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### THE IMPACT OF ADOPTING COMPUTERIZED ACCOUNTING INFORMATION SYSTEMS FOR EFFECTIVE MANAGEMENT OF ACCOUNTING TRANSACTIONS IN PUBLIC INSTITUTIONS: CASE OF KENYA SCHOOL OF GOVERNMENT

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#### ABSTRACT

This study sought to find out the impact of Computerized Accounting Information Systems in the quality of accounting information produced, the impact of adoption of Computerized Accounting Information Systems on performance in the accounting department, the effectiveness of Computerized Accounting Information Systems in detection of errors and fraud in public institutions and also how far have public institutions have adopted Computerized Accounting Information System in carrying out accounting transactions and managing them. The findings of the study were intended to help managers in public institutions how to manage accounting transactions to derive maximum benefits from these accounting transactions as a way of achieving organizational goals and to be used by those who are interested to carry out research in the line of accounting transactions management. The research took place in Kenya School of Government where managers and all staff members who are involved in the management of accounting transactions were used as the target population. Data collected was analyzed using SPSS software version 12. The findings showed that majority of those who are involved in the management of accounting transactions grant of accounting Information Systems has an effect on the overall management of accounting transactions in public institutions. The study recommended for continuous implementation of Computerized Accounting areas.

#### **KEYWORDS**

Computerized Accounting, Information systems, Accounting transactions, Kenya School of Government.

#### INTRODUCTION

#### BACKGROUND OF THE STUDY

he adoption of computerized accounting information systems (CAIS) in organizations has been playing important roles toward the overall achievement of the organizations' goals and objectives. Accounting information systems (AIS) are tools which when incorporated into the field of information and technology system, well designed to help in the management and control of matters related to firm's economic – financial area, the stunning advancement in technology has opened up the possibility of generating and using accounting information from a strategic view point. Since this is important for all organizations it's more important even for public institutions which need information to deal with higher degree of uncertainty in decision making. We talk about uncertainty as a lack of information compared to what a decision maker needs to make a decision (Gabraith, 1973), and the fewer administrators are able to predict the outcome from their actions.

Information development is essential for improving or developing new context to support management, strategy and decision making (Lee, Strong el at 2002). Furthermore, accounting information is important in organization as it requires quality information to improve efficiency and effectiveness of their operations for increased productivity.

IT has profoundly changed most organizations and their information needs, and accounting must adjust to these changes (Mohd Salleh, 2000). Accounting, being the source of financial information, will inevitably be affected by rapid development of IT. Thus, computerized accounting system was introduced to change manual conventional accounting system to take advantage of IT advancement.

Survey conducted by (Davis 1997) found that the introduction of computer in accounting, called computerized accounting information system, enable more complex transactions done effectively and efficiently to produce information. Mohd Salleh (2000), views that the usage of CAIS can relieve the user from the mundane tasks, which was previously done manually.

The use of CAIS allows for immediate and accurate access, efficient knowledge sharing, efficient cost effective, as well as comprehensive information of which is critical for a successful organization. As viewed by (Walsham, 1993; and Gallier, 1990) in their research, organization need accounting information for their daily operation so that they can plan, implement, report and make management and strategic decisions to get the extra competitive advantages.

Good accounting information can lead to success of an organization, while poor accounting information may lead to failure of the organization (Bovee 2004, Redman 2008). As a consequence organizations are more concerned with timeliness and quality of financial performance information (Uday 2004). Public institutions like any sector need to apply computerized accounting information systems by improving the quality services, planning, and in making decisions.

Kenya School of Government (KSOG) is a public government institution that was established by transforming the previously Government Training Institutes of Mombasa, Matuga, Baringo, Embu and Kenya Institute of Administration for the need of training public servants and carry out research and consultations on behalf of the government of Kenya. Hence it has many transactions, that it has to carry every day and they require proper accounting management.

Accounting information system is considered as a subsystem of management information system (MIS). To regard accounting as an information system, perhaps, is the latest definition of accounting. For the first time in 1966, the American Institute of Certified Public Accountants (AICPA) stated that: "Accounting actually is information system and if were more precise, accounting is the practice of general theories of information in the field of effective economic activities and consists of a major part of the information which is presented in the quantitative form".

