

**ASSESSING THE IMPACT OF COMPUTERIZED ACCOUNTING SYSTEM
USAGE ON ORGANIZATION PERFORMANCE IN TANZANIA:
CASE STUDY ON LGAs IN ARUSHA REGION**

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**A Dissertation Submitted in Partial Fulfillment of the Requirements for the
Degree of Master of Science in Accounting and Finance (MSc. A & F) of**

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CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance by the Mzumbe University, a dissertation entitled “*Assessing the Impact of Computerized Accounting System Usage on Organization Performance in Tanzania: Case Study on LGAs in Arusha Region*” in partial/fulfillment of the Requirements for award of the degree of Master of Science in Accounting and Finance (MSc. A&F) of Mzumbe University.

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DEDICATION

This work is dedicated to all academicians, policy makers and other stakeholders in the academic world. I also dedicate this work to my lovely family.

LIST OF ABBREVIATIONS AND ACRONYMS

CAS	Computerized Accounting System
CDF	Cumulative Distribution Function
CEO	Chief Executive Officer
DCs	Developed Countries
DoI	Diffusion of Innovation
ERP	Enterprise Resource Planning
FMIS	Financial Management Information System
ICT	Information Computer Technology
IDT	Innovation Diffusion Theory
IT	Information Technology
TAM	Technology Acceptance Model
LGAs	Local Government Authorities
MLE	Maximum Like hood Estimate
LPM	Linear Probability Model
PEOU	Perceived ease-of-use
PU	Perceived usefulness
SMEs	Small and Medium Enterprises
UTAUT	Unified Technology Acceptance User Theory
GAAP	General Accepted Accounting Principle

ABSTRACT

Information communication technology on computerized accounting system was intended to be effectively utilized in local governments to bring impact in the accounting and organization performance in LGA`s. This study aimed at assessing the impact of computerized accounting system usage on organization performance in Tanzania with special focus in local government authorities (LGA`s) in Arusha Region. The study used mainly primary data from 90 respondents selected using purposive sampling techniques. This study employed both descriptive analysis and regression analysis. A probit model was used to examine the relationship between computerized accounting system and organization performance.

Under the descriptive analysis the study found that, all respondents surveyed in the LGAs use Computerized Accounting System. About 42% of respondents use Epicor in accounting system in organization, 30% use Excel, 21% use Tally, and the remaining 7% use Pastel. There was a significant difference in the means of the four groups of users of accounting systems with higher performance being associated with Epicor users. On the challenges encountered with the use of computerized accounting systems, it was found that 39% of respondents complained that CAS necessitate training to staff, 26% reported that computerized accounting system caused loss of data, 21% are challenged with the associated additional costs, and about 14% claimed it has resulted into wrong data entry. About 61 per cent of respondent reported that the organization is taking measures to overcome these challenges. In investigating the factors that are considered in choosing the accounting software, it was found that about 57% of respondents consider cost of training, 23% claimed initial cost of installation, and about 20% consider the acceptance by users.

The Probit regression results indicate that, Marital Status, Education, Experience, Awareness, Training, Access to Use, and Other Use are significant factors influencing organisation performance in LGAs in Arusha. This implies that government should capitalize in providing trainings to its employees to keep them updated with the changes in technology so as to achieve higher performance.

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CHAPTER ONE

INTRODUCTION

1.1 Introduction

The statement of problems, objectives of the research, also the significant of the research, organization of the study, those information related to the background of the study presented by introductory chapter.

1.2 Background of the Study

Condition which a role to another renders account to another its judgments made with adequacy of performance called accountability, said that performance is linked to accountability. Kogan (1986) . Lerner and Tetlock (1999), equate accountability not only to reporting but also to the justification of performance, and they continue to explain accountability as the understood and unambiguous prospect called upon to give good reason for one's faithful, feelings and actions to others.

Computerized accounting system (CAS) was introduced in Tanzania Public Institutions in 1992, when the government evaluated several computerized aspects of professional deals on financial management functions and that help them to move from using manual accounting software towards an automated system. Always improvement in performance in the financial department hassled to increases significantly (World Bank, 2002). Before the introduction of computerized accounting system the accounting practice was performed manually. These accounting records were prepared manually, however, nowadays many accountants desire to use the application of software to enter transactions in the books of accounts, statements and make their analysis of their organization financial information. The information were collected from transaction records and made their compilation into financial position (Weber, 2011). Frankwood (2009) elaborates more about the impact of computerized accounting system on accounting records in local government be measured by the degree to which the local government has been in execution to use of CAS.

The CAS deals with recording accounting transactions using computer through various accounting packages and stored in a database. The users of that database prepare reports accurately. The fundamental of computerized accounting system includes all the basic requirements of any database learning. The application of computer system helps the simplification, integration of all business processes, cost efficiency and helps to present exactly all the business undertakings to stakeholders of financial reports.

Due to rapid changes in technology, many organizations prefer to track monetary transactions with computerized software. So, Morivic (2009) contended that computerized utilization offers assistance to limit human mistakes ,loss of monetary exchange in computer, using computerized accounting system was the safest rather than keeping financial activity manually by using ledger transactions. The presentation of automated bookkeeping framework creates great and exact budgetary report for both administration and outcasts for decision making. Computerized accounting system spread all over the world globally in business environment in which the computerized accounting became the engine of growth in business organizations. This provides a number of benefits such as speed of carrying out routine of transactions, timelines, quick analysis, accuracy and reporting.

Main computerized accounting system used in local government authorities in Tanzania is EPICOR 9, MS exel, TISS, Pastel, Tally, and Quick book. Accounting is an essential part of any business, large or small owners, profit making or not for profit organizations. Many LGA`s did their accounting manually and they were satisfied. Others may be considering using a computerized system, since accounting software was most affordable.

Local Government Authorities (LGAs) are not for profit civil society organizations created with the mission of addressing the underserved aspects of national life and development. Over the last decade there was remarkable growth of LGAs in the developing world. Cook (2003) emphasized that many donors view the LGAs as a better alternative to governmental agencies in getting services and assistance to

those computerized accounting system, purposely in countries that are in weak position in terms of political favoritism and corruption.

Several studies on computerized accounting system and organization performance was conducted in the organization to investigate the impact of computerized accounting system on preparation and publishing of financial reports (Imeokparia and Olajire, 2013). In Tanzania, Oladipupo and Ajabe (2013) provide empirical evidence on the existence of computer based accounting system in Local government; Otieno and Oima (2013) examine the effect of computerized accounting system on audit risk management in public enterprises; Yaser (2013) investigated the effect of computerized accounting system in income tax departments to check the effectiveness of tax audit and collection; and El-Dalabeeh (2012) looked into medical services to understand how computerized accounting information system is used to reduce costs of medical services.

Little has been done on Computerized Accounting in Organization performance at a Local Government level whereas, this study intended to assess the impact of computerize accounting system usage on organization performance in Tanzania with a special focus on local government authorities (LGA`s) in Arusha Region.

1.3 Statement of Problem

Currently, local government authorities took different measures to develop efficiency in accounting practices including switching to computerized Software in accounting as a result has increase the efficiency and improved compared to those years when accounting was manual (URT, 2003). There are also several challenges in information communication technology with regard to computerized accounting system including information communication technology which drives computerized accounting system CAS being concentrated mainly in Dar es Salaam as noted by URT (2003). There were many difficulties in adoption of information communication technology on computerized accounting system in Tanzania. According to Nfuka (2012) noted that the bureaucracy and lower managerial autonomy in local government limit the freedom for organization performance, due

to complexity legal regulatory lead to difficulties in embedding the application of computerized the accounting system in local government. The Problem was some local government used manual accounting system which associated with large number of books which create transaction errors in recording large number of transactions. The use of manual accounting system is attributed by lack of expertise knowledge about computerized accounting system in LGA`s. Information communication technology on computerized accounting system was intended also to be effectively utilized in local governments to bring impact in the accounting and organization performance in LGA`s. Moreover, few studies have been done on the effects of computerized accounting systems in local government and the quality of financial reports like a study by Mwaura (2013). Otieno and Oima (2013) study the implementation of the computerized accounting system in Kisumu, Kenya. No studies done about assess of the impact of computerized accounting systems usage on organization performance of LGAs especially in Tanzania. Thus, this study intended to fill this research gap by assessing the impact of computerized accounting system usage on organization performance in Tanzania with special focus in local government authorities (LGA`s) in Arusha Region.

1.4 Research Objectives

1.4.1 General Objective

To assess the impact of computerized accounting system usage on organization performance in Tanzania with special focus in local government authorities (LGA`s) in Arusha Region.

1.4.2 Specific Objectives

- i. To assess the level of usage of computerized accounting system in the organization.
- ii. To assess the performance of the organization with respect to adoption of computerized accounting system.
- iii. To assess the challenges encountered with the use of computerized accounting systems in the organization.

- iv. To examine the relationship between computerized accounting system usage and organization performance.

Research Questions

General questions

What is the impact of computerized accounting system usage on organization performance in Tanzania with special focus in local government authorities (LGA`s) in Arusha Region?

Specific questions

Specifically the study attempts to answer the following research questions;

- i. What is the level of usage of computerized accounting system in the organization?
- ii. How is the organization performing with respect to adoption of computerized accounting system?
- iii. What are the challenges encountered with the use of computerized accounting systems in the organization?
- iv. What is the relationship between computerized accounting system usage and organization performance?

1.5 Scope of the Study

The study assess the impact of computerized accounting system usage on organization performance in Tanzania with special focus in local government authorities (LGA`s) in Arusha Region. The study concentrated in Arusha region to represents other regions.

1.6 Significance of the Study

The objectives of the findings is to give knowledge concerned with the effect of computerized accounting system usage on organization performance in Tanzania and help internal and external users in the professional deals with accounting

procedures to know more about the scope of CAS that provide organization performance as well its impact on performance.

According to researcher, the findings of the study can be used by future researchers and some academicians on the same topic. Also the study will help the researcher to partially fulfill his /her requirements for the award of a master's degree.

1.7 Organization of the Work

This work is organized in five chapters followed by references and appendices. The detail of each chapter is described as follows:

Chapter one presents the introductory part which, among others, includes: background of the study, statement of the problem, objectives of the study, scope of the study and significance of the study.

Chapter two presents both theoretical and empirical literature. In addition to that, Conceptual framework is presented in this chapter. The conceptual framework provides the relationship that exists between the variables as refined from the literature review.

Chapter three provides the ideas which present the methodology that was used in carrying out the study. It includes specification of model, the study area, research design, study population, sampling design and their sampling techniques, data collection methods, validity and reliability, data analysis techniques and ethical considerations.

Chapter four focuses on the data analysis, presentation and discussion of the research findings, while chapter five deals with summary, conclusion, recommendations and suggested areas for further research. The last part of this study covers references and the appendices containing instruments that were used in data collection.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter deals with review linked to the study where major ideas presents and discussed the theoretical and literature concerned empirical followed by its conceptual framework. The concept issues which deal with accounting and computer based on bookkeeping shows its benefits under software concerned with accounting done on computerized. The main disadvantages of this computerized softwares based on accounting, it deals with some factors that used to determine the adoption of this computerized accounting concerned with its software. On the other hand, there is impact of computerized accounting which shows the challenges presented on this chapter concerned with accounting done on computerized.

2.2 Theoretical Literature Review

This section dealt with the theories that were important to the subject of this study. The theories included systems theory, positive accounting theory and resource-based review theory that impact on the organization performances.

Definition of Accounting Concept

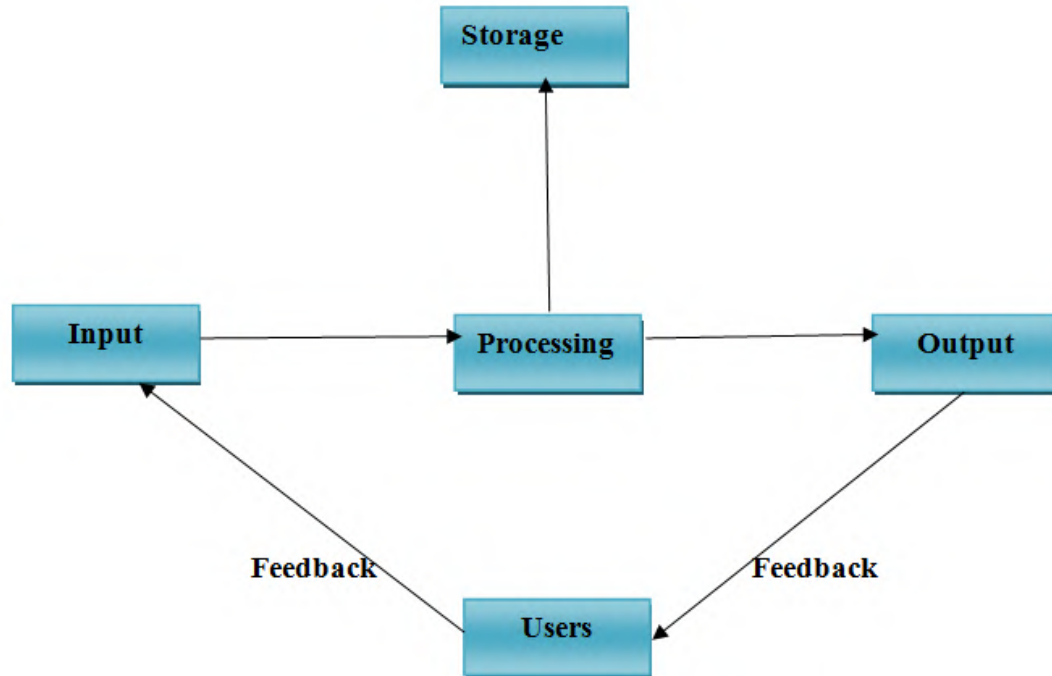
As stated by many accountants' professionals and expert auditors that bookkeeping entailed the business verbal communications which all developed and developing countries acknowledged. Accounting is defined in various ways by many authors. Weber (2011) pinpoints that business owners controlled their organization financial report using accounting procedures. Sacco (2008) gives out more clarification that accounting deals with a system in which financial reports used as the key factors that used by stakeholders as major communication,, summarized, analyzed, and interpreted which facilitated by accounting software, and computer –based like internet pin point by(Bretch and Martin 2006; Marivic 2009,).

