EFFECTIVENESS OF ACCOUNTING INFORMATION SYSTEM IN PROMOTING ACCOUNTABILITY IN THE PUBLIC SECTOR

THE CASE OF MINISTRY OF FINANCE IN TANZANIA
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THE CASE OF MINISTRY OF FINANCE IN TANZANIA

By

Anna Tunutu

A Dissertation Submitted in Partial Fulfillment of the Requirement of the Requirement for Award of the Degree of Master of Business Administration of Mzumbe University.

2013
CERTIFICATION
We, the undersigned, certify that we have read and hereby recommend for acceptance by the Mzumbe University a dissertation entitled, Effectiveness of Accounting Information System in Promoting Accountability in the Public Sector: The Case of Ministry of Finance in Tanzania, in partial fulfillment of the requirements for award of the degree of Master in Business Administration of Mzumbe University.

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With gratitude, I would like to take this opportunity to extend my sincere thanks to the Almighty God for his mercy and the strength he provided to me in course of witting this dissertation.

Special thanks go to my supervisor, Dr. Edison Labua for his full academic support and his endless cooperation during the entire process of this study.

I would like also to thank my family for their moral and financial support during my whole life of school. I real appreciate their support. Without forgetting my fellow students whom we were trained together.

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Lastly, I would like to thank everybody who will spare his/her time and go through this dissertation, I appreciate.
DEDICATION

I dedicate this work to my father (Shewal Tunutu), my husband (Wenceslous Aloyce) and my children (Mcwena and Mirabela), whom I am truly blessed to have as my family.
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
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<tr>
<td>AIS</td>
<td>Accounting Information System</td>
</tr>
<tr>
<td>ATB</td>
<td>Attitude toward performing the Behaviour</td>
</tr>
<tr>
<td>BI</td>
<td>Behavioural Intention</td>
</tr>
<tr>
<td>CPA</td>
<td>Certified Public Accountant</td>
</tr>
<tr>
<td>CPO</td>
<td>Central Payment Office</td>
</tr>
<tr>
<td>H₀</td>
<td>Null Hypothesis</td>
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<tr>
<td>H₁</td>
<td>Alternative Hypothesis</td>
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<tr>
<td>IFMS</td>
<td>Integrated Financial Management System</td>
</tr>
<tr>
<td>I.T</td>
<td>Information Technology</td>
</tr>
<tr>
<td>LPO</td>
<td>Local Purchase Orders</td>
</tr>
<tr>
<td>MBA</td>
<td>Master of Business Administration</td>
</tr>
<tr>
<td>MDAs</td>
<td>Ministries, Departments and Agencies</td>
</tr>
<tr>
<td>PEU</td>
<td>Perceived Ease of Use</td>
</tr>
<tr>
<td>PFM</td>
<td>Public Financial Management</td>
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<td>PU</td>
<td>Perceived Usefulness</td>
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<td>PV</td>
<td>Payment Voucher</td>
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<tr>
<td>SN</td>
<td>Subjective Norm</td>
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<tr>
<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
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<tr>
<td>TAM</td>
<td>Technology Acceptance Model</td>
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<tr>
<td>TISS</td>
<td>Tanzania Interbank Settlement System</td>
</tr>
<tr>
<td>TRA</td>
<td>Theory of Reasoned Action</td>
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</table>
With several reforms that the government of Tanzania has embarked especially in its financial sectors, there are yet problems in promoting accountability and transparency within its public sectors. Furthermore, despite the introduction of an Accounting Information System (AIS), which was thought to guarantee efficiency and accountability in public sectors, yet, there is still a problem in tracking records of public sectors’ expenditures. The motive of this study therefore, was to determine the extent to which the AIS promote accountability and efficiency within the Tanzania financial sectors.

This study employed simple descriptive methodology and analysis with the help of Statistical Package for Social Sciences (SPSS) software to obtain results from interviewed respondents selected for the study. These included Assistant Accountant General, Chief accountants, Heads of technique and Application System Development Unit, Principal Accountants, Senior Accountants and Junior Accountants as units of analysis.

Results from the study suggested that despite the fact that many officials were competent of the AIS in their professional activities; yet, the system has poor facilitation in providing facilities for tracking records of expenditure. Also, the system was found weak in facilitating information sharing among its users.

Recommendation part of this study calls the attention of Tanzania financial sectors in enhancing integration with the system so as to improve tracking of records for expenditures. Also, risk performances of the public sectors are recommended for improvements especially during system crashes, electricity problems or any other risk associated problems so as to allow information sharing among its users.
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CHAPTER ONE
INTRODUCTION AND BACKGROUND OF THE STUDY

1.1 Introduction

1.2 Background to the Study

The Government of Tanzania has made number of reforms in different areas including in the financial sector of the public service. Among issues which were closely addressed in financial reforms include Accountability and Transparency (Financial report, 2012). The main theme is to improve the accounting system to adequately support budgeting and general financial management. These improvements enhance transparency and accuracy in information sharing for both local and Central Government (Financial report, 2012).

One of the challenges that the financial sector faces is the poor ability to control public expenditures to constituent institutions. Auditing reports reveals Unethical management of expenditures, accumulation of domestic debt arrears and consistence reporting (WorldBank, 2002) These challenges were partly due to the absence of an integrated system for financial management; as the result there was inconsistence in filing reports.

At first, the government introduced Customized version of spreadsheet for harmonizing reporting methods from government agencies (Financial report, 2012). The spreadsheet component of Office 2000, Excel, was used for processing Quantitative data and developing analytical solutions, Furthermore it facilitated knowledge management and increase information utilization within the government(Financial report, 2012).

On the other hand Spreadsheets are less scalable for accessing and manipulating large volumes of data, they further require large space for data storage.