Computerized accounting systems are software programs that gather the various accounting information related to sales, purchases, receivables, payables, cash receipts, cash disbursements, and payroll. And in this procedure the financial statement is generated (Islam, 2010). Most of the accounting information is generated from transactions. Transactions of firms have both accounting and non accounting attributes. During the early days of computerization of AISs, accounting system used to be isolated from other information systems and served as operational; support systems. Today, as more powerful, flexible, economical, and user-friendly software and hardware have become available, the trend is toward a logical arrangement where a single system can support both accounting and operational needs. Today's accounting systems are closely tied into and may even be fully integrated with other information systems and ensure that relevant accounting information gets to the expected user in time.

An information system is means of collecting, entering, and processing data and storing, managing, controlling, and reporting information so that an organization can achieve its objectives or goals (Romney et al., 1997). He further argues that this definition of information system indicates that an information system has four components; data, software, output and users.

#### CAIS AND THE PERFORMANCE IN PREPARATIONS OF ACCOUNTING TRANSACTIONS

In a recent study (Nasrin, 2010) some attributes were identified to find out the influence of using computerized accounting software (CAS) by the users and their perceptions about this. The users believed that using CAS would help him or her better attain significant rewards and they feel comfortable in using CAS. Social influence was one of the most important factors that affected users to use CAS to improve their workability and performance and it was found that most of the respondents agreed that their performance could be better every time by using CAIS.

Computer and accounting are important elements for any competitive company or organization. Such importance is attributed by the rapid changes in the business environment. (Banarjee and Lloyd, 1995) found that over 90 percent of their respondents use computers in their organizations. They also found that the use of computer assists organizations in distributing, storing, retrieving, archiving, registering and controlling access to information. Banarjee and Lloyd's study is supported by (Zarowin, 1998) which found that the use of computers enabled users to manage, find, retrieve and compose the information at a faster rate which in turn would enable management to make more accurate planning, decision-making and resource allocation.

Read (1996) argues that the use of IT as one of the strategies for the firm to have competitive edge in a new global market. The primary purpose of CAIS is the collection and recording of data and information regarding events that have an economic impact upon organizations and the maintenance, processing and communication of such information to internal and external stakeholder.

Cameron (2006) explained that by using paper-based accounting, there is the cost of material, time, and money. When a piece of paper becomes a document, it has to be filled and stored, and it costs for storage space, securing, heating, and air conditioning the space. Regular purging of old files will time consuming, and misfiled document will be hard to search for and retrieve it leading to time wastage.

CAIS sometimes referred to as paperless system has become a need for business process, especially for a company that has higher volumes and more transaction because it will demand a computerized system (Webster 2004). James Blaylock (2005) believed that, "Going paperless is no longer an option, but must for a Certified Public Accountant". With the trend of moving in this direction, it is imperative to go paperless in order to keep up with the competition and improve on efficiency.

Systems will be useful when information provided by them is used effectively in decision-making process by users. The ongoing revolution in information technology (IT) has had a significant influence on computerized accounting information system (CAIS. Accounting activities that were previously performed manually can now be performed with the use of computers. That is, accountants are now able to perform their activities more effectively and efficiently than before (Dalchi and Tenis, 2004). The revolution in the information systems, which started in the early 1950s when the first business computers became available, is still in progress to ensure that it keeps abreast with technology as this will see the accounting transactions being simplified as compared to the to the use of manual AIS (Nash, 1989).

Computerized AIS accelerates preparation of financial statements and overcomes the human weaknesses in data processing (Muhammad Sori, 2010: 36). Davis D. & Dunn P. (2005) gave the following as some of the advantages that accrue from the use of CAIS; Improved accuracy, Saving money, Improvement in Reporting Capabilities, Speed, Easy to Use, Integration and linking, Automatic Document Production, Storage and Back-up and, Enhanced internal controls.

#### **IMPORTANCE OF THE STUDY**

The findings of this study are expected to provide administrators in public institutions with awareness on the benefits of using CAIS as a continuous improvement tool and challenges to expect while implementing these systems.