2.2.1 Systems Theory

Kaufmann (2010) established systems to explain historical development as a dynamic process and was more fully developed by biologist Bertalanffy (2009). Bertalanffy argued that everything is consisted and therefore, we should study the interconnectedness as a means of understanding the world. The systems theory method of analysis involves, first the deconstruction of what was explained that was the observable fact under consideration, secondly, the formulation of explanation that account for the behavior of properties of the component independently and finally the synthesis of these explanations into an aggregate understanding of the whole. Wide ranging of the theory concerned with system have innovative framework passes through various phases of neglect and ridicules. It obtained from the parallel emergency has rein to the significance of cybernetics and information theory.

According to Gelinas et al .,(2005) investigate that System theory is more relevant to this study because this technique Systems theory is relevant to this study because the methods planned by the theory is the model that is more complex to entities which created by of components by abstracting from certain details of arrangement and component which concentrating on the dynamics that elaborate the characteristics functions, properties and relationship that are internal or external to the system. The process of records, produced to the management to make economic decision combines GAAP procedures used in preparation of financial statement on system which based on CAS . The illustrative figure below relates the CAS to systems theory involves storage, inputs, processing, feedback, and users.

Figure 2. 1: Computerized Accounting System Model



Source: Gelinas *et al.* (2005)

2.2.2 Computerized Accounting

Computerized accounting is known as a total number of components which comprises together all inputs, storage, transactions processing collecting and reporting financial information (Wilson and Sangster, 2010). Nowadays there is an automation of accounting tasks where professional accountants use this system to execute their duties. Financial information on business dealings are recorded, organized, summarized, analyzed, interpreted and communicated to stake holders through the use of the computer and computer-based systems such as the internet and accounting software pinpoint by (Brecht and Martin, 2006; Marivic, 2009).

According to Meigs and Mary (2006) elaborate the connotation of accounting (CAS) as a scheme that applies software to make all process concerned with input, process, store and output under accounting which is used in sequence in form of statement of financial position. Authors have complements of other researchers make clear all bookkeeping done on LGAs under system have many routine of events that all

financial position and increase the performance of LGAs on accurate of transaction on their books.

2.2.3 Positive Accounting Theory

Positive theories used to make more explanation and prediction (what does/ will happen) and are established in empirical data (Ryan et al, 2002). Since they are developed in empirical data, they appear to offer researchers deals with accounting the prospects, the validity of Johnson and Kaplan's (Relevance Lost) criticisms of management accounting practice. This form of research draws on a wide range of theoretical frameworks to address financial management accounting issues. Different research methods and methodologies are not viewed as competing but are rather used together to provide a variety of insights into a wide range of managerial deals with accounting research questions (Ryan et al 2002).

2.2.4 Resource-Based View Theory

The source RBV can be traced back in previous study, Barney (2006) established the strategic concerned with factor markets and the role of expectations can be seen within resource based framework, Barneys framework proved a solid groundwork upon which others might build up, the current vision of business strategy resource-based theory or resource-based view (RBV) of firms is based on the concept of economic rent and the view of the company as a collection of capabilities. This outlook of strategy has a rationality and integrative role that places it well ahead of other mechanisms of strategic resolution (Kay 2005).

The resource-based view (RBV) provide a critical and fundamental insights into why firms with valuable, rare, unique, and well organized resources may take pleasure in superior performance (Barney, 2006). Building on the RBV, Hoopes, Madsen and Walker 13 (2003) recommend a more expansive argument of sustained differences among companies and develop a broad theory of competitive heterogeneity. The Resource Based Views lack of clarity regarding its core premise and its lack of any clear boundary disadvantages fruitful debate.

Moreover the theory lack of specificity, one can invoke the definition-based or hypothesis-based logic. We can also suggest that resources have one potential source of competitive heterogeneity. Competitive heterogeneity can make available for a reasons other than sticky resources (or capabilities) (Hoopes et al. 2003). Competitive heterogeneity refers to a continuation and systematic performance with differences among close competitors. The theory is relevant to this research because help NGOs make its competitive in their performance in order to achieve their main objectives, mission and vision as well

2.3 Determinants of Quality Financial Reports on Organization Performance

This section discussed the determinants of quality financial reports which included computerized accounting systems, leadership and transparency.

2.3.1 Computerized Accounting Systems

A computerized accounting software deals with the software that used to process the work of accounting information systems which developed for the purpose of make work of managerial o become easier in decision making. These are created do to a numbers of advantages such as swiftness of carrying out routine accounting information, appropriate time consumed, quick data analysis, accuracy financial statements and reporting. Effective and efficient information flow, thereby increasing the firm's aptitude to achieve corporate and business strategy objectives (Manson, McCartney, and Sherer, 2001). This in turn help the company to increase the prospects goodwill of the firm's survival (Platt and Platt, 2012). This can be evaluated by the procedures used in recording transactions in the software, and its mechanism were used (Keating and Frumkin (2003).

2.3.2 Leadership

Leadership is the procedures that help to provided social influence in which one person can recruit and provided aid and support the fellow staffs or community accomplishment a certain common task. The important of leadership was to forms the backbone which would help in make improvement strategy in the company. The NGOs board of directors/management committees and management should have

leadership skills and more experience in order to improve the quality of the financial reports. The leader's role is to make promotion on preparation of books of accounts and developing quality financial reports which begins with creating and sustaining a personal and organizational focus on the needs of internal and external needs or users. According to Keating and Frumkins (2003), give more clarification that leadership have three scores as follows board/management committee Independence, board/management Committee Effectiveness and NGO Management Effectiveness. Sloan (2001) said that the financial report is the first source of independent and true communication about performance of company managers.

2.3.3 Transparency

Transparency and accountability mean, making financial statements used by internal and external for those who are not financial specialists but want to be able to read and understand the financial reports. They mean being responsive to those who want to review and want to know your financial records by making them easily available. These two leadership qualities are also characterized by holding dialogues on your budget process and other important vision and mission used to defining events with the policy board, constituents and beneficiaries. These public events help them to have assurance that what your strategic plan want to do is in accordance with what is needed in the operating of the firms objectives. According to Boice ((2004) contistute that accountability refers to financial reports responsibility or operational transparency that requires demonstrating how denoted to the organization are used and how effectively and efficient of the organization is achieving its goals. Transparency can be measured by the openness, honesty and reliability.

2.2.4 Computerized Accounting System Security

As local government authorities become increasingly depend on computerized accounting system in the execution of their operation to make organization to perform effectively, they meet with many risks in their system being compromised. Those risks are available in the form of computer fraud, computer attacks (viruses' attacks like Trojan) and security breach (Grabski and Marsh, 1994). and money related reports are done consequently (Grabski and Marsh, 1994).

Recording of Transactions

All the organization transactions are recorded through computerized system. This accounting transaction assigned with unique code that assemblage of report completed at first stage. This stage helps to disentangle the function of recording keeping in the books of accounts. Marivic (2009) emphasized that using computer software will reduce human being error in recording keeping in accounts .

Trial Balance and Financial Statement

The process of book keeping, data posted into ledgers analysis on the account have automatically analyzed by central processing unit software. The accurate records checks on computer done through trial balance. (Marivic, 2009).

2.2.5 Technology Acceptance Model

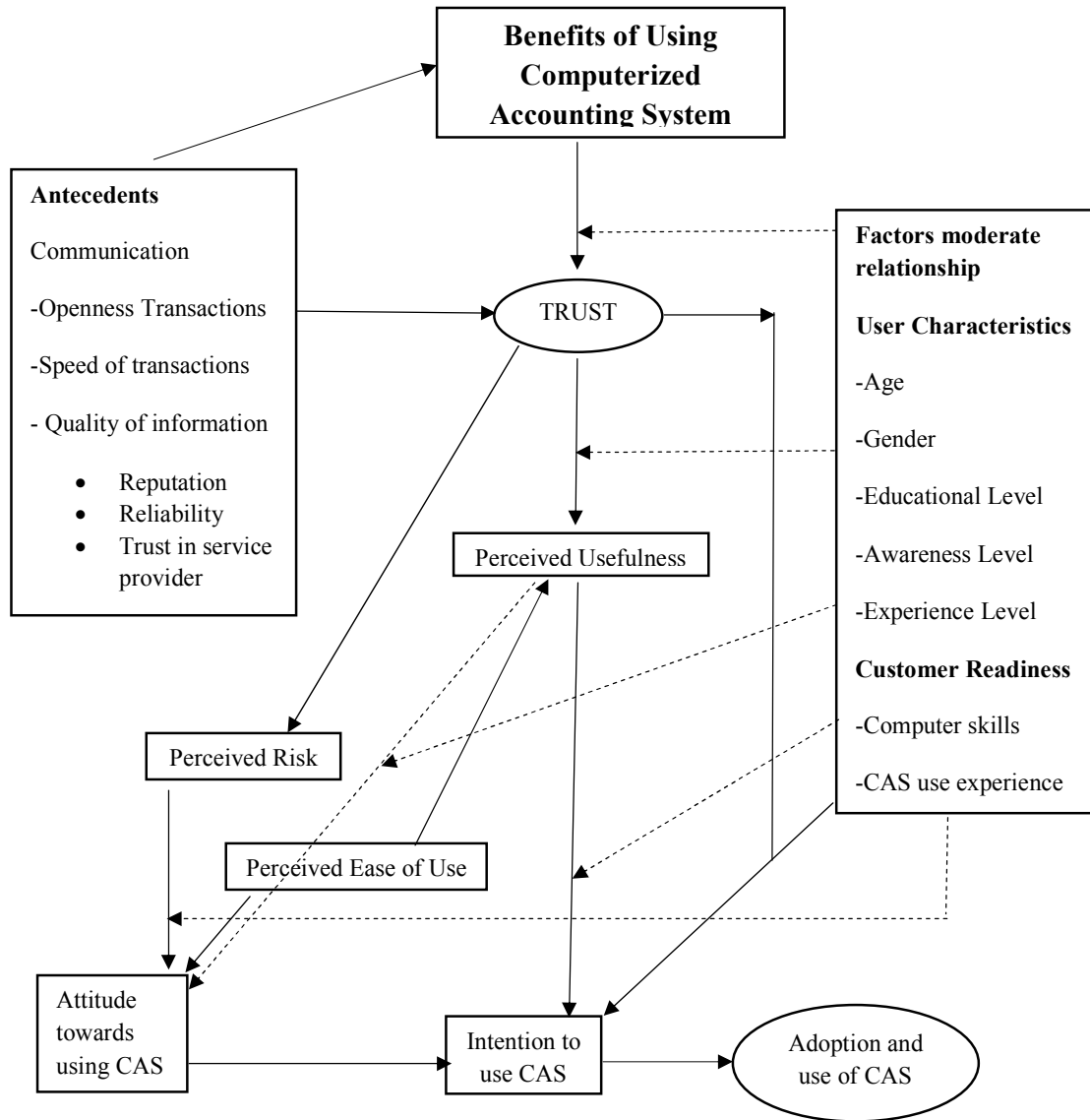
Information system theory deals with the models which the stakeholders accept to use as new technology called TAM. When new technology established insisted the users proposed models to be accepted. Moreover, there are two types of specific factors that power their decision. TAM is the theory that users of models accept and use it as latest innovation. The model suggests that when client are given a most recent innovation, there other two specific factors control their decision concerning model how could be use.

2.2.8 The technology acceptance model

Therefore, TAM demonstrate major useful of theoretical model that helping to obtained more knowledgeable which help to get more clarification how to use behavior in implementing information system. Most of empirical researchers tested this model and find the mechanics used, for the purpose of making deep proving quality to get clear statistical results. Parsimony as one of the strengths of the model observes the major weakness in using this model that there are many obstacles that explained users behavior. The result obtained from shortcoming shows many researchers extended technology. Acceptance Model by making additional construct. to Tobbin (2011) make more clarification about that modeled adoption of CAS in its expansion of TAM and DOI about the consumer behavior towards CAS in Ghana

country. Therefore, Mbogo (2010) for example employed the application of this model thus being extended by using other models that includes perceived ease of accessibility, others known as perceived security and perceived convenience and the last called perceived satisfaction and support. Moreover, Bosire (2012) suggests the method of DOI adaption alongside under model that called TAM help to explained more about factors that support in contribution of successful the availability of new technology. Now the perceived trust and security together with perceived convenience , Bosire (2012) suggests that the application of TAM model have additional factors, as elaborated above.

Figure 2. 2: Technology Acceptance Model



Source: Alfred (2014)

Under Relative advantages a clear level to which the modernization measured improved than the accessible technique of performing the similar job. Has recommended in the theory that comparative improvement has a positive power on behavior objectives. Compatibility is the extent which adopting of the modernizations well-matched with what individuals perform, accessible values, experiences, and requests.

Complexity explain the degree under which innovation used as relatively well matched with those perceived to be understandable and useful. While trial ability elaborate level under which innovation use experiment with difficult before made the creation of implementation the decision . Lastly, observability according to Rogers, (1995) pinpoints that this is the degree which innovation resulted able and being seen to other users.

2.3 Empirical Literature Review

2.3.1 Adoption of Computerized Accounting System

According to Powell and Xiao (2006) has surveyed and observed major UK companies to look out the scope of information communication technology used in LGAs in preparation of their transactions. Most indicators show the degree of computerization software known as CAS in use, applied, workstation to employees' ratio and its years. Those companies have enough knowledge on CAS is about 94%. Under Powel and Xiao's (2006) said that this result shows the scope of using computerized is greater to the big companies rather than those medium companies. Outcomes of other findings in other researchers argued that all firms according to their size have simplicity of CAS determinants. The establishment of Hunton and Flowers (2007) was found by (Thong 2009) where the volume of the firms was been considered negatively correlated with the extent of CAS used in accounting records. The firms expansion attribute to have lower resources and availability of risk barriers as cost of CAS decreased where some of the firms of all size benefits the development of CAS. The firms which are medium can be expanded from the establishment of various small business firms. As commerce subject suggested managers who controlled the company's assets has limited liabilities.