The Accounting System was further introduced to address all challenges experienced through the use of traditional methods of finance management (Financial report, 2012). As the results introduction of computerization improve performance in financial sector, it strength the capacity of ministries department and agencies to recording, monitoring and controlling expenditures. Furthermore, it enhanced efficiency in government processes financial activities.
Apart from above benefits, the following challenges are faced in the implementation process of computerized accounting system; these includes power failure, computer viruses and hackers, computer fraud and after a system is bought, then about every year new versions are released with changes that may need some extra training getting used to. This study evaluates the extent which the Computerized Accounting System promotes accountability in financial activities.

1.3 Statement of the Problem

The introduction of Integrated Financial Management Systems (IFMIS) as account information system (AIS) desires to promote efficiency in government financial operation, data security and reporting (Chane, 2009). The system provides access to users depending on their responsibilities; its functionalities include applications such as producing reports, tracking activities, authorizations, making inputs to the system (Chane, 2009).

With this implementation, the government has succeeded in producing financial information for statutory reporting requirements and to generate timely and accurate information for decision making in areas such as budget planning and management, procurement, assets management and management of the payroll. It also provides an interface that links with revenue Administration, Debt Management and the Central Bank of Tanzania (Financial report, 2012).

1.4 Objective of the Study

1.4.1 General Objective

The main objective of this study is to identify the extent to which Accounting Information System (AIS) of the Ministry of Finance promotes financial accountability to its stakeholders.

1.4.2 Specific Objectives

i) To identify the extent which AIS is applied by Ministry of Finance.

ii) To determine the extent to which AIS is promoting Financial Accountability in government institutions.

1.5 Research Questions

i) To what extent is AIS applied by Ministry of Finance?
ii) In what extent is AIS promoting Financial Accountability in government institutions?

1.6 Significance of the Study

This study is significant in the following ways:

a) Knowledge Contributions

The findings of this study are significant to academicians whose keen interest is a new body of knowledge which was added up to the existing or new theories on technology diffusion process especially in accounting information system in public sector.

b) Practical Implications

The research findings are especially significant to practitioners; various service providers in Government Ministries, Departments and Agency (MDAs) will surely benefit from new insights of their customers adoption behavior exposed by the findings of the research, such that they will be able to formulate better and effective strategies to accelerate the using of AIS.

c) Policy Implications

The researcher offered specific recommendations on strategies for policy makers and regulators in the Government to formulate effective policies and regulations to guide the implementation of IFMS with other similar system.

1.7 Limitations and Delimitations

i.) Time

The study required one year for completion; however the University Calendar requires the report to be filed within six month. The study adopted the case study method to efficiently utilize the limited time. Furthermore, other activities were conducted in parallel.

ii.) Finances

This study is supported through personal resources which are limited. The researcher performed most of the tasks by herself to avoid excessive costs.

iii) Scope

The study investigated Effectiveness of Accounting Information Systems in Promoting Accountability in the Public sector. It covered the Ministry of finance in Accountant General’s Department head office. The study was carried out in Dar es
Salaam. The sub Treasuries in up country were excluded because of the limitation in time and funds. Therefore, the Accountant General’s Department head office was the source of the data.

1.8 Chapter Layout

This research is structured as follows:

In chapter 1, the researchers present the overview of the study context and explain the research problem. This chapter addresses the research objective to be achieved, the research question to be answered and briefly explain about the importance or contribution of the research.

Chapter 2 focuses on the literature review of the theoretical argument from secondary sources such as journal, articles and etc. The empirical studies were done in this chapter to enable the researchers to construct the hypotheses and conceptual framework of the research.

Chapter 3 is conducted to describe how the research is carried out in terms of research design, population, sample and sampling procedures, data collection methods, operationalization and the methods of data analysis.

The results of the analysis presented in chapter 4, used the data and results generated from the procedures set in chapter 3.

Finally, chapter 5 concludes with overall findings and provides the recommendations of the present research. Besides, the limitation in carrying out this research was also included as well as the suggestion for the future research.
CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction
This chapter introduces some theoretical as well as empirical issues that form the groundwork for the study; Introducing the main concept of the study provided in section 2.2, The theme for the first objective in section 2.3, The theme for the second objective in section 2.4, section 2.5 the theme for the third objective, Conceptual Framework in section 2.6 and Relevance of the study in section 2.7.

2.2 The Concept of AIS
According to Dorontinsky (2003) and Rozner (2008), IFMIS is an accounting information system that tracks financial events and summarizes financial information. It supports adequate management reporting, policy decisions, fiduciary responsibilities and the preparation of auditable financial statements (Dorotinsky, 2003). In its basic form, an IFMIS is little more than an accounting system configured to operate according to the needs and specification of the environment in which it is installed (Brown, 2008). In general terms, it refers to the automating of financial operations.

In the sphere of government operations, IFMIS refers to the computerization of public financial management processes, from budget preparation and execution to accounting and reporting, with the help of an integrated system for the purpose of financial management (Lianzuala & Khawlhring, 2008). Rodin-Brown (2008) identifies the following basic features that are necessary for integration:

- Standard data classification for recording financial events
- Internal controls over data entry, transaction processing and reporting
- Common processes for similar transactions and a system design that eliminates unnecessary duplication of data entry.

2.2.1 AIS and performance measures
Existing literature offers scant evidence of the relationship between these AIS and performance measures; though it is important to highlight the study made by Ismail and King (2005) which discovered a positive association between AIS alignment and SME strategy and performance measures. In the Spanish case, Naranjo-Gil (2004)
posits an indirect relationship between AIS and sectors’ performance via the varying strategies that may be adopted by companies. Thanks to investment in AIS, the scope for action is expanded, thus providing time saving in trips to and dealings with banks, the Administration, etc. This reduces firms’ costs. Productivity increases when these innovations are properly used. Insofar as a firm’s culture is open to the introduction of new accounting information systems this will lead to a more holistic view of it and make for greater flexibility and dynamism in organizational search for improved results.