The findings of the study would be used as a point of reference by future researchers who would take interest in the line of AIS

#### STATEMENT OF THE PROBLEM

Accounting transactions are fundamental activities in any public institution, therefore it is of great importance that these activities are carried out properly to ensure smooth running of the institution. The use of accounting information systems (AIS) has been playing an important role towards the carrying out of these transactions. Although the information generated from AIS should be effective in decision making, there has been a lot of concern on the quality of information produced by manual AIS, the performance of these systems in terms of efficiency and detection of errors and fraud that has been rampart in most government organizations. Therefore this research intended to look into the impact of computerized of computerized accounting information system (CAIS) and the quality of information produced, performance in carrying out transactions, efficiency and also detection of errors and fraud in accounting systems in public institutions.

#### **GENERAL OBJECTIVES OF THE STUDY**

To find out the effect of adoption of CAIS on the management of accounting transactions in public institutions.

- To investigate how far have public institutions adopted CAIS in carrying out accounting transactions and managing them
- To determine the impact of CAIS in the quality of accounting information produced
- To find out the impact of adoption of CAIS on performance in the accounting department.
- To determine the effectiveness of CAIS in detection of errors and fraud in public institutions.

#### **HYPOTHESIS**

- That there is no significant relationship in the adoption of CAIS and the quality of accounting information produced.
- That there is no significance relationship between the adoption of CAIS and performance in the accounting department
- That there is on significant relationship in the adoption of CAIS and detection of errors and fraud in accounting transactions in public institutions.

#### **RESEARCH METHODOLOGY**

RESEARCH DESIGN

The study adopted a descriptive survey design because it helped in systematic collection and presentation of data in order to asses the adoption of CAIS in public institutions as regards to information quality, performance, detection of errors and fraud in management of accounting transactions

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#### **RESEARCH INSTRUMENTS**

This study used a questionnaire and personal interviewing as an instrument for collecting data. The questionnaire and personal interviewing was preferred to the other research instruments because they are cheaper, the questionnaire covers a relatively large sample, it can be reused, it has a greater validity and it is rapid. Also personal interviewing was used to reinforce the clarity not well captured in the other tools of data collection

#### DATA COLLECTION AND PROCEDURES

The study used both primary and secondary sources of data. Primary data was collected using personally administered questionnaire between the month of October and December 2012. The nature of the study, as well as what is expected of the respondents was explained. The confidentiality of the respondents was also assured. The questionnaires were distributed to the respondents and filled questionnaire were collected after four days. Interviewing was also done on the same period.

#### DATA ANALYSIS

Data was analyzed using descriptive statistics and inferential statistics. SPSS version 12 was used due to its quickness and simplicity in analyzing the data collected and also due to its availability. Inferential statistics including chi-square test was used to test hypothesis. Coding was done in the questionnaire by assigning numbers to variables to enhance descriptive analysis. Descriptive methods such as modes were used to identify the most frequent CAIS used by public institutions to manage accounting transactions. Inferential statistics was used by inferring the results of sample size to the whole population.

#### DATA ANALYSIS, INTERPRETATIONS AND DISCUSIONS

THE USE OF COMPUTERIZED ACCOUNTING INFORMATION SYSTEMS

TABLE 1: RESPONSE ON USE OF CAIS						
	Frequency	Percentage				
Yes	13	65				
No	7	35				
Total	20	100				

Source, research data

As it can be seen from the above table 65% acknowledges that there is the use CAIS at KSOG in the management of accounting transaction while 35% said that there is no use of CAIS in management of accounting transactions

CHALLENGES IN MANAGEMENT OF ACCOUNTING TRANSACTIONS IN KSOG

#### TABLE 2: RESPONSE ON CHALLENGES IN MANAGEMENT OF ACCOUNTING TRANSACTIONS

	Frequency	Percentage				
Yes	15	75				
No	5	25				
Totals	20	100				
Source, research data						

75% acknowledged that there are challenges in management of accounting transactions in KSOG while 25% said that there are no challenges in management of accounting transactions.