Powell and Xiao (2006) additionally found that about 80% of the organizations are practically or completely satisfied with their CAS based bookkeeping framework . About 90% claims that their destination of CAS application has been completely or practically fulfilled. The outcome discovered that most of the firms had computerized their accounting systems.

The business type and their management awareness depends on how computerized adoption and how it is valued. according to Gray,(2011) said the nature of business has low impact ,where LGAs shows the greater tendency to purchase accounting packages with low price more than those internal and external clients has made order packages (Gray 2011).

According to Chan and Kelvin (2010) institute that 52% of LGAs in Malaysia used accounting software that has already being used while only 9 per cent mass-produced on the outside acquired software packages . This occurs due have lack of skilled people on information technology. The researchers give out his opinion about the combination of LGAs on using both experts and business knowledge. Usually, the LGAs one of the public institution versed to do their business but they professionals on how use accounting software.

2.3.2 Other Factors that Determine the Adoption of CAS in LGAs

Arrivals of authoritative contribute in reducing cost of microcomputers, customers are using computerization to do their task, contribute in large amount of organization put on useful of CAS in current years. The argument of Weber(2011). is to facilitate the management function to motivate their employees about the adoption of computer system concerned with the accounting system. To increase business efficiency and effectively and availability of information on time obtained from establishment of computerized accounting system which help to increase benefits in business enterprises. (DeLone, 2010). Lack of time is another obstacles facing the establishment of computerized accounting system in the organization. As stated by Chenhall (2006),observation of the automated accounting systems are costly. Also, Henry(2007) pinpoints that there was shortage of professionals on CAS stated by Bretch and Martin (2006).

However in this examination the scientists Chenhall and Morris,(2006) research were four components utilized as part of execution CAS in LGAs . those characteristics attributable of the organization's decision makers. Together with quality technology innovation development inside the LGAs. Helped accessibility

of assets utilized a part of LGAs. In large firms the most important was that the characteristics of environment help in business operation of the LGAs, Main attributes of the directors manages all administrative that CAS procedures utilized business group in the substantial firms. The determinant of the firms positions in utilized CAS from the qualities of directorate. Computer self-efficacy, awareness, provision of education.

Gray (2011) elaborate that self-efficacy of computer known as findings of individual's competence in computer in use. Those Businesses enterprises that have CEOs (typically the owner of the business) they undertaken computer seminars and have to possess computer self-efficacy responsible to put into operation. On the other hand, the directors can hinder any valuable CAS improvement through aggression or impassiveness towards CAS. While CAS adoption is to be expected in SME where the Directors find the CAS enthusiasm and experience, the problem is what exact CAS expertise are necessary? However, Chanell and Kelvin (2010) made additional description on the knowledge required to develop CAS. Under this knowledge provide facility that fixes more technical in difficult networked environmental and how business purposes will be integrated to meet firms objectives There other characteristics called technology innovation that has significance, that shows the determinant in CAS adoption decision.

According to Honig (2009) pinpoints how the desirable of the innovation characteristics has relative advantages. The desirable of choosing characteristics of an innovation was better than those relative in terms of it relative advantage, which have the combination of compatibility that makes it to be complexity and there were other additional that was observability, trainability. Relative advantage elaborated as technology that perceived better as compared to others. Compatibility shows how innovation needs to have more reliable to perceive. All in all innovation become complicated in perceived use, learned and in use; observability means how one scrutinized the outcome of innovation to others, while trainability show how innovation is greatly for prior execution its experimented.

Different factors that impact the choice whether to execute CAS known as characteristics of the association. This incorporates the volume of the business, show the number of employees' level of CAS learning, more to comprehend the information data with industry segment activities. To have large number of employees help the firm to get more data about the business deals in industry, and how to receive CAS modernization being concentrated in business (Chan and Kelvin,2010).

The acknowledgement of Chan and Kelvin (2010) demanded that through resources poverty business has changes and adoption of new technology utilized as terms of preparation firms financial capacity . Ensure the accessibility of time and experts representative to facilitate the adoption of innovation. Most obstructions that hinder the development of innovation adoption in business includes those resources poverty that is one of the element that impacted the CAS selection a related firm.

Characteristics of the Environment: Is where firms operate by following the variables concerned with those competitors and internal and external agents. The recognition of Gray (2011) is that competitors and all stakeholders depend on competition leads to modern technology implementation. The business agents divide into two categories internal and external where the study indicate that higher implementation of CAS in business has high rates of the external agents, those agents are elaborated as wholesalers, franchisors ,and trade association.

As another specialist in research Herman (2006) contended that business clients were vital motivated to make execution of CAS to beat their arrivals .The position of Public Practice Accountants is distinctive and extremely exceptional ,its capacity is demonstrated investigation of accounting system concepts like GAAP ,make more elucidation and strong counsel to their customers dispersing the measure of contracting opted among various clients.

2.3.3 Impact of CAS in LGAs

According to McBride (2000) pinpoint that software used in computer produce all types of financial management information quickly such as financial plan and variation. For decision making data dispensation and make analysis done in accuracy in time with more perfect hence availability of neat information that meet managers requirements(Wood 1999).

Indira (2008)well-defined the business performance progress as the outcome of computer software in accounting which is highly integrated with the application used to transform the business function under performance enhancing features which deals with inventory control, accounting concepts and financial reporting. Mc Rae (1998)insisted that it helps the availability of faster information and decision done quickly in the company. The power of CAS on research, financial reporting associated to the advantage of using computer software in generating information. The most important in increase the transaction records has needs more time to create information that is consistent and how to manage to control data related in accounting on real time .To obtained quality financial reporting the professional accountants should use computerized in order to make the accurate reports. Carol (2002) state the office competence increased by computerized general ledger, payroll, and other accounting tasks in business organization. The credibility of CAS in backups and speed provided made availability of up to date account balances in time for management decision making. In saving time hence to obtained financial reports which has more reliable and neat information (Lewis,1999).

Adesoju who conducted a study on internal control found that coming of computer help the management to make improvement in transaction preparation which facilitates the function of accounting procedures done easily ,while control function more difficult due to the application of the system. Under using proposed security author Abu Musa conducted a research which used to examine the perceived security virus of CAIS IN Saudi enterprises the result of this study observe that half of the respondent suffer on financial losses caused by security

breach of stakeholders under internal and external users. This threat constitutes a virus called malicious in IT such as worm email, spam, spyware, adware and Trojan horses.

The conclusion of the study revealed that there are an unplanned and more intentional entry of bad data such unintended destruction of those data done by employees when they are sharing their passwords, where the LGAs advised to purchase the computer viruses to protect CAS ,has used to control the output to be lost, obtained unauthorized document visibility, availability of disseminated wrong information to individuals who are not part of the system received which are most significant on perceived security threats.

According to Okoye together with Oghoghomeh (2011) conducted a research which deals with the impact of CAS on audit function done externally. The discovery of findings in the that study saw that though the auditors has knowledge on computer make significant different on performed his efficient audit using CAS in LGAs where certain used to serve as limitation to perform its effectiveness . Moreover, other author like Mohamed and Tahri done a study on the CAS adoption on Small Medium Enterprises in Malaysia countries and the performance of using computerized software in their country is very high in SMEs. Also, the findings obtained from the study showed the high innovativeness of the Directors in the SMEs contributed by using CAS

The research that conducted by Daoud and Triki (2013) observe that most people who use computerized accounting information system in their organization has great proactive to promote the performance of business in the firms. The aim of this research was to know more about the influence of using computerized in preparing accounting information that is valid in an ERP environment which creates the performance of the enterprises. Under this performance the researcher found there is competence who has positive impact on making development to increase business performance on the organization.

Like wise the Rajeshwaran and Gunawardana (2008) pinpoint that the objective of the study was to examine how security control in using CAS in Sri Lanka has made the availability customers of the system used in accounting preparation has increase more competition which forced many enterprises to use CAS and still remain on the competitive position were unavoidable threats of CAS can be avoided according to environmental position The outcome of the research emphasized a lot of numbers that cause the adequate of CAS implementation of security control which have developed from listed organization regarding the establishment of security control in the companies departments. There are some recommendation given from different authors that help to make stronger breaches of viruses on CAS in the listed enterprises. The retaining of the level which has the highest on CAS is to establish the procedures that keeping human resources department, software's, hardware together with equipment on CAS. In companies sector needs to develop work that measures the impact of CAS to lower the cost attributed in implementing that software, this has been recommended by different researchers.

According to researcher called Alshebeil (2010) conducted the study that classify the future function of CAS in different LGAs in making competitive to outsiders that have detriment for Jordan that have many commercial bank surrounding them, that its consummate has statistically which considered as impact about its financial information system needs in achieving the degree of how to make improvement in pricing process and to find the way of reducing cost when they provide service in banking . The research which conducted by (Amveko 2011) its objectives was to discover the impact concerned with financial reporting and conducted a research that CAS in reality has power on implement the quality and accurate of financial report for advertisement purposes. Researchers observed that CAS developed financial reporting which show the efficient of the company progress.

Moreover, El-Dalabeeh (2012) prepare a research that intended to make more clarification about the character of CAS using in computerized find the way of reducing medical costs to the services provided at higher learning of King

Abdullah University Hospital, conclude that CAS play an important roles to lower costs in organization of medical services as compared with those organization not have software system. According to Polo (2013) who conducted a research explain the effect of CAS provided on audit concerned with risk management in public enterprises, result of the research discovered that there is improvement of CAS functions in LGAs

Okoye and Gbegi (2012) scrutinize the impact of CAS on services provided in the banking sector. Where the finding showed that this system provides guarantees that are more reliable in banking sector. The recommendation of the researcher emphasized that banks ensure their employees have more knowledge in about the system to make efficient and increase the successful through using CAS.

Amidu (2013) argued that the investigation of e-accounting operates in Ghanaian SMEs has more competitive compared with other enterprises. Those professional levels which has Chartered Accountant and degree level are handled accounting information in SMEs stated by researcher. In generating financial accounting the majority of the companies use software that provide accounting function this showed by the researcher. These software help to reduce cost, clerical works, also provide the services of data storage and provide accurate information for management decision making at reasonable time. The researcher insisted that Most of SMEs use software done its function for the purpose of making receivables, payables and preparation of payrolls, inventory counting according to management procedures and fixed assets and cash that help management to know the organizations positions. The greater part of the SMEs suffer distribute goods due to shortage of electricity which hinder the function of accounting system. Most of SMEs fulfilled with the accounting system operation performance. The researcher suggest that to increase good standard, SMEs in Ghana needs to improve their accounting principles to its operation.

According to Polo and Oima (2012) prepared a research to examine how CAS being effected public companies on audit risk management at Kisumu in Kenya country. The result of the research identified risk associated with information system areas have risks that breach the security system that the information provided to obtained inadequate system.

Like other authors, Abdallah (2012) conducted a research give more clarification about the impact of using accounting information system on provision of quality report prepared annually. In LGAs the study found there is existence of forces after the operation on accounting information system used on providing quality of financial report. Most of these the researcher recommended that most of professional should focus to improve the devices function on accounts department, provide training to LGAs staff.

Breen (2003) conducted a study to investigate small business enterprises if there is any disturbance that hinders SME migrating on usage of computerized accounting system. This surveyed done by two groups of SME. The study found the improvement of having knowledge about obstacles that hinder the use of a CAS in the organization.

2.3.4 Usage of Computerized Accounting Systems

Computerized is the use of computer programming used to enter, process store, and yield accounting information .This application is in help of the always propelling innovation that empowers firms to use computer programs to perform tasks that have already done manually .A CAS includes the bookkeeping data framework which are built to encourage organization in decision making. These are related with various points of interests like speed of completing routine of record keeping, appropriateness, quick analysis, correctness and reporting.

According to Larson and Pyle (1988) argued that the business use accounting procedure in recording transaction in the firms through papers, records, and reports to their possessions on financial reports. As stated by Collins and Collins (1978)

insisted using the accounting system as a way of record keeping of transactions. Money is one of the components that use receipts in organization received as cash basis.

This is used on daily basis and asked for every time when the company spends. Accountability for non-profit organization is both a legal and ethical requirement for organization that use resources received to further their charitable mission. Accountability may encompass a full report of activities as well as validation for the way resources are managed. (Gordon et al 2010).

Moreover, the researcher Welsch and Short (1987) elaborate more about accounting system according to the size of the organization, designed in making collection and process its report on periodic financial information as entity procedures. Keating and Frumkin (2003) said most LGAs depend on donors to obtain funds and hence poorly managed their accounting software and in improper way. It seems that many LGAs lack of qualified accountants that cause the big problems in preparation of accurate financial report that can be available on time which is the objectives of donors requirement. As insisted by Ebrahim notes there are many LGAs respond to issue of accountability with both tools processes internal and external create tools that are significant leverage over LGAs like government regulator as well as donors. Those tools elaborated as annual reports include financial accounts, performance assessments together with quarterly reports and independent evaluations and audits.

Schnelder (1989) makes more explanation about the heart of fiscal management, is to obtain good accounting software in organization that is suitable to the firms. To have good standard on financial accountability they should have accounting software practices. To determine the effectiveness of financial reporting report the firms must understand its objectives. (Keating and Frumkin, 2003).

2.3.5 The Challenges Encountered with the Use of Computerized Accounting Systems

There are many challenges obtained when using computerized software even though there are many advantages in operating CAS in the organization. Lack of time, is one of impediment that hinder the implementation of CAS. Other was owner –manager’s view said that computerized accounting system is costly to make installation (Proudlock et al,1999) , Moreover (Head 2000) judgment that using software not suitable to the business environmental operated ,the lastly is lack IT experts elaborated by (ABS 2000; Burgess 1998).