Despite of some authors who postulate that the direction of the cause-effect relationship is only that companies achieve a high performance when they can afford the implementation of certain technological developments (Damanpour and Gopalakrishnan, 2001). Others indicate that firm performance drops just after the implementation, taking several years to realize the benefits from IT adoptions (Wah, 2000). There are several research works, which, in the widest sense, have studied relationships between performance indicators and IT, and how IT impact on firm performance achieving inconclusive results.

There are studies which obtain a positive relationship between investment in IT and economic profitability, financial profitability and value added (Menachemi et al., 2006; Huang and Liu, 2005; Ravichandran and Lertwongsatien, 2005; Verhees and Meulenberge, 2004; Brynjolfsson and Hitt, 2003; Santhanam and Hartono, 2003; Bharawadj, 2000; Li and Ye, 1999; Powell and Dent-Micallef, 1997; Barua et al., 1995; Dos Santos and Peffers, 1995). Other research shows that no clear relationship exists between this type of investment and the performance indicators. (Dibrell et al., 2008; Bharadwaj, et al., 1999; Rai et al., 1996). Their authors argue that, currently, IT are readily available and using them gives no competitive advantage for achieving improved results (Powell and Dent-Micallef, 1997).

Similarly, they maintain that many firms have invested in IT but they do not succeed in attaining the established performance goals. Although research on the IT-performance ratio is more abundant in large-sized firms, the analysis of the impact on smaller-sized ones becomes particularly important because investment in these technologies may give them a competitive advantage and the chance to position themselves to achieve better results since they are more flexible and have better
response capability (Pérez et al., 2010; Tanabe and Watanbe, 2005; Izushi, 2003; Larsen and Lomi, 2002).

In Tanzania, in most sectors, there is a generalized opinion that using information technologies has been decisive in expanding the business market and in saving commercial management costs. Given that AIS are a basic component derived from technologies in general, the main issue is whether applying accounting information systems contributes to sectors’ improving their results.

**Figure 2.1 Structures of AIS**

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2.2.2 AIS and Productivity

Once the literature had been reviewed, there is a dearth of articles researching on the relationship between AIS and productivity. When the search was extended to publications relating productivity and IT, many studies support the theory that their
proper use increased firms’ productivity and, thus, had a decisive influence upon wealth and growth in a country (Hitt and Brynjolfsson, 1996; LópezSánchez, 2004; Dozier and Chang, 2006).

Nevertheless there is a wide range of publications on the relationship between IT and productivity. There are studies that analyse the IT impact on company’s productivity and obtain results that have led to the so-called “productivity paradox” (Brynjolfsson and Hitt, 1996; Hitt and Brynjolfsson, 1996). This hypothesis states that firms adopting IT innovations do not seem to experiment significant increases in their financial performance, as productivity gains are translated into benefits to customers. However, non-adopting firms may suffer from productivity decreases due to the competition from their IT-adopting counterparts.

According to the OECD (OECD, 2000) countries which invest the most in these technologies are also leaders in productivity growth. However, in the case of Spain, though the role of IT in business productivity is proven, the SME Report 2008 (Maroto, 2008) published by the Industry Minister on supply and use of information technologies in Spanish SMEs confirms the low performance in this factor.

In recent years, the value and evolution of productivity has been lower than that in the rest of the main economies (Maroto et al. 2008). Recently, Santamaría et al. (2010) have demonstrated that IT implementation derived in a decrease of labour time and therefore a decrease in costs and Badescu and Garcés-Ayerbe (2009) have analyzed the impact of investments in IT on the productivity of Spanish firms and have found that although the firms in the sample experienced some improvement in productivity in the considered period, this improvement was not significantly derived from IT investment. In view of that the following research question is defined:

2.2.3 AIS Application in Tanzania

The Tanzania Government’s Ministry of finance use IFMIS as accounting information system (AIS). IFMS refers to the use of information and communication technology in financial operations to support management and budget decisions, fiduciary responsibilities and the preparation of financial reports and statements. In the ministry of finance IFMS applied more specifically to the computerization of public financial management (PFM) processes, from budget preparation and execution to accounting and reporting, with the help of an integrated system for
financial management of line ministries spending agencies and other public sector operations.

According to World Financial Management Reform of 2012-2017, IFMS provides an integrated comprising financial package to enhance the effectiveness and transparency of public resources management by comprising the budget management and accounting system for government. It consists of several sub system which plan, process and report on the use of public resource. The scope and functionality of IFMS includes accounting.

Under the central payments system, MDAs required to prepare documents such as payment vouchers (PV), and local purchase orders (LPO) at their premises and after completion they submit the documents to the Central payment office (CPO) at the Treasury where they would be captured into a computer system and thereafter by then a cheque were issued in accordance with the instructions from the MDAs, but nowadays the payment is sent directly to the account of the vendors through Tanzania Interbank Settlement Systems(TISS).

2.3 Promoting Financial Accountability in the Public Sector

2.3.1 Theoretical Part

The raw power of information technology devices continues to improve, making sophisticated applications economically feasible. As technical barriers diminish, pivotal factor in harnessing this expanding power becomes the ability to create applications that people are willing to use. Therefore, practitioners and researchers require a better understanding of why people resist using information technologies in order to devise practical methods for evaluating technologies, predicting how users will respond to them, and improving user acceptance by altering the nature of technologies and the processes by which they are implemented.

Information systems investigators have suggested intention models from social psychology as a potential theoretical foundation for research on the determinants of user behavior. There are different behavioral theories that can be explained by using them: the theory of reasoned action (TRA) proposed by Fishbein and Ajzen (1975), Triandis model (Triandis, 1980), information system theories such as Technology Acceptance Model (TAM) (Davis, 1989) and DeLone and McLean’s model (1992).
i) **DeLone and McLean’s model (1992)**

DeLone and McLean’s model is one of the information system success models. These authors aimed to synthesize the previous research on information system success and present a more coherent basis for future research (Delone & McLean, 2003). Ballantine *et al.* (1998) considered the model of DeLone and McLean (1992) as one of the most complete and best-known models. In fact, it reinforces the previous research and presents a plausible classification efficiency measure of information systems. This model has been considered by many researchers as an appropriate basis for future theoretical and empirical research.