TYPE OF CHALLENGE FACED IN MANAGEMENT OF ACCOUNTING TRANSACTIONS IN KSOG

#### TABLE 3: RESPONSE ON TYPES OF CHALLENGE

	Frequency	Percentage
Lack of management support	3	15
Incompetent staff	2	10
Lack of resources	7	35
Lack of employee commitment	3	15
No challenge	5	25

Source, research data

25% said that the main challenge they face in management of accounting transactions is lack of management support, 10% said its incompetent staff, 35% said its lack of resources, 15% said lack of employee commitment and 25% said there is no challenge in the management of accounting transactions. THE LEVEL OF ADOPTION OF CAIS AT KSOG 

	Frequency	Percentage
V. good	3	15
Good	7	35
Moderate	2	10
Poor	1	5
Don't know	7	35
Totals	20	100

Source, research data

15% of the respondents said that the adoption of CAIS in the management of accounting transactions in KSOG is very good, 35% said its good, 10% said its moderate.

MANAGEMENT OF ACCOUNTING TRANSACTIONS

UNDERSTANDING THE TERM MANAGEMENT OF ACCOUNTING TRANSACTIONS

#### TABLE 5: RESPONSE ON UNDERSTANDING THE TERM MANAGEMENT OF ACCOUNTING TRANSACTIONS

	Frequency	Percentage
Yes	16	80
No	4	20
Totals	20	100

Source, research data

80% of the respondents acknowledged that they understood the term management of accounting transactions and 20% said they didn't understand the term management of accounting transactions.

COMPUTERIZED ACCOUNTING INFORMATION SYSTEM AND MANAGEMENT OF ACCOUNTING TRANSACTIONS CAIS ON THE QUALITY OF ACCOUNTING INFORMATION PRODUCED

#### TABLE 6: RESPONSE ON EFFECT OF CAIS ON THE QUALITY OF ACCOUNTING INFORMATION PRODUCED

	Frequency	Percentage				
Yes	13	65				
No	7	35				
Total	20	100				
Course, recearch data						

Source, research data

It can be seen from the above table 65% of the respondents said that there has been an impact in the quality of accounting information produced through the adoption of CAIS in the management of accounting transactions while 35% said their is no impact. **EFFECT OF CAIS ON THE QUALITY OF ACCOUNTING INFORMATION PRODUCED** 

#### TABLE 7: RESPONSE ON HOW CAIS HAS INFLUENCED THE QUALITY OF ACCOUNTING INFORMATION PRODUCED

	Frequency	Percentage
Highly increased	6	30
Increased	3	25
Moderately increased	2	10
Lowly increased	2	10
No effect	7	35
Total	20	100

Source, research data From the above table it can be observed that 30% of the respondents said that the quality of accounting information produced had highly increased due to the adoption of CAIS in the management of accounting transactions, 25% said it had increased, 10% said it had moderately increased.

#### CAIS ON THE PERFORMANCE IN THE MANAGEMENT OF ACCOUNTING TRANSACTIONS IN KSOG

#### TABLE 8: RESPONSE ON EFFECTS ADOPTION OF CAIS ON THE PERFORMANCE IN THE MANAGEMENT OF ACCOUNTING TRANSACTIONS

	Frequency	Percentage				
Yes	12	60				
No	8	40				
Total	20	100				
Source, research data						

It can be seen from the above table 60% of the respondents said that adoption of CAIS in management of accounting transactions had effect while 20% said there is no effect.

#### INFLUENCE OF CAIS ON THE PERFORMANCE IN THE MANAGEMENT OF ACCOUNTING TRANSACTIONS

#### TABLE 9: RESPONSE ON HOW ADOPTION OF CAIS HAS INFLUENCED THE PERFORMANCE IN THE MANAGEMENT OF ACCOUNTING TRANSACTIONS

	Frequency	Percentage
Highly increased	6	30
increased	2	10
Moderately increased	3	15
Lowly increased	1	5
No effect	8	40
Total	20	100

Source, research data

30% of the respondents said that effect of adoption of CAIS in the management of accounting transactions on performance has been very good, 10% said its good, 15% said its moderate 5% said its poor and 40% said there is no effect.