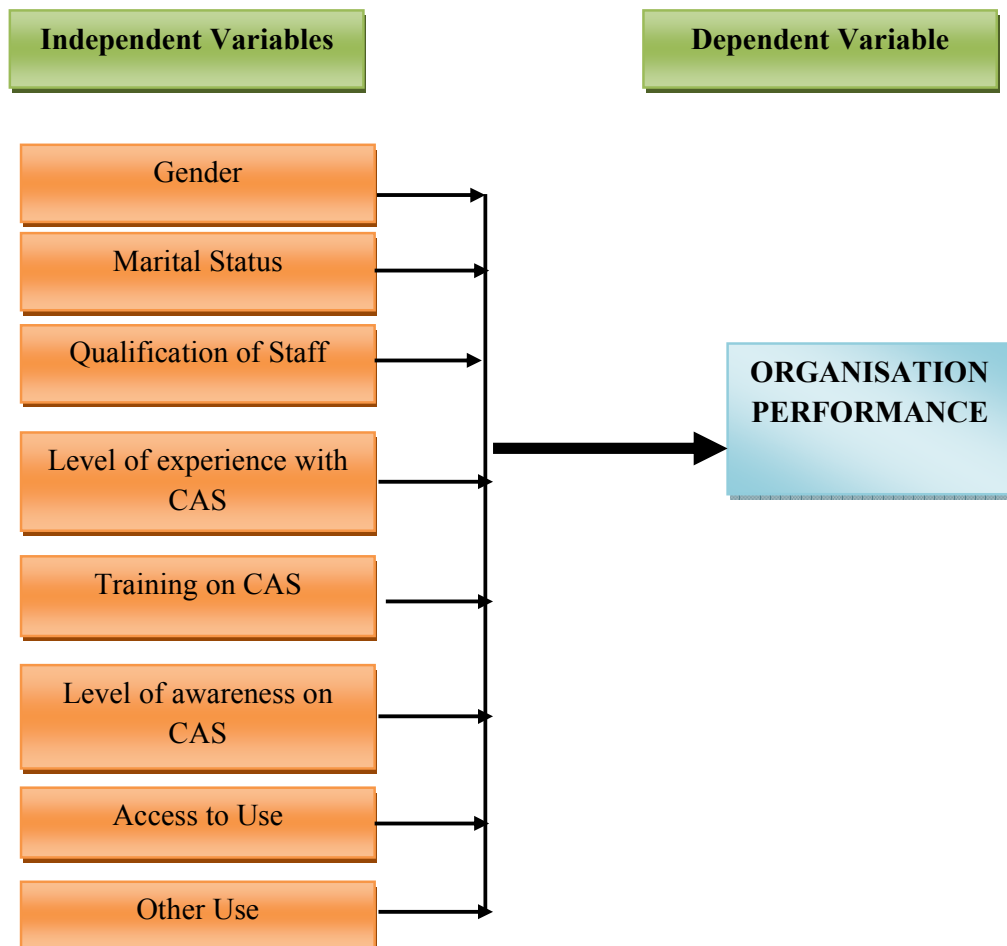
As stated by Meigs (1986) insisted that there are many risks caused by improper human intervention under-utilized of the computer software and files, since staff in LGAs may discontentment with this program and records for aim of deliberately falsifying information obtained from accounting. This results in distortion of available information that could be important for management used in decision making.

All in all, computerized accounting systems appear to have significant influence on the quality of financial reports from previous empirical studies, Present review of literature shows that studies in Kenya have only attempted to evaluate the implementation of computerized accounting systems on organizations, other studies related the governance with financial reports, the gap exist in that not sufficient studies has gone to the depth of studying the LGAs concerned with the impact of computerized accounting system usage on organization performance. The literature review linked to the study where a lot of studies conducted the study about the impact of CAS on efficiency, effectiveness that used in contributing performance obtained from accounting function in LGAs .However, there are few researchers conducted the study about the impact of CAS on organization performance in LGAs. As a result, there is a knowledge gap this study aimed to fill.

2.4 Conceptual Framework

A conceptual framework explains the relationship between eight (8) independent variables, and one (1) dependent Variable (Mugenda and Mugenda, 2003). In this study the independent variables shows the Impact of Computerized Accounting System Usage, meanwhile Organization Performance stands as dependent variable are illustrated below.

Figure 2. 3: Conceptual Framework



Source: Author (2017)

2.5 Hypothesis

Ho: Usage of computerized accounting system has no impact on organization performance.

Hi: Usage of computerized accounting system has positive impact on organization performance.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter gives elaboration on the overall process from how the data were collected and how were analyzed. Sub-sections covered are study area; research design; study population; sampling; data collection; analytical technique; model specification; and ethical consideration.

3.2 Area of the Study

The study area was Arusha region whereby members of staff of LGAs specialized in Accounting in Arusha Region were surveyed. The area was chosen since it is one the cities in Tanzania and for convenient reasons made the researcher gets the desired number of respondents.

3.3 Research Design

The study makes use of descriptive survey research design. The descriptive survey research refers to as scientific method where by data is gathered without altering the setting and this includes surveys and investigations of various forms, targeting to get evidence that reveals prevailing phenomenon (Mugenda, 2003). The key drive of descriptive research design is to define the phenomenon as it exists currently (Kothari, 2003). This design was also applied by Kasimbu (2007) and the design used primary data. The reason for using this design is that, it sees the sights of the prevailing status of two or more variables at a particular time.

3.4 Study Population

Kothari (2006) provided the meaning of population. According to him population represent whole group of individuals, objects or events with a joint visible feature. This means all basics that make up a firm criteria for insertion in a defined universe. This study comprised the employees of LGAs Organization in Arusha Region who are involved in Accounting.

3.5 Sampling Design and Procedure

3.5.1 Sampling Techniques

Kothari (2006) made clear that sampling is the collection of some parts that used to present the all respondents based on judgment or suggestion about a whole is made. In other words it is a process of deriving sample from the population. Kothari (2009) further defined sample design as an assured strategy for attaining a sample from a particular population. . There are different types of sampling but for the case of this research, a purposive sampling method is employed. The researcher purposely selected respondents from LGAs in Arusha Region involved in accounting.

3.5.2 Sample size

The sample for the study is made up of 90 LGAs workers dealing with accounting in Arusha Region. They were selected through a non-proportional quota sampling which is the non-probabilistic analogue of stratified random sampling methods normally used to guarantee that smaller groups are sufficiently represented (Mugenda, 2003). The method was suitable since it was flexible and adequately met the objectives of study.

3.6 How Data Collection done

This study essentially collected primary data using questionnaires. The questionnaire was divided into two sections. Section “A” was about computerized accounting system and section “B” dealt with computerized accounting system security.

3.6.1 Questionnaire

A questionnaire concerns with a sequence of various questions which are structured and or open ended. The study used both in order to capture all information needed for the study.

3.6.2 Documentation

The researcher used this method for the purpose of collecting data or information that is ready processed from numerous have different documentation such as , articles, magazine, and processed reports associated with many issues dealt with

this study. This facilitated the researcher to make things easier in accomplishing the tasks using information that has already collected.

3.7 Data Analytical Techniques

The data were collected and analyzed using both quantitative and qualitative data analysis methods. Quantitative method makes use of both descriptive and inferential analysis. Descriptive analysis involved the use of frequencies and percentages to present quantitative data in form of tables and graphs. Data from questionnaires were coded and logged in the computer using Statistical Package for Social Science (SPSS). This involved coding both open and closed ended items in order to run simple descriptive analyses to get reports on data status. Descriptive statistics involved the use of absolute and relative frequencies, measures of central tendency and dispersion. STATA was used to run the probit model and the related diagnostic tests.

3.8 Model Specification

3.8.1 Specification of Probit Model

This study employed Probit Model (PM) to examine the relationship between computerized accounting system and organization performance. Probit is used to model binary dependent variables. The dependent variable in this study is binary in nature, with a value 1 or 0. The value 1 indicates high performance and 0 indicates poor performance. A similar study by Kaplan and Mackey (1992) also used probit model to evaluate the performance.

Linear Probability Model (LPM) has limitations, and these include the problem of producing predicted values outside the range of 0,1 and therefore going contrary with the basic norm of probability that restrict the range to be between zero and one. In addition, LPM is faced with non-constant variances problem, meaning that sub-populations may have diverse variability from others (Cameron and Trivedi, 2005). The following equation is the representation of Linear Probability Model (LPM):-

$$P_i = E(Y = 1|X_i) = \beta_1 + \beta_2 X_i$$

Where; $Y= 1$, if an organisation has high performance and $Y=0$ if an organisation has poor performance, X_i are explanatory variables and B 's are parameters.

Probit and Logit Models are being recommended as a remedy to problems associated with Linear Probability Model. Both Probit and Logit Models use Maximum Likelihood Estimation (MLE) procedures. However, in this study Probit Model was used. Cakmakyapan and Goktas (2013) pinpoints that, logit model is more appropriate to larger sample size at least 150 while Probit model is more appropriate to small sample size even between 40 and 100. In this study the sample size is 90 respondents and that lead the option of Probit model to be chosen. The other reasons of using the probit model comprise believable error term distribution as well as realistic probabilities (Nagler, 1994). A similar study by Kaplan and Mackey (1992) also used probit model to evaluate the performance with a sample size of 47 firms. Again Brown *et al.* (2015) used primary data similar to this study to measure workplace performance in three measures which are financial performance, labor productivity and product or service quality.

The response variable Y is *binary*, that is it only two possible outcomes which we denote as 1 and 0. Y is 1 if an organisation has high performance and $Y=0$ if an organisation has poor performance. X_i are explanatory variables. Specifically, we assume that the model takes the form:

$$P_i = E(Y = 1|X_i) = \beta_1 + \beta_i X_i$$

Where P_i denotes probability that an organisation has high performance or not, and Φ is the Cumulative Distribution Function (CDF) of the standard normal distribution. The parameters β are typically estimated by maximum likelihood.

$$Y^* = X^T \beta + \epsilon$$

It is possible to motivate the probit framework as a latent variable model. Suppose there exist an auxiliary random variable.

$$= Y \begin{cases} 1 & \text{if } Y^* > 0 \text{ i.e. } -\varepsilon < X^T \beta \\ 0 & \text{otherwise} \end{cases}$$

Where $\varepsilon \sim N(0, 1)$. Then Y which represents an organisation with high performance or not can be viewed as an indicator for whether this latent variable is positive:

$$\begin{aligned} \Pr(Y = 1|X) &= \Pr(Y^* > 0) = \Pr(X^T \beta + \varepsilon > 0) \\ &= \Pr(\varepsilon > -X^T \beta) \\ &= \Pr(\varepsilon < X^T \beta \text{ (bysymmetryofthenormaldist)}) \\ &= \Phi(X^T \beta) \end{aligned}$$

The use of the standard normal distribution causes no loss of generality compared with the use of an arbitrary mean and standard deviation because adding a fixed amount to the mean can be compensated by subtracting the same amount from the intercept, and multiplying the standard deviation by a fixed amount can be compensated by multiplying the weights by the same amount.

Gouriéroux (2000) noted that for each explanatory variable, there are two types of marginal effects in binary dependent variables models. The first type of marginal effect is marginal Index effects which is the partial effects of each explanatory variable on the probit index function $x_i^T \beta$. If X_j is a continuous explanatory variable, marginal index effect of variable X_j is given by:

$$= \frac{\partial E(Y_i^* | X_i^T)}{\partial X_{ij}} = \frac{\partial X_i^T \beta}{\partial X_{ij}}$$

X_j is a binary explanatory variable which is a Dummy or indicator variable. The marginal index effect of a binary explanatory variable equals to the value of the index function when $X_{1i}^T \beta = 1$ and the other regressors equal fixed values minus the value of the index function when $X_{0i}^T \beta = 1$ and the other regressors equal the same fixed values. The marginal index effect of the dummy variable X_j is marginal index effect of X_j

$$= X_{1i}^T \beta - X_{0i}^T \beta$$

The limitation of the Marginal index effects is that they are difficult to interpret and impossible to measure the latent dependent variable Y_i^* which whether an organisation has high performance or not.

The other effect is Marginal probability effects which are the partial effects of each explanatory variable on the probability that the observed dependent variable $Y_i = 1$, in probit models are given below:-

$$\Pr(Y_i = 1) = \Phi(X_i^T \beta) = \text{standard normal c. d. f. evaluated at } X_i^T \beta.$$

If X_j is a continuous explanatory variable

$$\text{Marginal Probability effect of Variable } X_j = \frac{\partial \Pr(Y_i = 1)}{\partial X_{ij}} = \frac{\partial \Phi(X_i^T \beta)}{\partial X_{ij}}$$

Using the chain rule of differentiation, we obtain a general expression for the marginal probability effect of a continuous explanatory variable

Marginal Probability effect of X_j

$$= \frac{\partial \Phi(X_i^T \beta)}{\partial X_{ij}} = \frac{d\Phi(X_i^T \beta)}{d(X_i^T \beta)} \frac{\partial (X_i^T \beta)}{\partial X_{ij}} = \Phi(X_i^T \beta) \frac{\partial (X_i^T \beta)}{\partial X_{ij}}$$

Where;

$$\Phi(X_i^T \beta) = \frac{d\Phi(X_i^T \beta)}{d(X_i^T \beta)} = \text{the value of standard normal p. d. f. at } X_i^T \beta.$$

$$\frac{\partial (X_i^T \beta)}{\partial X_{ij}} = \text{the marginal index effect of } X_j$$

If X_j is a binary explanatory variable or a dummy or indicator variable, the marginal probability effect of a binary explanatory variable equals to the value of $\Phi(X_i^T \beta)$ when $X_{ij} = 1$ and the other regressors equal fixed values minus the value of $\Phi(X_i^T \beta)$ when $X_{ij} = 0$ and the other regressors equal the same fixed values

The marginal probability effect of the dummy variable X_j is

$$\text{Marginal Probability Effect of } X_j = \Phi(X_{1i}^T \beta) - \Phi(X_{0i}^T \beta).$$

3.8.2 Variables Used in the Model

This sub section provides the variables chosen, their measurements and the expected signs when applied to Probit Model (see Table 3.1). The model showing variables used in the model is simply known as economic model.