A literature review identified that Mushayt (2000) and Ismail (2009) used Delone and McLean’s model in accounting information systems. Mushayt (2000) showed that this model is valid, one-dimensional and reliable in an accounting information system context. In their model, Delone and McLean (1992) proposed that the success of information systems is determined by the information system quality (the technical quality of the system) and the output quality of the information system (the quality of information produced). These dimensions influence the use level and user response to the information system (user satisfaction). As a result, the user attitude (individual impact) and organizational performance (organizational impact) are influenced.

ii) **Theory of Reasoned Action**

The Theory of Reasoned Action is a widely studied model from social psychology, which is concerned with the determinants of consciously intended behaviours (Azjen & Fishbein, 1980; Fishbein & Ajzen, 1975). It is composed of attitudinal, social influence, and intention variables to predict behaviour. Figure 1 is a schematic representation of the relationships among constructs in TRA.
Figure 2.2 Theory of Reasoned Action

Source: Azjen & Fishbein, (1980)

It is hypothesized by TRA that the individual's Behavioural Intention (BI) to perform the behaviour is jointly determined by the individual's attitude toward performing the Behaviour (ATB) and Subjective Norm (SN), which is the overall perception of what relevant others think the individual should or should not do. The importance of ATB and SN to predict BI will vary by behavioural domain. For behaviours in which attitudinal or personal-based influence is stronger (e.g. purchasing something for personal consumption only), ATB was the dominant predictor of BI, and SN was of little or no predictive efficacy. While for behaviours in which normative implications are strong (e.g., purchasing something that others will use), SN should be the dominant predictor of BI, and ATB was of lesser importance (Azjen and Fishbein, 1980).

The TRA considers that the people behave in a rational way, evaluating what they have to lose and to win with the manifestation of their attitudes. So, ideas, personal goals, values, beliefs and attitudes influence the behaviour they emit at work; if they believe, for example, that to share knowledge will bring them benefits, they will tend to be favourable to the sharing (Fishbein & Ajzen, 1979; Daveport & Prusak, 1998). The theory of reasoned action has already been widely researched and showed success in the prediction and explanation of human behaviour in a variety of areas (Davis, Bagozzi, & Warshaw, 1989).

According to Davis (1986), for being so generalized and also for integrating various theoretical perspectives of psychology, before applied in researches of Acceptance of account information systems, the TRA should be perfectly appropriate for the study of the determinants of the use of the computer as a specific case.
iv) Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM), introduced by Davis (1989), is an adaptation of the Theory of Reasoned Action (TRA) specifically tailored for modelling user acceptance of information systems. The goal of TAM is to provide an explanation of the determinants of computer acceptance that is general, capable of explaining user behaviour across a broad range of end-user computing technologies and user populations, while at the same time being both parsimonious and theoretically justified. Ideally, one would like a model that is helpful not only for prediction but also for explanation, so that researchers and practitioners can identify why a particular system may be unacceptable, and pursue appropriate corrective steps.

A key purpose of TAM, therefore, is to provide a basis for tracing the impact of external factors on internal beliefs, attitudes, and intentions. TAM was formulated in an attempt to achieve these goals by identifying a small number of fundamental variables suggested by previous research dealing with the cognitive and affective determinants of computer acceptance, and using TRA as a theoretical backdrop for modelling the theoretical relationships among these variables.

Figure 2.3 Technology Acceptance Model

As Figure 2.3 shows, TAM posits that two particular beliefs, perceived usefulness (PU) and perceived ease of use (PEU), are the primary relevance for computer acceptance behaviour. PU is defined as the degree to which a prospective user believes that using a particular system would enhance his or her job performance. This follows from the definition of the word “useful”: “capable of being used advantageously”. Within an organizational context, people are generally reinforced
for good performance by raises, promotions, bonuses, and other rewards as suggested by Pfeiffer (1982) and Vroom (1964).

A system high in perceived usefulness, in turn, is one for which a user believes in the existence of a positive use-performance relationship. PEU refers to the degree to which a prospective user believes that using a particular system would be free of effort. This follows from the definition of “ease”: “freedom from difficulty or great effort”.

Effort is a finite resource that a person may allocate to the various activities for which he or she is responsible. All else being equal, an application perceived to be easier to use than another is more likely to be accepted by users. In January 2000, the Institute for Scientific Information’s Social Science Citation Index® listed 424 journal citations of the two journal articles that introduced TAM (i.e. Davis 1989, Davis et al. 1989).

In the past decade, TAM has become well established as a robust, powerful, and parsimonious model for predicting user acceptance; it has attracted much attention and has been established as a parsimonious yet powerful model for explaining and predicting usage intentions and acceptance behaviour (Khalifa & Shen, 2008).

The TAM model reflects general facets of potential drivers and inhibitors of technology acceptance. It has been proven to be a useful theoretical model in helping to understand and explain user behaviour in information technology adoption in use of system.

v) Extension of Technology Acceptance Model (TAM2)

A study of the adoption of telemedicine technology by physician using TAM has found relatively low explanation power of TAM of attitude and intention by Hu et al. (1999). The researchers suggested that integration of TAM with other IT acceptance models or incorporating additional factors could help to improve the specificity and explanatory utility in a specific area. Igbaria and others (1995) was that researchers have begun to use TAM to examine the possible antecedents of Perceived Usefulness and Perceived Ease of Use toward microcomputer usage.