#### EFFECT OF ADOPTION OF CAIS ON THE LEVEL OF FRAUD IN ACCOUNTING DEPARTMENT

#### TABLE 10: RESPONSE ON EFFECT OF ADOPTION OF CAIS ON THE LEVEL OF ERRORS AND FRAUD IN ACCOUNTING DEPARTMENT

	Frequency	Percentage
Highly reduced	5	25
Reduced	3	15
Moderately reduced	1	5
Lowly reduced	2	10
No effect	9	45
Total	20	100

Source, research data

25% of the respondents said that the level of errors and fraud in accounting and procurement department has highly reduced, 15% said it has reduced, 5% said it has reduced moderately, 10% said it has lowly reduced and 45% said there is no effectTest of Hypothesis

H01: The most public institutions have not adopted CAIS in carrying out accounting transactions and managing them.

TABLE 11: RELATIONSH	IP B	ETWEEN THE ADOPTION OF ICS AI	ND MAINTE	NANCE C	OST LEVEL	AT KSO	G	
			Effects of adopting ICS on maintenance costs level			Total		
			Very good	Good	Moderate	poor	No Effects	
Maintenance Cost of fixed assets at KSOG	Yes	Count	3	7	2	1	0	13
		Expected Count	1.95	4.55	1.3	0.65	4.55	13.0
		%within level of adoption of CAIS	23.07%	53.85%	15.38%	7.69%	0.0%	100.0%
	No	Count	0	0	0	0	7	7
		Expected Count	1.05	2.45	0.05	0.35	2.45	7.0
		%within level of adoption of CAIS	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
Total	•	Count	3	7	2	1	7	20
		Expected Count	3.0	7.0	2.0	1.0	7.0	20.0
		%within level of adoption of CAIS	15.0%	35.0%	10.0%	5.0%	35.0%	100.0%
L		Source, research data				•	•	•

Chi square=8.00, df=4.0, p=0.092

From the table above it can be seen that the value of chi square test is 8.00 which greater than the value of p which is 0.092 hence the null hypothesis is not true.

H0<sub>2</sub>: That there is no significant relationship in the adoption of CAIS and the quality of accounting information produced.

#### TABLE 12: RELATIONSHIP BETWEEN THE ADOPTION OF CAIS AND THE QUALITY OF ACCOUNTING INFORMATION PRODUCED KSOG

			Effects of ad produced.	Effects of adopting CAIS and the quality of accounting information produced.					
			Highly increased	increased	Moderately increased	Lowly increased	No Effects		
Quality of accounting information produced	Yes	Count	6	3	2	2	0	13	
		Expected Count	3.9	1.95	1.3	1.3	4.55	13.0	
		% within quality of accounting information produced	46.15%	23.08%	15.38%	15.38%	0.0%	100.0%	
	No	Count	0	0	0	0	7	7	
		Expected Count	2.1	1.05	0.7	0.7	2.45	7.0	
		% within quality of accounting information produced	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	
Total		Count	6	3	2	2	7	20	
		Expected Count	6.0	3.0	2.0	2.0	7.0	20.0	

Source, research data

Chi square=5.50, df=4.0, p=0.240

From the table above it can be seen that the value of chi square test is 5.50 which greater than the value of p which is 0.240 hence the null hypothesis is not true.

#### H0<sub>3</sub>: That there is no significance relationship between the adoption of CAIS and performance in the accounting department

#### TABLE 13: RELATIONSHIP BETWEEN THE ADOPTION OF CAIS AND PERFORMANCE IN THE ACCOUNTING DEPARTMENT AT KSOG

			Effects of adopting of CAIS and performance in the accounting department					
			Highly increased		Moderately increased	Lowly increased	No Effects	1
performance in the accounting department	Yes	Count	6	2	3	1	0	12
		Expected Count	3.6	1.2	1.8	0.6	4.8	12.0
		% within performance in the accounting department	50.00%	16.67%	25.00%	8.33%	0.00%	100.0%
	No	Count	0	0	0	0	8	8
		Expected Count	2.4	0.8	1.2	0.4	3.2	8.0
		% within performance in the accounting department	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
Total		Count	6	2	3	1	8	20
		Expected Count	6.0	2.0	3.0	1.0	8.0	20.0

Source, research data

Chi square=8.50, df=4.0, p=0.075

Chi square=8.50, df=4.0, p=0.075

From the table above it can be seen that the value of chi square test is 8.50 which greater than the value of p which is 0.075 hence the null hypothesis is not true.