The Economic Model is specified as follows;

$$Y_i = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8)$$

X_1 =Gender

This is the sex of the respondent. It was measured as 1 if male and 0 if female. There is no clear relationship in the literature that show which gender bring more impact on organization performance regarding CAS.

X_2 =Marital Status

This is whether the respondent is married or not. It was measured as 1 if married and 0 if otherwise. There is also, no clear relationship in the literature that shows how marital status of worker brings impact on organization performance regarding CAS.

X_3 =Education

Relationship between qualification of staff in computerized accounting system and organization performance, according to Cole and Cole (2005) who conducted a study reported that there is positive correlation between the job attitudes of their staff and the organization performance. Moreover, the meta-analysis done by Harter and Hayes (2002) found that there is positive relationship between qualification staff and organization performance by engaging in productivity, profit and turnover increase which strengthen the organization. Schneider *et al.* (2003) conducted a study and see that there is positive correlation between the overall staff qualification

satisfaction with the organization financial and market performance which generate the performance of the organization. This variable was measured in terms of years of schooling.

X₄ = Experience

This gives the relationship between level of experience on computerized accounting system and organization performance. This represents Years of Working Experience and it is expected to have positive correlation with performance.

X₅ = Awareness

This shows the relationship between level of awareness of computerized accounting system and organization performance. The computerized accounting contribute to the improvement of organization in decision making, economic development, quality services, cost reduction on record keeping, better adoption in changing of environment, better management, help in the flow of information between staff level and top management through using networking which enhance good relationship. Ogah (2012) argued that through existence of more intercommunication increase the chance of diversification of traditional business which led increase the organization performance. The variable is assigned the value of 1 if the respondent is awareness of Computerized Accounting System and 0 if not aware.

X₆ = Training

This presents the relationship on training of computerized accounting system and organization performance. According to Evans (1999) it was observed that there is positive relationship between training on computerized accounting system and organization performance which generate both staff and organization performance because those benefit through working together by sharing their development of skills, knowledgeable, abilities and competence. So, the job training plays a vital in development of organization and in enhancing organization performance as well as increasing productivity which put the organization in good position, help the

organization to provide quality services for their stakeholders and beneficiaries invest in the staff training.

Armstrong (2000) argued that there is a significant relationship between staff training on computerize accounting system and their resultant performance in accomplishing different task in organization. Moreover, Thomas (1997) added that staff training involves teaching staff to have high skills which will help them to become more competent and efficient productive workers in the organization especially in local government. Also, Amstrong (2000) contends that trained staff increases better work done as a team due to everyone aware of the expectation which can use to achieve their goals. This variable is given the value of 1 if training programs are organized for the accounting staff and 0 if not.

X₇ = Access to Use

This variable is assigned the value of 1 if only authorized staff are allowed use the computer installed with accounting software and 0 if all staff can access it.

X₈ = Other Use

This variable is assigned the value of 1 if the computer installed with accounting package is only used for accounting purpose and 0 if it is used for other purposes.

The definition of variables is shown in the Table 3.1 below:

Table 3. 1: Variables used in the Model

Symbol	Variable	Units	Description	Expected Sign
X ₁	Gender	1 or 0	1=Male, 0=Female	+/-
X ₂	Marital Status	1 or 0	1 = Married, 0 = Otherwise	+/-
X ₃	Education	Years	Years of Schooling	+
X ₄	Experience	Years	Years of Working Experience	+
X ₅	Awareness	1 or 0	1 = Aware of CAS, 0 = Otherwise	+
X ₆	Training	1 or 0	1 = Training, 0 = Otherwise	+
X ₇	Access to Use	1 or 0	1 = Authorised staff, 0 = All staff	+
X ₈	Other Use	1 or 0	1 = Computer is used for only accounting, 0 = Used for many purposes	+

Source: Author (2017)

3.9 Data Validity and Reliability

Validity of a questionnaire refers to the extent to which it measures what it claims to measure (Mugenda and Mugenda, 2003).

In testing validity, the researcher prepared questionnaires and presented them to the supervisor for scrutiny and suggestion on the relevance, clarity and suitability of the information. The supervisor then made suggestions which were incorporated into final draft. Reliability of research instrument refers to the measure of degree to which research instrument yield consistent result data or data after repeated trials. To establish the reliability of the research instruments, the researcher have administered the questionnaires and pilot tested them using various respondents after which the researcher made the necessary changes for the questionnaires give relevant data.

3.10 Ethical Considerations

The study strives to avoid any form of harm to respondents by observing the ethical rules. This is in line with Mugenda and Mugenda (2003) who stated that researchers should avoid physical or psychological harm to the participants. The information obtained from the respondents in the process of the whole research was kept confidential.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION

4.1 Introduction

This chapter presents the analysis and discusses the results as per the methodology explained in chapter three. Section 4.2 presents data cleaning, validity and reliability test results, section 4.3 gives the respondents profile analysis, section 4.4 presents descriptive analysis, section 4.5 presents study results, section 4.6 presents the discussion of findings, and section 4.7 gives summary of the chapter.

4.2 Data Cleaning, Validity and Reliability Test Results

Data were coded and entered in the computer using Statistical Package for Social Science (SPSS). This involved coding both open and closed ended items in order to run simple descriptive analyses to get reports on data status. Before doing actual analyses data were cleaned to make sure that every detail entered is correct. This also involved dealing with the outliers and incomplete questionnaires.

Validity of the data obtained from information denotes the degree to which the concept one required to measure its essentially being deliberate by a certain scale or index (Babbie, 1992). To make certain validity, the data were gathered from respondents who are involved in accounting. Also, the study made sure there is a demonstration of views from the respective respondents in scoped section of the study.

Reliability denotes the consistency with which repeated measures produce similar results across time and cross observers (Patton, 2002). The research objectives was designed according to questionnaire. Questionnaire done by follow pre testing of guarantee common of understanding the items among the respondents, before the actual performance of field work. Bryman (2012) classified measurement of reliability at different levels, 0.80 and above indicates an acceptable level of internal

reliability, 0.70 denote reasonable level, and 0.60 denote high quality level of reliability. The researcher computed Cronbach's alpha which is used to measure internal reliability set of objects. Cronbach's alpha was calculated using STATA and the alpha coefficient was found to be 0.61 implying that the data have acceptable level of internal reliability.

4.3 Respondents Profile analysis

The study area was Arusha region whereby members of staff of LGAs specialised in Accounting in Arusha Region were surveyed. The study consisted of 90 respondents from LGAs operating in Arusha Region out of 100 respondents that were planned and hence the response rate is 90 per cent. Out of 90 respondents, 60 per cent are male and the remaining 40 per cent are female. About 67 per cent were married and 33 per cent were single, divorced or otherwise. The age of respondents ranged from 25 to 56 years and 41 years on average. The working experience varied between 2 to 32 years and 13 years on average. In the case of education it was found that about 67 per cent have at least degree level of education while the remaining 33 are not degree holders.

Table 4. 1: Education Level

	Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid				
Otherwise	30	33.3	33.3	33.3
Degree and above	60	66.7	66.7	100.0
Total	90	100.0	100.0	

Source: Field Data (2017)

4.4 Descriptive Analysis

This section provides descriptions with respect to CAS in LGAs in Arusha Region as responded by workers involved in financial management (accounting). The mean age of respondents was about 41 years and the standard deviation is about 8 years. The standard deviation measures how concentrated the data are around the mean; the

more concentrated, the smaller the standard deviation (Rumsey, n.d). Age is important to this study since age affect performance of a worker. Age is linked to experience and creativity.

Table 4. 2: Age of Respondents

Variable	Obs	Mean	Std. Dev.	Min	Max
Age	90	40.54	7.84	25	56

Source: Author (2017)

The issue of marital status of workers involved in financial management in an organization especially on computerized accounting was investigated. The mean marital status is 0.67 implying that 67% of respondents are married. Intuitively married workers are faced with many tasks ranging from taking care of the family and therefore expected to contribute less to organization performance compared to unmarried, though this also may not hold true in all cases.

Table 4. 3: Marital Status

Variable	Obs	Mean	Std. Dev.	Min	Max
Marital Status	90	0.67	0.47	0	1

Source: Author (2017)

Education: The use of computerized accounting systems requires someone with computer knowledge and accounting knowledge. The question of which level of education is most desired for workers involved in financial management to bring high organization performance. The average schooling years for the respondents surveyed is about 16 years and the standard deviation is very small (about 1.6) implying that schooling years do not deviate much from the mean.

Table 4. 4: Years of Schooling

Variable	Obs	Mean	Std. Dev.	Min	Max
Schooling Years	90	16.32	1.63	13	22

Source: Author (2017)

Evans (1999) observed that there is positive relationship between training on computerized accounting system and organization performance which generate both staff and organization performance because those benefit through working together by sharing their development of skills, knowledgeable, abilities and competence. In this study the mean training is 0.96 meaning that about 96% of respondents agreed to have attended training on CAS organized in their work place.

Table 4. 5: Training of Staff

Variable	Obs	Mean	Std. Dev.	Min	Max
Training	90	0.96	0.21	0	1

Source: Author (2017)

Awareness is again as important as experience. Being aware of the subject matter is a step towards good performance. About 88% of workers are aware of the Computerized Accounting System. The issue of who access the computer installed with accounting software in an organization is of greater importance due to security reasons. About 97% of respondents stressed that their institutions allow only authorized personnel to use the computer installed with the software and about 36% of respondents claimed that the computers installed with accounting software were also used for other purposes.

The researcher went further to know when the organizations were established and the results indicated that, about 93 per cent were established more than 20 years ago, 4 per cent between 6 to 10 years ago, and the rest were established 1 to 5 years ago (more details in Appendix III).

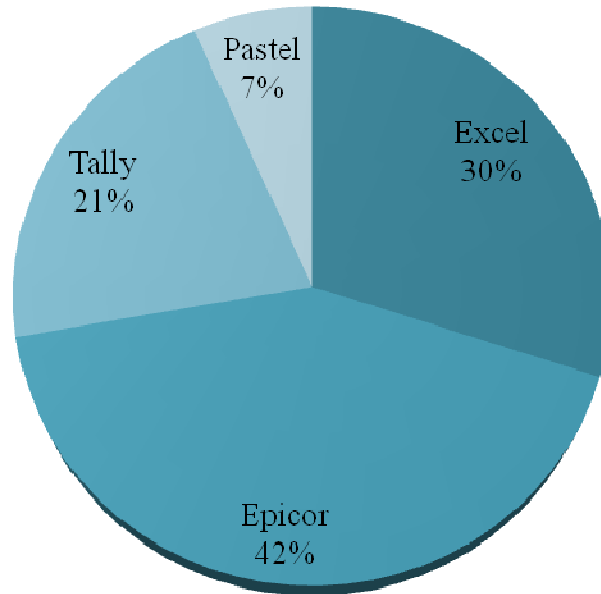
4.5 Study Results

This section provides results with respect to CAS in LGAs in Arusha Region as responded by workers involved in financial management (accounting). More specifically this section provides findings regarding the four objectives of this study which are to assess the level of usage of computerized accounting system, access organization performance, assess the challenges encountered with the use of computerized accounting systems, and to examine the relationship between computerized accounting system usage and organization performance.

4.5.1 Objective 1: Computerized Accounting System Usage

This section presents results regarding the first objective of this study which aims at assessing the level of usage of computerized accounting system in Arusha. The study found that, all respondents in the LGAs surveyed in Arusha Region use Computerized Accounting System. It was further found that about 42 per cent of respondents use Epicor in accounting system in organization, 30 per cent use Excel, 21 per cent use Tally, and the remaining 7 per cent use Pastel.

Figure 4. 1: Computer Program Used in Accounting System in Organization



Source: Author (2017)

The researcher asked the frequency of use of these programs. The results show that, about 52 per cent of respondents use the computerized accounting system daily, 27 per cent use often, and the remaining 21 per cent use few times. It was also found that about 96 per cent of respondents acknowledge that CAS improves accounting records. About 96 per cent of respondents attend training programs on how to operate CAS, and about 99 per cent confessed that these trainings take place semi-annually. Trainings are given to equip workers with the updates in CAS usage. Again it was found that about 97 per cent of respondents reported that only authorized users are allowed to use the accounting software and about 64 per cent reported that the computer installed with accounting software are not used for other purpose. This is good for security reasons.

4.5.2 Objective 2: Organization Performance

Respondents were asked to state if the usage of computerized accounting system increases organization performance. The results indicated that about 75 per cent of respondents agreed that CAS increase organization performance.

Table 4. 6: Usage of Computerized Accounting increase Organization Performance

	Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid no	15	16.7	16.7	16.7
Valid yes	75	83.3	83.3	100.0
Total	90	100.0	100.0	

Source: Author (2017)

In investigating more on organization performance, the researcher requested respondents to rate the organization performance. The results indicate that organization performance ranged from 45% to 99% and about 76% on average. This means organization surveyed performed had good performance on average. This performance is consistent with the stated response regarding the agreement that CAS increase organization.

Table 4. 7: Organisation Performance

Variable	Obs	Mean	Std. Dev.	Min	Max
Organisation Performance Rate	90	76.09	18.32	45	99

Source: Author (2017)

The researcher went further to see if the accounting system used has impact on performance of the organization. The results show that, those who use Epicor record higher organization performance compared to the rest. Epicor users record an average organization performance of about 94% followed by Tally users 76%, then Pastel users 73%, and lastly Excel users who report an average organisation performance of about 52%.