However, one criticism of the current TAM studies, by Gefen and Keil (1998), is that there are very few investigations target at the study of the factors (i.e., the external variables) that affect the PU and PEU. In order to address this issue, Venkatesh and
Davis (1996) used three experiments to investigate the determinants of Perceived Ease of Use. The results showed that general Computer Self-Efficacy significantly affects Perceived Ease of Use at all time, while Objective Usability of the system affects users' perception after they have direct experience with the system. Furthermore, Venkatesh and Davis (2000) developed and tested a TAM2 model by including a number of determinants to Perceived Usefulness into the new model (see Figure 2.4).

**Figure 2.4: Extended Technology Acceptance Model**

Source: Venkatesh and Davis (2000)

It is a theoretical extension of the Technology Acceptance Model that explains Perceived Usefulness and Usage Intentions in terms of social influence processes (Subjective Norm, Voluntariness, and Image) and cognitive instrumental processes (Job Relevance, Output Quality, Result Demonstrability and Perceived Ease of Use). Longitudinal data were collected from four different organizations that spanned a range of industries, organizational contexts, functional areas (ranging from small accounting service firm, medium-sized manufacturing firm, to the personal financial services department of a large financial services firm), and types of system being introduced. The results showed that all the above-mentioned social influences and
cognitive instrumental processes have significantly influenced user acceptance of the systems.

2.3.2 Empirical Review

Kimberly Barata et al (1999) who published “From Accounting to Accountability” using a case study of Gambia financial system explained that, the Sub Saharan financial management system have deteriorated with serious implications for accountability. This study gave out evidences of mismanaged expenditures and enhanced corruption in public sectors’ assets. As such, many efforts to strengthen financial controls have failed because fundamental structures needed to underpin them are often overlooked.

Kimberly study therefore recommended on developing financial management systems such as an Accounting Information System (AIS) that explicitly incorporate record keeping components that would be easy to track sectors expenditures and prohibit corruptions.

Furthermore, an empirical study on the effectiveness of AIS in public sectors was done by Zulkarnain Muhamad Sori in 2009. His study sought to examine the use of Accounting Information Systems (AIS) in Malaysian public and private sectors and its contribution to the knowledge management and strategic role of the sectors. Public and private sectors in Malaysia used automated AIS known as ‘Contract Plus – Financial & Project accounting’ package. A wide variety of people that involve in sectors’ operations within and outside organizations uses accounting information generated by this system for decision making.

With the advent of AIS, the growth of tacit and explicit knowledge could be seen from the intensive training of personnel at the early stage of system implementation to the development and use of sector’s own manual in training of new staff and assisting the job of existing staff. Given the benefit of AIS to public and private sectors, his paper recommended that the source of data should be fully automated, and the existing system should be upgraded through computerize the pre-tendering and post-tendering of projects to enable AIS integration.

Report from International Federation of Accountants (IFAC) of 2012 on public sector financial transparency and accountability insists on the use of accrual based accounting system. This among many is the use of AIS which is necessary in
institutional arrangements as required to enhance public sector financial management transparency and accountability.

The usage of AIS will promote greater transparency and accountability in public sector finances and allows for enhanced monitoring of expenditures and liabilities for their true economic implications.

In Tanzania, initiatives to improve public sector financial management systems were noted in the World Bank (WB) and International Records Management Trust (IRMT) paper of 2002. This study used as case study of Tanzania financial records and information system on Evidence-Based Governance in the electronic age study. According to the WB/IRMT study, for the past five years prior to 2002, reports by the Controller and Accountant General on the central and local government accounts have drawn attention to the serious lack of accountability for public funds. This on the other hand necessitated the government to introduce an Integrated Financial management System (IFMS) as AIS to control and manage public finances. With the persistency nature of problems in the sector, the government of Tanzania could still take steps to improve management of financial records, including constructing a new records centre facility, training staffs in the management of financial records and aligning draft retention schedules for financial records with public finance regulations.

Moreover, according to the 2005 IFMS Working paper, IFMS in Tanzania appears to be most successfully implemented system in an Anglophone African country. Within the framework of ambitious public finance management reform initiated in 1994; The IT solution selected was a medium size management and accounting package, significantly less complex than the ones used in other countries like Ghana. The roll out plan was based on an incremental approach and focused initially on the Accountant General (Chene, 2009).

An accounting information system has helped Tanzania to eliminate over-expenditure, contain the country debt burden and restore confidence of international development partners. Through the use of its Epicor based IFMS, the Government of Tanzania has managed to implement a full budgeting, accounting and fiscal control infrastructure that has underpinned significantly improved fiscal conditions in only
five years, helping the country control unbudgeted commitments and expenditures and address the demands of its development partners.

In general, Accounting Information Systems have been widely adopted by organizations within both the public- and private sector (Rom & Rohde, 2007). However, as seen from previous literatures AIS covers not only the intersection of accounting and information system, but also accounting and information system as separate domains as noted by Steinbart (2009). For this study AIS also covers both structured and unstructured financial and non-financial information for decision making, management control, performance management and on its ability to promote accountability with several sectors.

Earlier research within AIS has been reported to be haltering and not reaching its full potential (Granlund, 2010; Sutton, 2009; Grabski et al, 2011). The aim of this research is therefore to provide an increased understanding of AIS by creating new knowledge within the field of Accounting and Management.

2.4 Challenges for the Implementation of AIS

Indeje and Zheng (2010) contend that the introduction of a new information system fundamentally changes the way operations are carried out and therefore requires a carefully managed process. This process results in the creation of a new organizational culture, that is, change in the way the organization operates. In Rwanda, for example, there were three teams responsible for the development of the IFMIS. Lack or little co-ordination between the teams resulted in the IFMIS being incompatible with the system developed for the Rwanda Revenue Authority (Hove & Wynne, 2010).

The lack of staff with IT knowledge and experience cannot be easily remedied by training and hiring. The salary structure and terms of employment in the public sector are usually not attractive enough to compete with the private sector and to incentivize candidates with the required IT-skills levels (Chene, 2009). Trained personnel also leave the government service, often for better job opportunities.