H0<sub>4</sub>: That there is on significant relationship in the adoption of CAIS and detection of errors and fraud in accounting transactions in public institutions

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	Т	ABLE 14: RELATIONSHIP BETWEEN ADOPT	ION OF CAIS AND	O CASES O	F ERRORS AND FRAU	D KSOG		
			Effects of adopting CAIS on fraud and errors					
			Highly Reduced	Reduced	Moderately Reduced	Lowly Reduced	No Effect	
Cases of fraud and errors	Yes	Count	5	3	1	2	0	11
		Expected Count	2.75	1.65	0.55	1.1	4.95	11.0
		% within Cases of fraud and errors	45.45%	27.27%	0.09%	0.18%	0.00%	100.00%
	No	Count	0	0	0	0	9	9
		Expected Count	2.25	1.35	0.45	0.9	4.05	9.0
		% within Cases of fraud and errors in	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
Total		Count	5	3	1	2	9	20
		Expected count	5.0	3.0	1.0	2.0	9.0	20.0
		%within Cases of fraud and errors in KSOG	25.0%	15.0%	5.0%	10.0%	45.0%	100.0%
		Source	ce, research data		•	•	•	

Chi square=10.00, df=4.0, p=0.45

From the table above it can be seen that the value of chi square test is 8.00 which greater than the value of p which is 0.092 hence the null hypothesis is not true.

#### FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

#### FINDINGS

In relation to adoption of CAIS in carrying out accounting transactions and managing them, 65% of the respondents said that there was use of CAIS in management of accounting transactions and the chi square tested at positive 8.00. In regards to the impact of CAIS in the quality of accounting information produced, it was observed that 65% of the respondents showed that the adoption of CAIS has improved the quality of accounting information produced the chi square tested positive 5.50. to determine the impact of adoption of CAIS on performance in the accounting department, 60% of the respondents showed that the adoption of CAIS in the quality of accounting information produced the chi square tested positive 5.50. In relation to the effectiveness of CAIS in detection of errors and fraud in public institutions, the study showed that 55% of the respondents were of the opinion that CAIS has improved the detection of errors and fraud the chi square tested at positive 10.00.

#### CONCLUSIONS

Research findings show a general understanding of accounting information systems as a tool to improve the public institutions' management of accounting transactions. This implies that if implemented and applied in public institutions CAIS would improve on the quality of information, error and fraud detection and high efficiency in management of accounting transactions in these public institutions. This is attributed to the fact that most of the respondents have worked in the in the institution for a period of more 2-3 years as such seen the application of CAIS being effective in the management of accounting transactions

The research therefore concludes that the adoption of CAIS on management of accounting transactions has led to high efficiency and reduction of errors and fraud, also the quality of accounting information produced has increased. Public institutions should therefore ensure fully adoption of CAIS to ensure effectiveness in their accounting transactions.

#### RECOMMENDATIONS

The existing CAIS in public institutions prove to be of much importance regarding the management of accounting transactions. The implementation of these systems can therefore ensure quality in management of accounting transactions in public institutions which in turn ensure smooth running of public institutions. The adoption of CAIS is a continuous process which should be continuously implemented to promote the day to day running of public institutions. The issue of proper management of accounting transactions should be encouraged in all public institutions as a way of ensuring that those transactions are well recorded, there operations are delegated to responsible personnel. The error and fraud level in management of accounting transactions should be kept as low as possible to ensure that transactions in public institutions are managed well.

#### RECOMMENDATIONS FOR FURTHER RESEARCH

The study was carried out only in one type of public institution, that is, KSOG. We therefore recommend that further research should be carried out in all of the public institutions in Kenya to determine whether the accounting transactions are well managed

The research also only focused on the management of accounting transactions in public institutions but did not research on other activities that may affect the institutions. We therefore recommend that research should be undertaken on other activities to determine whether they are run as intended

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