The researcher tested if the difference in the average performance among the group of accounting system users is significant by testing the equality of four (4) group means under the null hypothesis that there is no significant difference between the means. The results from various tests listed in table 4.8 indicates that there is significant difference in the means of the four groups of users of accounting systems as indicated by the probability of 0.00. This verifies the alternative hypothesis that usage of computerized accounting system has positive impact on organization performance. Also, this call for organizations to move to the software that is associated with higher performance which is Epicor.

Table 4. 8: Test for Equality of 4 Group Means, Assuming Homogeneity

	Statistic	F(df1,	df2)	= F	Prob>F	
Wilks' lambda	0.0754	3	86	351.32	0	e
Pillai's trace	0.9246	3	86	351.32	0	e
Lawley-Hotelling trace	12.2554	3	86	351.32	0	e
Roy's largest root	12.2554	3	86	351.32	0	e

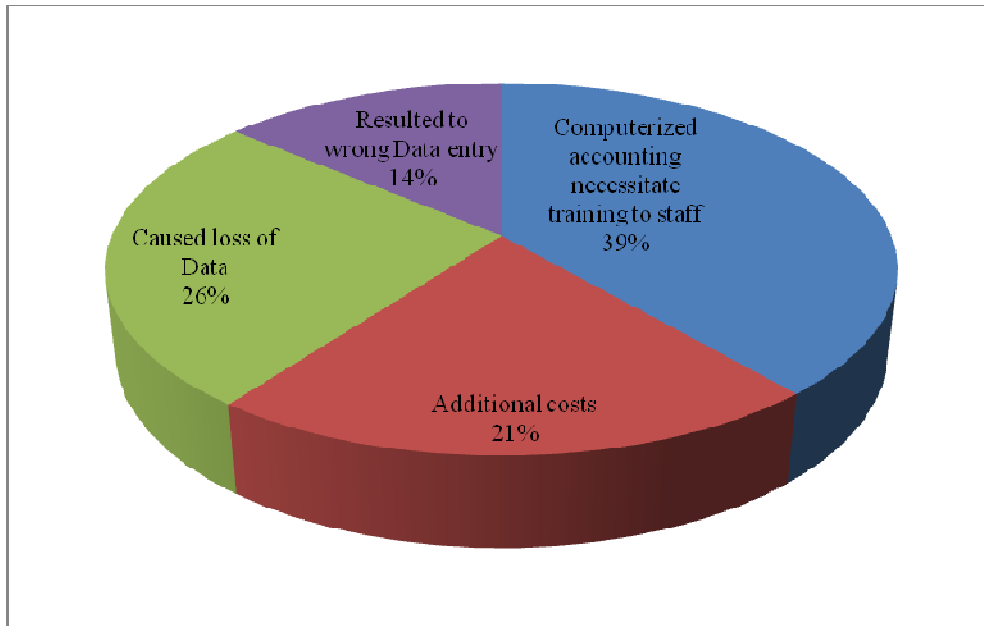
Note: e = exact, a = approximate, u = upper bound on F

Source: Author (2017)

4.5.3 Objective 3: The Challenges Encountered with the Use of Computerized Accounting Systems

The third objective of this study is to assess the challenges encountered with the use of computerized accounting systems. The results indicate that, about 39 per cent reported that computerized accounting system necessitate training to staff which is a challenge, about 26 per cent reported that computerized accounting system caused loss of data, 21 per cent are challenged with the associated additional costs, and about 14 per cent claimed it has resulted into wrong data entry (see Figure 4.2).

Figure 4. 2: The Challenges Encountered with the Use of CAS



Source: Author (2017)

The researcher asked if there are any measures taken to solve these challenges. The results indicate, about 61 per cent of respondent reported that the organization is taking measures to overcome these challenges. About 92 per cent claim that simplification of CAS will improve organization performance. Respondents also listed some of the advantages of CAS including improving accounting records (96%), increase performance (90%), and save cost (86%).

Since the challenges are related to the choice of computerized accounting software, the researcher investigated the factors that are considered in choosing the accounting software. The results show that about 57 per cent of respondents stated cost of training is considered in choosing accounting software, about 23 per cent claimed initial cost of installation, and about 20 per cent consider the acceptance by users.

4.5.4 Objective 4: Relationship between CAS Usage and Organization Performance

This sub-section gives the coefficients and marginal effects of the Probit Model as well as presenting the diagnostic tests related to probit model. The Probit model is used to examine the relationship between computerized accounting system usage and organization performance.

4.5.4.1 Diagnostic Tests Related to Probit Model

This section presents the diagnostic tests related to probit model which shows how data were evaluated to see their validity and reliability if applied to Probit regression. The Probit model was subjected to several diagnostic tests so as to avoid making invalid statistical inferences especially when the assumptions of Probit regression are not fulfilled. The Probit regression necessitates no exclusion of important variables; no inclusion of irrelevant variables; the explanatory variables are measured without error; the observations are independent, and the explanatory variables are not linear combinations of each other. The following tests were conducted to check its reliability before the regression is run.

Model Specification Test: The Researcher tested if the model has included all the important variables and if the linear combination of them is adequate. To notice a specification error, the test uses the linear predicted value (*_hat*) and their squares (*_hatsq*). The variable *_hat* should be statistically significant predictor, since it is the predicted value from the model while variable *_hatsq* has to be insignificant for the model to be correctly specified. If *_hatsq* is significant, then either relevant variable(s) are omitted or the link function is not correctly specified. Table 4.9 displays the result of model specification test.

Table 4. 9: Model Specification Test

Performance	Coefficient	Std. Err.	Z	P> z	[95% Conf. Interval]	
<i>_hat</i>	1.12	0.36	3.14	0.00	0.420	1.82
<i>_hatsq</i>	-0.08	0.15	-0.55	0.583	-0.39	0.22
<i>_cons</i>	0.02	0.27	0.08	0.935	-0.51	0.56
Probit regression		Number of observations			=	90
		LR chi2(2)			=	37.42
		Prob > chi2			=	0.000
Log likelihood = -21.840		Pseudo R2			=	0.4614

Source: Author’s Computation from Field Data, 2017

From Table 4.3, it is found that the model is correctly specified since *_hat* is statistically significant at 1% significance level as reflected by probability value of 0.00 and the variable *_hatsq* is statistically insignificant as reflected by probability of 0.583.

Goodness of Fit Test: Goodness of fit of the model determines how well the model fits the data. There are several goodness-of-fit measures such as pseudo R-square, per cent correctly predicted, and other. This study work out the following goodness of fit measures:-

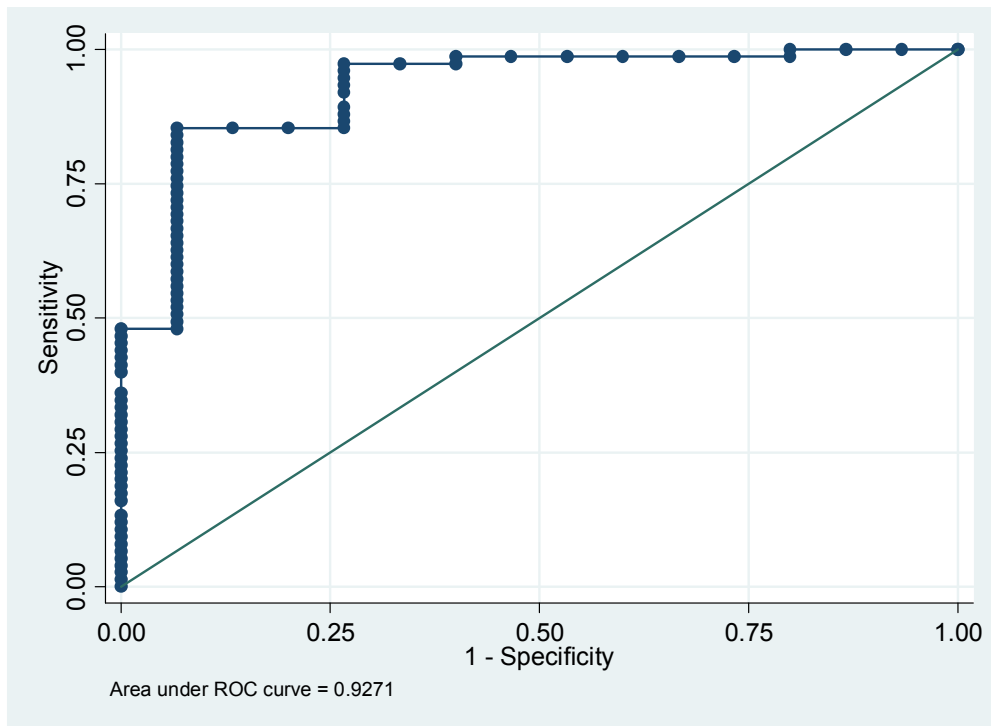
The log likelihood chi-square is an omnibus test that tests if the model as a whole is statistically significant. It matches the current model with an intercept model (the model without independent variables). The results indicate that, the model is statistically different from the intercept model as exposed by the probability of 0.0056 and hence the model as a whole is statistically significant. This means at least one variable in the model is significant.

The Hosmer and Lemeshow's goodness-of-fit test is used to test model fit under the null hypothesis that, there is no difference between the observed and predicted values of the outcome variable. The Hosmer and Lemeshow test results ($\chi^2 = 7.84$, 8 degrees of freedom, $P = 0.4496$) indicate that the goodness of fit is adequate.

A classification table shows the predictive accuracy of a probit regression model. It involves cross classifying the dependent variable with the categorical variable coming from the fitted probabilities. The result indicates the overall correct percentage was 91.11 per cent, which indicates that, the model's overall explanatory strength is good.

The discrimination of a model shows how well the model distinguishes well performing LGA and the poor performing organizations. This can be examined using the Area under the Receiver Operating Characteristic Curve (AUROC). The value of the AUROC is the probability that an organization with good performance has a higher predicted probability than the one with poor performance. The researcher computed the AUROC and got a value of 0.9517, indicating that the model discriminates well (Figure 4.3).

Figure 4. 3: Area under the Receiver Operating Characteristic Curve (AUROC)



Source: Author (2017)

Given the above tests of goodness of fit, it is generally witnessed that the model fits data well.

Multicollinearity Test: Multicollinearity refers to a linear combination of two or more independent variables in the model and may have several effects on the model depending on the degree of correlation coefficient. For example, one may not obtain a unique estimate of regression coefficients with all the explanatory variables in the model when perfect multicollinearity occurs. Any correlation among the independent variables is a sign of multicollinearity; however moderate multicollinearity is not a problem. Severe multicollinearity causes the standard errors for the coefficients to be very large (inflated), and the estimated Probit regression coefficients are likely to be unreliable.

The Researcher conducted correlation analysis to identify if there is moderate or severe multicollinearity. The correlation of 0.8 or above between two explanatory variables is an indication of severe multicollinearity (Preuss, 2013). The results from Table 4.10 show that there is no severe multicollinearity since the correlation is less than 0.8.

Table 4. 10: Correlation Analysis

	Gender	Marital Status	Schooling Years	Experience	Awareness	Training	Access to Use	Other Use
Gender	1							
Marital Status	-0.43	1						
Schooling Years	0.13	0.00	1					
Experience	-0.07	0.01	0.11	1				
Awareness	-0.03	-0.05	-0.07	0.19	1			
Training	-0.07	-0.04	-0.16	0.10	-0.08	1		
Access to Use	-0.03	-0.13	-0.15	0.15	-0.07	0.26	1.00	
Other Use	-0.10	0.03	-0.06	0.05	-0.01	0.05	0.01	1.00

Source: Author (2017)

The researcher also tested tolerance and variance inflation factor (VIF), which are the two commonly used measures of the strength of the interrelationships among the variables. Tolerance is an indicator of the degree of multicollinearity that a regression analysis can tolerate and VIF is an indicator of the extent of the inflation of the standard error which might be caused by multicollinearity. If all of the explanatory variables are completely uncorrelated with each other, then both the tolerance and VIF are 1. If a variable is very closely related to another variable or variables, the tolerance approaches to 0, and the VIF is very large.

There is no clear cut-off point for the VIF. For example Hair *et al.* (1995) claim the VIF should not exceed 10 if there is no multicollinearity problem while Ringle *et al.* (2015) claim it should be less than 5. From the result presented in Table 4.11, the tolerance is close to 1 and the mean VIF is 1.14 which is very small indicating no multicollinearity problem.

Table 4. 11: VIF and Tolerance

Variable	VIF	SOFT VIF	Tolerance	R-Squared
Gender	1.29	1.13	0.78	0.22
Marital Status	1.27	1.13	0.79	0.21
Schooling Years	1.10	1.05	0.91	0.09
Experience	1.11	1.06	0.90	0.10
Awareness	1.08	1.04	0.93	0.07
Training	1.11	1.05	0.90	0.10
Access to Use	1.15	1.07	0.87	0.13
Other Use	1.02	1.01	0.98	0.02
Mean VIF	1.14			

Source: Author (2017)

Heteroscedasticity Test: This Study used “robust standard errors” to account for heteroscedasticity. Robust standard errors solve the problem of heteroscedasticity. Table 4.12 shows both the classical standard errors and the robust standard errors. They display different magnitudes at every variable indicating that the problem has been solved by the use of robust standard errors.

Table 4. 12: Heteroscedasticity Test

Variable	Coef.	Classical Std. Err.	Robust Std. Err.
Constant	-8.004	3.837	3.092
Gender	-0.149	0.499	0.464
Marital Status	-1.198	0.604	0.539
Schooling Years	0.252	0.163	0.138
Experience	0.062	0.029	0.036
Awareness	1.775	0.614	0.654
Training	1.372	1.152	0.658
Access to Use	2.173	1.677	0.652
Other Use	2.293	0.914	0.682

Source: Author (2017)

Conclusively, it is detected that the model is correctly specified, tests of goodness of fit generally verified that the model fits data well. Also the model does not suffer from severe multicollinearity and the problem of heteroscedasticity has been accounted for by using robust standard errors. Given this observation, it is possible to run Probit Model and obtain reliable results. The next section provides the results from Probit Model.