Change in technology; in processes and procedures; as well as changes in skills, responsibilities and behaviors (Rodin-Brown, 2008). Considering the nature and complexity of the project it is essential for all participants to be fully aware of the magnitude of the undertaking.
2.5 Conceptual Framework and Hypothesis

Conceptual frameworks, according to educational researcher (Symth, 2004), are structured from a set of broad ideas and theories that help a researcher to properly identify the problem they are looking at, frame their questions and find suitable literature. Most academic research uses a conceptual framework at the outset because it helps the researcher to clarify his research question and objective.

The independent variable in this study is effectiveness of the AIS whereas the independent variables are clear commitment of accounting officers, sound project design, adequate resources and quality of staff.

The conceptual framework shows the relationship between the dependent and independent variables. It shows the relationship among the quality of the staff, clear commitment of the Accounting officers, sound project design and the effectiveness of the accounting information System. It had to deal with all variables therefore; the researcher has decide to deal with four variables only which are quality of the staff, clear commitment of the Accounting officers, sound project design and the effectiveness of the accounting information system.

Figure 2.5 Conceptual Framework

Source: Researcher, 2013
2.6 Operational Definitions

2.6.1 AIS Usefulness
This refers to how effective AIS can be while being applied in the public sectors. In order to achieve a degree of accountability, AIS is ought to be effective in its performances. This goes in line with measuring the quality of AIS users. Therefore this variable was also correlated with competence level of staff, age and education to determine if their AIS usage is affected by AIS usefulness/ effectiveness.

2.6.2 Financial Accountability
Financial accountability results from holding an individual accountable for effectively performing a financial activity, such as a key control procedure within a financial transaction process. A well-defined financial accountability structure serves as the foundation for establishing effective financial processes. Accountability is officially delegated from a governance group, such as the Regents, or from an individual having delegated authority to a specific individual An individual accountable for the successful completion of a key control procedure may, as policy allows, assign the responsibility, but not the accountability, for completing the procedure to another qualified individual.
As this study is concerned, financial accountability was measured with regards to how effective AIS is in promoting decision making and planning activities. Thus correlations were performed between financial accountability and the two variables namely decision making and planning activities.

2.6.3 AIS usage
The more AIS is being effective and promotes accountability in Tanzania public sectors, the more the system will be used/ applied by staffs all over the Tanzania financial sector. Thus AIS usage remains the last resort towards improving AIS effectiveness in promoting financial accountability in Tanzania public sector. This goes in line with enhancing training to staffs, motivations and adequacy of resources/ facilities.

2.7 Hypothesis
H₀ Accounting Information System (AIS) of the Ministry of Finance does not promote financial accountability to its stakeholders.
Accounting Information System (AIS) of the Ministry of Finance promotes financial accountability to its stakeholders.

2.8 Relevance of the Study

The study of accounting information systems (AIS) combines a general business background with a focus on management information systems and accounting to prepare students for specialized careers in accounting, auditing, consulting, business analysis and management. Aside from the obvious importance of both accounting and information systems to businesses of all kinds and all sizes, employment projections from the Bureau of Labor Statistics indicate that studying account information system (AIS) can lead to a career path that should be both stable and profitable. It speeds the bookkeeping process and increases accuracy thereby reducing labor costs. But most importantly, a computerized accounting system is a powerful tool, allowing you easily extract data in order to prepare reports and analyze the information. Reviewing and acting upon a well-designed, comprehensive set of reports (in addition to the Financial Statements) will help keep the company on the right financial path.

According to Wesson (2009), accounting information systems provides businesses with the ability to record all types of financial information for future use. In addition, these systems are huge time-savers and make the accounting processes and procedures easily repeatable. Because of that, these systems save companies money because the number of people needed to complete accounting processes is reduced. Also, the risk of human error is drastically reduced because the computer systems manage the accounting processes, and documents are automatically created by the systems.

The systems approach also enables us to integrate modern technological developments into the study of accounting. With the development of the computer, for example, rapid advances have been made in electronic data processing. These advances have affected accounting in a number of ways. Firstly, information systems have been formalized, so that information may be fed directly from the computer to decision makers without the intervention of accountants. Secondly, computers have made possible the merger of accounting and non-accounting information, leading to the centralization of information services and reductions in duplication and hence
information costs. Thirdly, there has been an increase in the accuracy of the information provided, resulting directly from the reduction of duplication.
CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction
Research project requires the most suitable techniques or methods to come out with an accurate result. To complete this research, methodologies are developed to refine the study that enables researchers to generate information needed. It is important to have a well-designed research methodology as the degree of accuracy and usefulness of a research is directly affected by the methodology.

Research methodology is an important part for research study. Therefore, in this part the researcher discussed on how the research is carried out. It includes research design, data collection methods, sampling design, operational definitions of constructs, measurement scales, and methods of data analysis to carry out our research.

3.2 Research Paradigm
A research paradigm is a mode of viewing the world which underlies the theories and methodology of science at a particular time in history. Senge (1990) describes research paradigm as the researcher’s "mental model". A researcher's preferred paradigm can help determine the research methods he/she is comfortable with. Even if a researcher identifies with a particular paradigm, it does not necessarily mean that the researcher must use one particular research method. Still, the paradigm guides the researcher in choices of methods of the research.

3.2.1 Research Design
A research design is more than just a method of data collection and analysis. It governs the overall configuration and organization of the research activity. The research design is the overall plan for relating the conceptual research problem to relevant and empirical research (Ghauri & Gronhaug, 2005). Kothari (2001) outlines research design as the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure.

