, and Chang, (2010) found the benefits of ICT for a firm includes saving inputs, general cost reductions, higher flexibility and improvement in product quality. Similarly, Arvanitis and Loukis (2009) advocated that the use of ICT for accounting purposes helps gather and disseminate information and quality control. Also, Krishnaveni and Meenakumari (2010) assert that ICT has played a major role in reducing operational inefficiency and improving decision-making in many areas of governance. Other studies such as Hengst and Sol (2001) and Ramsey, Ibbotson, Bell, & Gray, (2003) conclude that ICT in accounting enables organizations to decrease costs and increase organizational capabilities. Shanker (2008) ascertains the use of ICT in many organizations has assisted in reducing transactional cost and overcoming the constraints of distance. A hypothesis was tested to identify statistical significance of the variables. The results shows the variables were statistically insignificant.

The final objective of this study was to examine challenges emanating from the adoption of ICT in accounting practices in public institutions. This was achieved by the use of frequency tables with percentages. We found that 10.0% and 20.0% of respondents strongly disagree and disagree respectively that lack of IT expertise is a challenge to the adoption of IT in accounting practices. The results also show that 10.0% and 10.0% of the respondents agree and strongly agree respectively that the suitability of the accounting software is a challenge. On the contrary, 20.0% and 35.0% strongly disagree and disagree respectively that the suitability of the accounting software is a challenge. Similarly, the cost of purchase and implementation of accounting software is not a significant challenge to the respondents as 15.0% and 50.0% of them strongly disagree and disagree respectively that the cost of purchase and implementation of accounting software is a challenge to ICT and accounting practices. Also, it was found that 15.0% and 25.0% strongly disagree and disagree respectively that the instability of power is a challenge to the use of ICT in accounting practices while 15.0% and 20.0% of respondents agree and strongly agree respectively that instability in power system is a challenge to the use of ICT in accounting practices. The results show that, 10.0% and 50.0% strongly disagree and disagree respectively that security of data and financial information is a challenge to the use of ICT in accounting practices. On the other hand, 25.0% and 10.0% agree and strongly agree respectively that security of data and financial information is a challenge to the use of ICT in accounting practices. Finally, it was found that 20.0% and 45.0% strongly disagree and disagree respectively that frequent breakdown of the system is a challenge to ICT in accounting practices. Some studies such as Bolton and Hand (2002) found similar challenges of using ICT in accounting. They

found that, the learning cost and time of using and setting up the software as well as the cost of purchase, support and maintenance to some extent become challenges to the use of ICTs in accounting.

CONCLUSION

This study set out to examine the effects of ICT on accounting practices in Ghanaian Public Institutions. The study used questionnaires to collect primary data from respondents. Respondents for this study, who mainly work in the accounts department, were conveniently drawn from thirty (30) public institutions. Reports of public institutions and articles from journals were the main secondary sources of data for the research.

The major finding of the study was there is no significant effect of ICT on accounting practices in Ghanaian Public Institutions. However, there are some positive effects such as reduction in errors and timely delivery of financial statements. It must also be emphasized that issues such as data security and cost of accounting software pose a big challenge to the adoption of ICT in accounting practices in Ghanaian public institutions. We found that if managers provide constant training for employees and upgrade the software to meet current standards, public institutions in Ghana will be able to realize the full benefit of ICT in accounting practices. In future researchers may look at the adoption of ICT by privately owned institutions in Ghana and compare with public institutions. The analysis will bring out ICT adoption differences and similarities between public and private institutions in Ghana.

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