4.5.4.1 Results from Probit Model and Interpretation

The coefficients and marginal effects of the Probit Model are given in Table 4.13. The Probit model is used to examine the relationship between computerized accounting system and organization performance.

Table 4. 13: Results from Probit Model

Explanatory Variables	Coefficient	Marginal Effects (dF/dx)
Constant	-8.004***	
	[3.092]	
Gender#	-0.149	-0.011
	[0.464]	[0.031]
Marital Status#	-1.198**	-0.072**
	[0.539]	[0.046]
Schooling Years	0.252*	0.019*
	[0.138]	[0.013]
Experience	0.062*	0.005*
	[0.036]	[0.003]
Awareness#	1.775***	0.373***
	[0.654]	[0.173]
Training#	1.372**	0.273**
	[0.658]	[0.220]
Access to Use#	2.173***	0.579***
	[0.652]	[0.199]
Other Use#	2.293***	0.155***
	[0.682]	[0.066]
<i>Number of observations</i>	90	
<i>Log pseudolikelihood</i>	-21.9661	
<i>Wald chi2(8)</i>	21.66	
<i>Prob > chi2</i>	0.0056	
<i>Pseudo R2</i>	0.4583	
<i>obs. P</i>	0.833	
<i>pred. P</i>	0.966 (at x-bar)	

Note: Robust standard errors in brackets

*** significant at 1%, **significant at 5% * significant at 10% level

(#) dF/dx is for discrete change of dummy variable from 0 to 1

Source: Author's Computation (2017)

The Probit regression results indicate that, Marital Status, Education, Experience, Awareness, Training, Access to Use, and Other Use are significant factors influencing organisation performance in LGAs in Arusha. More explanations are given below:-

Marital Status

The issue of marital status of workers involved in financial management in an organisation especially on computerised accounting was investigated in relation to organisation performance. This study has found that married personnel involved in accounting are associated with low organisation performance compared to those who are single or otherwise. The performance is less by 7.2 per cent if the worker involved in accounting is a married. This might be because married people are concerned with many issues concerning family.

Education

Education is a key to performance. The use of computerised accounting systems for instance requires someone with computer knowledge and accounting knowledge. The question of which level of education is most desired for workers involved in financial management to bring high organisation performance is addressed under this study. The first observation is that, organisation performance is positively associated with years of schooling. As the years of schooling of a respondent increases by one year, the performance of an organisation is expected to increase by about two per cent and this trend goes on until the respondent has about 20 years of schooling. 20 years of schooling are enough for a person to have acquired at least bachelor's degree and other accounting professions.

Experience

Experience is well researched factor when it comes to organisation performance. This study is consistent with both theoretical and empirical studies that claim positive relationship between experience of the worker and performance. This study goes beyond by presenting also the desired years of experience for the worker to bring maximum performance in an organisation. As experience increases by one more year the performance of an organisation goes up by 0.5% and this trend goes on until the worker has the experience of about 18 years where maximum performance is realised and beyond this level of experience, the performance starts

decreasing. This tells us that moderate experience is good for achieving high organisation performance.

Awareness

Awareness is again as important as experience. Being aware of the subject matter is a step towards good performance. This study investigated how workers who are aware of the Computerised Accounting System differ from those who are unaware in relation to organisation performance. As expected the study confirms that awareness is positively associated with organisation performance. Workers who are full aware of the Computerised Accounting System report higher organisation performance than those who are unaware by 37.3 per cent. This call for organisations to keep updating their workers on all discoveries happening in information technology that touch accounting practices.

Training

Training is linked to awareness and education. Training may be provided to keep workers updated or to cope up with new technology with the aim of keeping the organisation performance growing. This study investigated importance of training on organisation performance. It was found that, organisations that organise training programmes to their workers perform higher than those who ignore this practice. There is a 27.3 per cent difference in the performance between the organisation that arrange trainings for their workers in computerised accounting and those who do not.

Access to Use

The issue of who access the computer installed with accounting software in an organisation is of greater importance due to security reasons. The researcher went extra mile to see the link between access to computer used in accounting and organisation performance. It was observed that the organisations that allow only authorised employees to access computers installed with accounting software and used for accounting perform higher than those who allow every employee to access

computers with accounting software. This finding displays how security is important in determining organisation performance.

Other Use

Another important investigation was on how many uses the computer installed with accounting software saves. The way how the computer is used determine the performance of the organisation and this might be linked to security reasons. It was found that organisations that use computer for accounting purpose only have higher performance compared to those who allow even other uses. If the computer is used for many purposes it is easily to be attacked by computer viruses or just become slow in operations due to overload of programs as many software compete for the random access memory. Organisations that use a specialised computer for only accounting purpose are 15.5 per cent ahead in performance than those who use the computer for many purposes.

4.6 Discussion of Findings

This section discusses the findings coming from descriptive analysis and regression results based on the specific objectives of this study which are to assess the level of usage of computerized accounting system, assess the level of performance with respect of adoption of computerized accounting system ,assess the challenges encountered with the use of computerized accounting systems, and to examine the relationship between computerized accounting system and organization performance.

Oladipupo and Ajabe (2013) provide empirical evidence on the existence of computer based accounting system in Local government. This study has also provided more evidence on the existence of computerized accounting system in LGAs in Arusha as it was confirmed that all surveyed respondents in the LGAs use Computerized Accounting System. This is in line with the Technology Acceptance Model (TAM) that models how users came to accept and use a technology. As Davis (1989) elaborated that, when users are presented with a new technology, two specific factors influence their decision about how and when it is used and these are

perceived usefulness and perceived ease-of-use. In our case these factors were implicitly taken into account that is why all the LGAs use CAS.

The finding is consistent with other scholars extended TAM such as Mbogo (2010) who utilized TAM and extended it to incorporate different factors such as perceived ease, perceived low cost, perceived security, perceived convenience, perceived satisfaction, perceived support the research the achievement factors inferable from utilization of CAS. Tobbin (2011), who displayed adjustment of CAS to examine customer conduct towards CAS adjustments in Ghana; Bosire (2012) who connected TAM with extra factors as perceived trust, security, and perceived convenience. On the other hand, this investigation is in accordance with Unified Technology Acceptance User Theory (UTAUT) as proposed by Vankatesh et al. (2003) and disclosing client aim to utilize an IS and subsequent usage behavior by suggesting four key develops execution hope which refers to the extent to which an individual trusts that the utilizing framework helped him or her accomplish better outcome on the undertakings, exertion hope which refers to the extent of become straightforwardness related with the utilization of the system.

The type of CAS used in an organization is a concern of this study. As explained earlier that the majority use Epicor (42%) followed by Excel users (30%), then Tally (21), and the remaining 7 per cent use Pastel. This investigation is not much new as other researchers such as Powell and Xiao (2006) tried to look on the same issue. Powell and Xiao overviewed significant UK organizations to decide the degree of ICT use in bookkeeping or accounting by utilizing markers like the extent of computerization, sorts of CAS being used, sorts of CAS Connected, workstation to staff proportion, and years of CAS utilized. This study went further to see if the type of an accounting system used has an impact on performance of the organization and it was found significant impact since there is a significant difference in the means of the four groups of users of accounting systems with higher performance being associated with Epicor.

Epicor users records an average organization performance of about 94% followed by Tally users 76%, then Pastel users 73%, and lastly Excel users who report an average organization performance of about 52%. No study that has been done to explore the impact of type of accounting package on organization performance.

Morivic (2009) argued that using computerized packages help to minimize human errors, loss of transaction in computer; by using computerized accounting system is most safe rather than keeping financial activity manual by using ledger transactions. This study also found that about 96 per cent of respondents acknowledge that CAS improves accounting records which is to some extent consistent with Morivic (2009) argument.

The issue of security is important as Meigs (1986) stresses that there is a danger of in appropriation human mediation with computer programs , pc documents, and PC projects , since employees in the association may disappointment records with the end goal of the intentionally mispresent accounting information. This may come about twisting of data that would fundamental be for decision making. This study tried to investigate security issues and found that about 97 per cent of respondents reported that only authorized users are allowed to use the accounting software and about 64 per cent reported that the computer installed with accounting software are not used for other purpose. This is good for security reasons.

Another objective of this study is to assess the challenges encountered with the use of computerized accounting systems. It was found that, about 39 per cent of respondents reported that computerized accounting system necessitate training to staff which is a challenge. The question is why is that a challenge? The reason might be due to lack of time to undertake training (Proudlock *et al.*, 1999) and the costs associated with that training (Head, 2000). About 26 per cent reported that computerized accounting system caused loss of data, 21 per cent are challenged with the associated additional costs, and about 14 per cent claimed it has resulted into wrong data entry.

The last challenge might be attributed due to and lack of IT expertise (ABS, 2000; Burgess 1998). The researcher probed if there are any measures taken to solve these challenges and found an encouraging result that 61 per cent of the organizations are taking measures to overcome these challenges.

Since the challenges are related to the choice of computerized accounting software, the researcher investigated the factors that are considered in choosing the accounting software. The results show that about 57 per cent of respondents stated cost of training is considered in choosing accounting software, about 23 per cent claimed initial cost of installation, and about 20 per cent consider the acceptance by users. This is consistent with Weber (2011) claims that, minimal effort microcomputers together, with understand accounting software have enabled a more prominent figure of organization implement CAS in current years.

The last objective of this study is to examine the relationship between computerized accounting system usage and organization performance which was done through regression analysis. The Probit regression results indicate that, marital Status, Education, Experience, Awareness, Training, Access to Use, and Other Use are significant factors influencing organisation performance in LGAs in Arusha. UTAUT as recommende by Venkatesh *et al.* (2003) identify experience as one of the factors posited to mediate the impact of the four key constructs usage intention and behavior, which is consistent with this study.

Other studies that relate to this study include Daoud and Triki (2013) who found that the skills of bookkeeping staff positively affect the firms execution change; Rajeshwaran and Gunawardana (2008), who recommend retaining the maximum levels of CAS in LGAs through keeping up resources utilized by human being, hardware and equipment, software, and developing the application of CAS helped to improve the LGAs function in accounts; Abdallah (2012) who advised accountants focus on the development of the software that would increase efficiency in accounts. department by established training concerned with CAS in LGAs

staffs. and Breen (2003) who encourage understanding of the obstacles that inhibit the use of a CAS.

4.7 Chapter Summary

The chapter has presented the descriptive analysis and regression results both intended to meet the specific objectives of this study which are to assess the level of usage of computerized accounting system, assess the challenges encountered with the use of computerized accounting systems, and to examine the relationship between computerized accounting system and organization performance.

Under the descriptive analysis the study found that, all respondents surveyed in the LGAs use Computerized Accounting System. It was further found that about 42 per cent of respondents use Epicor in accounting system in organization, 30 per cent use Excel, 21 per cent use Tally, and the remaining 7 per cent use Pastel. For security reasons about 97 per cent of respondents reported that only authorized users are allowed to use the accounting software and about 64 per cent reported that the computer installed with accounting software are not used for other purpose. This study went further to see if the type of an accounting system used has an impact on performance of the organization and it was found significant impact since there is a significant difference in the means of the four groups of users of accounting systems with higher performance being associated with Epicor. Epicor users records an average organization performance of about 94% followed by Tally users 76%, then Pastel users 73%, and lastly Excel users who report an average organization performance of about 52%. The second objective of this study is to assess the challenges encountered with the use of computerized accounting systems. The results indicate that, about 39 per cent reported that computerized accounting system necessitate training to staff which is a challenge, about 26 per cent reported that computerized accounting system caused loss of data, 21 per cent are challenged with the associated additional costs, and about 14 per cent claimed it has resulted into wrong data entry. About 61 per cent of respondent reported that the organization is taking measures to overcome these challenges. In investigating the factors that are considered in choosing the accounting software, it was found that about 57 per cent

of respondents consider cost of training, 23 per cent claimed initial cost of installation, Before regression the model was put into test and it was detected that the model is correctly specified, tests of goodness of fit generally verified that the model fits data well. Also the model does not suffer from severe multicollinearity and the problem of heteroscedasticity has been accounted for by using robust standard errors.

The Probit regression results indicate that, Marital Status, Education, Experience, Awareness, Training, Access to Use, and Other Use are significant factors influencing organization performance in LGAs in Arusha. Married personnel involved in accounting are associated with low organization performance compared to those who are single or otherwise. The performance is less by 7.2 per cent if the worker involved in accounting is a married. Organization performance is positively associated with years of schooling. As the years of schooling of a respondent increases by one year, the performance of an organization is expected to increase by about two per cent and this trend goes on until the respondent has about 20 years of schooling. As experience increases by one more year, the performance of an organisation goes up by 0.5% and this trend goes on until the worker has the experience of about 18 years where maximum performance is realised and beyond this level of experience, the performance starts decreasing. Awareness is positively associated with organization performance. Workers who are full aware of the Computerized Accounting System report higher organization performance than those who are unaware by 37.3 per cent. The organisations that organize training programmes to their workers perform higher than those who ignore this practice. There is a 27.3 per cent difference in the performance between the organization that arrange trainings for their workers in computerized accounting and those who do not.

The organizations that allow only authorized employees to access computers installed with accounting software and used for accounting perform higher than those who allow every employee to access computers with accounting software. Also, it was found that organizations that use computer for accounting purpose only

have higher performance compared to those who allow even other uses. Organizations that use a specialised computer for only accounting purpose are 15.5 per cent ahead in performance than those who use the computer for many purposes.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the study, policy implications and recommendations, and areas for further research. Section 5.2 gives summary of findings and conclusion, section 5.3 points out knowledge implications, section 5.4 gives policy implications, section 5.5 presents recommendations based on the findings, and section 5.6 presents areas for further research.