The study employed a case study design. The design was useful in enabling the researcher to describe records, analyze and interpret the Effectiveness of Accounting Information Systems in Promoting Accountability.
A review of the research literature revealed that there is no universally accepted strategy for measuring communication effectiveness. As one of the objectives of the study was to carry out an audit of communication channels in use, a quantitative approach was vital to achieve a “numerical description of trends, attitudes, or opinions” (Creswell, 2009) of a large population base. In order to establish the reasons why some methods of communication were preferred to others, some qualitative enquiry was also needed “to unravel the meanings and understandings which participants bestow upon their experiences” (Hargie and Tourish, 2009).

Quantitative business research is used in conducting research. Quantitative business research is a research that addresses research objectives through empirical assessments. It involves numerical measurement and analysis approaches (Zikmund, 2010). It generates statistics through the use of large-scale survey research, using methods such as questionnaires or structured interviews.

The research design type is descriptive research that describes characteristics of objects, people, groups, organizations, or environments. It addresses who, what, where, why, and how questions. Descriptive studies are conducted with a considerable understanding of the situation being studied. This research was conducted on the variables that led to quality and reliable information regarding contribution of AIS towards public sectors accountability. A good research design ensures that the information collected is relevant and useful to conduct research project more effectively and efficiently.

On the other hand, a causal research is conducted to identify cause-and-effect relationships among variables when the research problem has already been narrowly defined (Zikmund, 2003). This study focuses on investigating and examining contribution of AIS towards public sectors’ financial accountability. There are four basic categories of techniques for obtaining insights and gaining a clearer picture of a problem: secondary data analysis, pilot studies, case studies, and questionnaire surveys. In this research, questionnaire survey was chosen as a tool to examine the contribution of AIS towards public sectors accountability in Tanzania. The researcher examined a small sample that was representative of the whole population in order to obtain a more in-depth and rich description.
3.3 Study Area
The study was conducted in Dar-Es-Salaam ministry of finance in Accountant general department. This area was chosen as optimal area of this study because the limitation of time and budget constraints limited the researcher to cover the entire Tanzania.

3.4 Study Population
Population refers to the people that the researcher have in mind from whom the researcher can obtain information. The population of this study includes all employees who interact with the AIS in the Ministry of Finance.

3.5 Sample Size and Sampling Procedure
The sample size of 100 respondents was taken for those who interest with the AIS, this included 20 respondents from Assistant Accountant General (System, Financial Management, Expenditure, Public Debts, Local Government),15 respondents from Chief accountants; 5 respondents from Heads of Technique and Application System Development Unit, 15 respondents from principal Accountants, 15 respondents from senior Accountants and 30 respondents from Junior Accountants from Accountant General’s Department.

A purposive sampling technique was applied in selecting all respondents. The technique was applied in selecting the respondents who were believed to possess the knowledge on accounting information system.

Table 3.1 sampling procedure

<table>
<thead>
<tr>
<th>Sample Descriptions/subjects</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assistant Accountant General</td>
<td>20</td>
</tr>
<tr>
<td>Chief accountants</td>
<td>15</td>
</tr>
<tr>
<td>Heads of Technique and Application System Development Unit</td>
<td>5</td>
</tr>
<tr>
<td>Principal Accountants</td>
<td>15</td>
</tr>
<tr>
<td>Senior Accountants</td>
<td>15</td>
</tr>
<tr>
<td>Junior Accountants</td>
<td>30</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Created by the researcher 2013
3.6 Data Collection Methods

The study was based on both primary and secondary data. Questionnaires were used in collecting primary data while secondary data were collected and analyzed from documentary source.

3.6.1 Source of Data

There are two major sources of data as explained above primary and secondary data.

a) Primary Data

The primary data is defined as the information gathered through interaction with other people through meetings, one-to-one interview, focus groups, and surveys. Primary data are the data gathered and assembled specifically for research projects at hand (Zikmund, 2003). The purposes of the primary data researching are to improve the understanding and perform a direct assessment of the research topic by obtaining first hand information. In primary data, information was gathered directly from respondents. This was done through questionnaires and interviews. Primary data is measuring by looking at the skills possessed by employees under Accountant General’s Department the knowledge and experience they have on account information system, Therefore the variable for primary data is Quality of staff. The Carrier of that data is employees from Accountant General’s Department in Ministry of finance.

A questionnaire, also known as self-administered survey is handed out to certain targets or segments of people to gather data and information desired. For the purpose of this research, 100 copies of questionnaire were distributed. The reason of using questionnaire is to ensure completeness and consistency of information gathered. It is also the only feasible way to reach a large number of interviewee; the result was used as input for statistical analysis. It is done in a structured manner, where all of the interviewees provided their perception through the questionnaires distributed to them, and it makes sure that no critical points are being left out.

Questionnaire used for this research was constructed by adopting and then modifying the questionnaire of several related research journals. Compared to constructing own questionnaire, adopting questions from other researches” well developed questionnaire could ensure higher validity of the questions used to ask the targeted
respondents. It is known that the higher the validity means the more accurate the measure can represent a concept.

b) Secondary Data

These are data or information obtained from literature sources or data collected by other people for some other purposes (Adam & Kamuzora, 2008). Secondary data were measured by looking at the accurate of the report and reliability of accounting information. The variable which was used to obtain that information is effectiveness of Integrated Financial Management System and clear commitment. The carrier of the information is statement of accounts and other reports related to the Integrated Financial Management System.

As secondary data are the information gathered from sources already existed (Sekaran, 2003). They are usually historical, already assembled, and do not require access to respondents. This type of data is easier to be obtained in a faster way, and less expensive than acquiring primary data. However, it may be outdated and may not exactly meet the researchers’ needs because they were initially collected for other purposes. Nevertheless, it often proves to be of great value in exploratory research.

In this study, secondary data were collected from online journals and articles through online databases provided by University Tunku Abdul Rahman’s Main Library. Different journals offer review of different views, comments, and arguments made by different authors and academicians. A detailed secondary research was carried out on this topic through books, online newspapers, and dissertations done by other researchers. The Final Year Projects found in the library, which were done by former University Tunku Abdul Rahma’s undergraduates, were also one of the references used for this research.