5.2 Summary of Findings and Conclusion

The use of manual accounting system is attributed by lack of expertise knowledge about computerized accounting system in LGA's. Information communication technology on computerized accounting system was intended to be effectively utilized in local governments to bring impact in the accounting and organization performance in LGA's. This study aimed at assessing the impact of computerized accounting system usage on organization performance in Tanzania with special focus in local government authorities (LGA's) in Arusha Region. Specifically, this study intended to assess the level of usage of computerized accounting system, assess organization performance, assess the challenges encountered with the use of computerized accounting systems, and to examine the relationship between computerized accounting system and organization performance. The study used mainly primary data from 90 respondents selected using purposive sampling techniques. This study employed both descriptive analysis and regression analysis. A probit model was used to examine the relationship between computerized accounting system and organization performance.

Under the descriptive analysis the study found that, all respondents surveyed in the LGAs use Computerized Accounting System. It was further found that about 42 per cent of respondents use Epicor in accounting system in organization, 30 per cent use Excel, 21 per cent use Tally, and the remaining 7 per cent use Pastel. For security

reasons about 97 per cent of respondents reported that only authorized users are allowed to use the accounting software and about 64 per cent reported that the computer installed with accounting software are not used for other purpose. This study went further to see if the type of an accounting system used has an impact on performance of the organization and it was found significant impact since there is a significant difference in the means of the four groups of users of accounting systems with higher performance being associated with Epicor. Epicor users records an average organization performance of about 94% followed by Tally users 76%, then Pastel users 73%, and lastly Excel users who report an average organization performance of about 52%. The third objective of this study was to assess the challenges encountered with the use of computerized accounting systems. The results indicate that, about 39 per cent reported that computerized accounting system necessitate training to staff which is a challenge, about 26 per cent reported that computerized accounting system caused loss of data, 21 per cent are challenged with the associated additional costs, and about 14 per cent claimed it has resulted into wrong data entry. About 61 per cent of respondent reported that the organization is taking measures to overcome these challenges. In investigating the factors that are considered in choosing the accounting software, it was found that about 57 per cent of respondents consider cost of training, 23 per cent claimed initial cost of installation, and about 20 per cent consider the acceptance by users.

The Probit regression results indicate that, Marital Status, Education, Experience, Awareness, Training, Access to Use, and Other Use are significant factors influencing organisation performance in LGAs in Arusha. Married personnel involved in accounting are associated with low organisation performance compared to those who are single or otherwise. The performance is less by 7.2 per cent if the worker involved in accounting is a married. Organization performance is positively associated with years of schooling. As the years of schooling of a respondent increases by one year, the performance of an organization is expected to increases by about two per cent and this trend goes on until the respondents has about 20 years of schooling.

As experience of increases by one more year, the performance of an organization goes up by 0.5% and this trend goes on until the worker has the experience of about 18 years where maximum performance is realised and beyond this level of experience, the performance starts decreasing. Awareness is positively associated with organization performance. Workers who are fully aware of the Computerised Accounting System report higher organization performance than those who are unaware by 37.3 per cent. The organizations that organise training programmes to their workers perform higher than those who ignore this practice. There is a 27.3 per cent difference in the performance between the organization that arrange trainings for their workers in computerized accounting and those who do not.

The organizations that allow only authorized employees to access computers installed with accounting software and used for accounting perform higher than those who allow every employee to access computers with accounting software. Also, it was found that organizations that use computer for accounting purpose only have higher performance compared to those who allow even other uses. Organizations that use a specialised computer for only accounting purpose are 15.5 per cent ahead in performance than those who use the computer for many purposes.

5.3 Knowledge Implication

The information produced by assessing the impact of computerized accounting system usage on organization performance, could be utilised to propose future exploration points or help different specialists to choose actions that might be suitable for a specific subject zone of examination study.

5.4 Policy Implication

The finding that computerized accounting system necessitates training to staff which is a challenge calls for the central government support in training workers regularly. Again Epicor should be the software to be used at every LGA in order to realise higher performance.

5.5 Recommendations

Following the presentation of the research findings as presented in chapter four, here are the recommendations made by the study;

- i. Government have to set policies, strategies and programs that will enable majority of people get education. Education is a key to performance. The use of computerized accounting systems for instance requires someone with computer knowledge and accounting knowledge.
- ii. Youth employment should be considered and as get more experienced, high organization performance is realised.
- iii. Organizations should keep updating their workers on all discoveries happening in information technology that touch accounting practices.
- iv. Training should be a continuous process to keep workers updated or cope up with new technology so as to keep the organization performance growing.
- v. Security issues should be kept in touch with regard to CAS to avoid threat in an organization.
Organizations should use a specialised computer for only accounting purpose.

5.6 Limitation of the study

The most critical limitation of this study was time schedule for the study, and unwillingness of some part of respondents on questionnaires and interviews during data collection processes regarding, assessing the impact of computerized accounting system usage on organization performance in LGAs Arusha region.

5.7 Recommendations for Further Research

This study assessed the impact of computerized accounting system usage on organization performance in Tanzania with special focus in local government authorities (LGA's) in Arusha Region. A similar study may be conducted to focus on other regions.

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APPENDICES

Appendix I

Research Survey Questionnaire

Dear respondent,

This questionnaire is designed for academic Assessing the Impact of computerised Accounting System usage on organisation performance. LGA'S in Arusha Region in Tanzania

Please do not write your name in the Questionnaire

SECTION A

✓ Tick where applicable

1. Please indicate your gender: Male [] Female []
2. Please indicate your marital status: Single [] Married [] Widowed [] Separated [] Divorced []
3. Please indicate your age years.
4. Please indicate your academic Qualification the box below

1	2	3	4	5	6	7
Primary	secondary	Certificate	Tertiary/Vocational Training eg. VETA	Diploma	Advanced diploma/ Degree	Post Graduate (PGDs, Masters, PhDs, Prof. etc)

5. For how long have you been working /employing in local governmentyears.

Dear Respondent, the researcher is a student of Mzumbe University Dar Es Salaam Campus, pursuing Masters of Science in Accounting and Finance (MSc.A&F). The questionnaire is designed for academic purposes and for partial fulfillment the Award of a Degree in Master of Science in Accounting and Finance. It is only through your response that the work can be completed well. Therefore, any information disseminated will be handled with maximum confidentiality. Please spare a few of minutes of your time to answer the following questions, they mostly involve ticking a response in the space provided and a few filling in.

TITLE: Assessing the Impact of Computerised Accounting System Usage on Organisation Performance in Tanzania: Case Study on LGAs in Arusha Region.

SECTION A

Computerised Accounting System

1. When was, the organisation established?
1-5 years ago, [] 6-10 years [] more than 20 years []
2. Does the organisation use computerised accounting system in its operations?
Yes [] No []
3. If yes move to question 9
4. If no, how does the organisation capture its operations, especially in the preparation of financial statements?
Manually [] Microsoft tool []
5. Has your organisation ever considered using Computerised Accounting Systems (CAS)?
Yes [] No []
If yes answer the following questions
6. What were some of the factors considered in your analysis? Please tick as many as possible
Initial Cost of installation []
Cost- Benefit Analysis []

Cost of training []

7. Which factors prevented or are preventing your adoption of Computerised Accounting Systems (CAS)?

Initial Capital []

Employees expertise in IT []

Security features []

8. Benefits of the Manual Accounting systems

	Excellent	Very Good	Good
Timely Information	[]	[]	[]
Cost of Savings	[]	[]	[]
Effective Communication	[]	[]	[]
Security of Information	[]	[]	[]

9. a) Which of these computerised accounting systems is in use by the organisation?

Pastel []

Epicor []

Ms excel []

10. Please rate the performance of the organisation in percentage.

11. When did the LGA computerised accounting system Used effectively?

(a) 0-1 year ago []

(b) 2-3 years ago []

(c) 6 and above years ago []

12. What computerised accounting software package is used in the LGA?

(a) EXCEL []

(b) EPICOR []

(c) Pastel []

13. What factors are considered in choosing the above accounting software?

Please tick as many as possible

(a) Initial cost of installation []]

(b) Cost of training []]

(c) Acceptance by users []]

14. To what extent does the organisation use the accounting software package selected above?

Great extent []]

Moderate extent []]

Some extent []]

15. How does your organisation assess the level of computerised accounting system usage on organisation performance? Use a scale of 1-5 where 1= Strongly Agree and 5= Strongly Dis agree

Improvement of staff on CAS []]

Availability of quality report []]

Financial statements []]

16. To what extent do you agree that your choice of computerised accounting system evaluate the performance of the organisation by the following factor? Use a scale of 1-5 where 1= Strongly Agree and 5= Strongly Dis agree

The need to facilitate financial Management []]

The positive impact of CA on LGAs Performance []]

The need to improve quality of reports []]

17. To what extent do you agree to the relationship between computerised accounting system and organisation performance? Use a scale of 1-5 where 1= Strongly Agree and 5= Strongly Dis agree

Improvement of performance of accounting records []]

Time and costing saving in processing books of Accounts []]

Management relationship in adoption of CAS []]

18. In case your organisation is using manual accounting system which factors prevented or is preventing your adoption of computerised accounting systems (CAS)?

Initial Capital []]

Maintenance cost []]

Security features []]

SECTION B

COMPUTERISED ACCOUNTING SYTSEMS SECURITY

19. Are training programs organised for the accounting staff on how to operate these software packages?

Yes [] No []]

20. If Yes, How often does this training take place?

Monthly [] Quarterly [] Semi-annually []]

Please specify.....

21. Who as access to the use of the accounting software?

Only the authorised users [] All the organisation's staff []]

Others [] please specify.....

22. Is the computer on which the accounting software installed used for any other purposes apart from processing accounting data?

Yes [] No []]

Thank you for your time

Appendix II

Interview Questions

1. What is your level of awareness on computerised accounting system usage?
2. What is your level of experience in using computerised accounting system?
3. Which accounting system does your organisation use?
4. How many times do you use computerised accounting system?
5. How efficiency of organisation performance became after computerised accounting system adoption?
6. Has the computerised accounting system adoption help in improvement of organisation performance?
7. The simplification of accounting system adoption help to facilitate timely in preparation of financial accounting in organisation in order to increase performance?
8. Is the adoption of computerised accounting system help to improve the accuracy of accounting records in organisation?
9. Has the computerised accounting system usage helped to increase the organisation performance?
10. Is cost saving and time in organisation performance contributed by computerised accounting?
11. Has computerised accounting system usage have necessitate additional to staff member to have training?
12. The usage of computerised accounting system has contributed to additional cost?
13. Has loss of data obtained through theft, fire, human error caused by adoption of computerised accounting system?
14. Is there any measures taken by your organisation to overcome challenges faced by adoption of computerised accounting system for organisation performance?
15. Has computerised accounting system usage resulted to availability of wrong data entry?

16. Are those measures mentioned above helping your organisation to overcome those challenges?

Appendix III

Tables Used in Descriptive Analysis

Sex of Respondent

	Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid Female	36	40.0	40.0	40.0
Valid Male	54	60.0	60.0	100.0
Total	90	100.0	100.0	

Marital status

	Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid Otherwise	30	33.3	33.3	33.3
Valid Married	60	66.7	66.7	100.0
Total	90	100.0	100.0	

Education Level

	Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid Otherwise	30	33.3	33.3	33.3
Valid Degree and above	60	66.7	66.7	100.0
Total	90	100.0	100.0	

When was the organisation established?

	Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid 1-5 years ago	2	2.2	2.2	2.2
Valid 6-10 years	4	4.4	4.4	6.7
Valid More than 20 years	84	93.3	93.3	100.0
Total	90	100.0	100.0	

The respondent Awareness of Computerised Accounting System

	Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid	Otherwise	11	12.2	12.2
	Aware	79	87.8	100.0
	Total	90	100.0	100.0

The organisation use computerised accounting system in its operations

	Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid	Yes	90	100.0	100.0

Accounting system used in organisation

	Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid	Excel	27	30.0	30.0
	Epicor	38	42.2	72.2
	Tally	19	21.1	93.3
	pastel	6	6.7	100.0
	Total	90	100.0	100.0

Factors considered in choosing the accounting software

	Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid	Initial cost of installation	21	23.3	23.3
	Cost of training	51	56.7	80.0
	Acceptance by users	18	20.0	100.0
	Total	90	100.0	100.0

Times used computerised accounting system

	Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid	few times	19	21.1	21.1
	often	24	26.7	47.8
	daily	47	52.2	100.0
	Total	90	100.0	100.0

Usage of computerised accounting increase organisation performance

	Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid no	15	16.7	16.7	16.7
Valid yes	75	83.3	83.3	100.0
Total	90	100.0	100.0	

Necessitate of computerised accounting to staff training

	Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid yes	70	77.8	77.8	77.8
Valid no	20	22.2	22.2	100.0
Total	90	100.0	100.0	

Additional cost contribute to computerised accounting system

	Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid no	51	56.7	56.7	56.7
Valid yes	39	43.3	43.3	100.0
Total	90	100.0	100.0	

Computerised accounting system caused loss of data

	Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid no	47	52.2	52.2	52.2
Valid yes	43	47.8	47.8	100.0
Total	90	100.0	100.0	

Training programs organised for the accounting staff on how to operate these sof

	Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid No	4	4.4	4.4	4.4
Valid Yes	86	95.6	95.6	100.0
Total	90	100.0	100.0	

How often does this training take place?

		Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid	Quarterly	1	1.1	1.1	1.1
	Semi-annually	89	98.9	98.9	100.0
	Total	90	100.0	100.0	

Who as access to the use of the accounting software?

		Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid	All the organisation's staff	3	3.3	3.3	3.3
	Only the authorised users	87	96.7	96.7	100.0
	Total	90	100.0	100.0	

Is the computer on which the accounting software installed used for any other purpose?

		Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid	No	58	64.4	64.4	64.4
	Yes	32	35.6	35.6	100.0
	Total	90	100.0	100.0	