3.7 Data Collection Instruments

For this study, the research instrument used is self-administered questionnaire. Self administered questionnaire required respondent to take the responsibility to read and answer the questions. The questionnaires were distributed directly to the employees and it takes around 10-15 minutes for a respondent to complete it.
3.7.1 Questionnaire Survey

The primary instrument used in this study is questionnaire survey. According to Zikmund (2004), the main benefits of using this survey method are inexpensive and it enables researchers to collect large amount of primary data from respondents in a short period of time. However, this method requires clarity of the written word rather than on the verbal skill such as telephone interview. Thus, a clear and comprehensible questionnaire enables respondents to provide accurate information for the research. A self-administered questionnaire was created in order to collect information about how application of AIS affects financial accountability in Tanzania public sectors.

Before conducting a survey, there are many procedures to be carried out. It includes generating a questionnaire survey based on the literature review (Chapter 2) of this research. It is because reviewing of the literature will help to develop research ideas and questionnaire with good quality will be conducted as a guideline.

Questionnaire Design

It was absolutely necessary that the layout of the questionnaire was made simple so that the respondents could easily understand, and answer them without taking much of their time. The reason is because the form of questions asked, the language used, and the length of the questionnaire would affect the response rate.

The questionnaire was separated into 2 sections namely Part A, and Part B. Part A collected respondents’ demographic data which consists of elements such as gender, age and education level. Part B consisted of six questions set to determine application of AIS in public sectors, competence of staffs in using AIS and contribution of AIS towards financial accountability.

Interviews

Interviews were structured face to face verbal communication between the researcher and the respondents during the verbal exchange (Brain, 1992). The respondents for this interview are all assistant Accountants’ Generals from Expenditure management, Financial Management, Local Government and Public Debt.

The questions for this group were structured and their wording and their sequence are fixing and made identical to every respondent. Personal interviews were made so as to attract high response rate and to control interview proceedings.
The primary data were collected by using questionnaires and interviews for all data concerning skills possessed by employees on account information system, the knowledge and experience they have on that system. Secondary data were collected from different reports, case studies, published texts, statistics and different literature reviews.

3.8 Pilot Test
After designing the questionnaire, reliability analysis was done to ensure measurements are reliable for our research. Pilot test is a survey which is done on a small group of respondents to make sure the questions being asked in the questionnaire are reliable. Respondents were asked to comment and suggest changes to the questionnaire. Most of the feedbacks directed to the comprehensibility of items; therefore we modified some of the items to improve their clarities. Pilot test minimizes the mistakes made in the questionnaire as well as the difficulties before making progress to distribute it out to the 100 targeted respondents. Reliability of the questionnaire was tested as well using reliability test with the help of Statistical Package for Social Science (SPSS) software. The result of pilot test is shown below.

Table 3.2: Reliability Test

<table>
<thead>
<tr>
<th>No.</th>
<th>Constructs</th>
<th>Coefficient alpha</th>
<th>No. of Items</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Agreement scale</td>
<td>0.768</td>
<td>3</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>Excellence scale</td>
<td>0.673</td>
<td>3</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Developed for research from SPSS version 17.0

3.9 Data Validity
Data quality was measured through validity of the information collected from the field. Kimberlin and Winterstein (2008) defined validity as the extent to which the interpretations of the results of a test are warranted, which depends on the particular use the test is intended to serve. The responsiveness of the measure to change is of interest in many of the applications in health care where improvement in outcomes as a result of treatment is a primary goal of research. Likewise, Trochim and Kane (2005) defined validity as the extent to which an empirical measurement adequately reflects the real meaning of the concept under study.
Also, Churchill and Brown (2007) defined validity as the extent to which the instrument accurately measures what was intended and supposed to measure. The questionnaires for this research were pilot-tested to some respondents from ministries and their comments were used to modify the questionnaires so as to be able to capture the required information.

3.10 Data Processing
Data processing is a class of programs that organize and manipulate data which is usually large amounts of numeric data and convert data into usable information. In data processing, there are generally few steps which include data checking, data editing, data coding, data transcribing and data cleaning.

3.10.1 Data checking
After completing the questionnaires, they were checked to allow early detection of any problems and also appropriateness of the questions by conducting the pilot test; whether any corrections or amendments that is needed before conducting the real survey. 10 questionnaires were distributed and data collected were used as input for reliability test. The reliability test is to ensure the measurements are reliable and consistent.

3.10.2 Data Editing
This is the second step where data collection activities were checked whether any mistakes made by either the interviewer or respondent. Then data editing process is conducted to ensure that the information provided is accurate, complete, and consistent. Errors in grammar, wording or content are also edited when going through this process.

3.10.3 Data coding
Data coding is to assign a code with a specific numerical value in response to each specific question on the survey instrument (Jr., Hair, Bush, and Ortinau, 2008). The first question in Section A of the questionnaire, “Male” is coded as 1 and “Female” is coded as 2. For question 2, “below 24 years old” is coded as 1; “24-35 years old” is coded as 2, “36-44 years old” is coded as 3; “45-54 years old” is coded as 4 and “55 and above” is coded as 5. For question 3, “secondary education” is coded as 1, “diploma” is coded as 2, “undergraduate degree” is coded as 3, and “post graduate degree” is coded as 4. For question 4, “Assistant Accountant General” is
coded as 1; “Chief accountants” is coded as 2, “Heads of Technique and Application System Development Unit” is coded as 3; “Principal Accountants” is coded as 4; “Senior Accountants” is coded as 5 and “Junior Accountants” is coded as 6.

For section B, this study used structured questions to measure the level of agreement on the use of IFSM among various respondents selected from the study. Taken as variables, six question sought to determine respondents’ agreement on the use of IFMS in management of finances in public sectors (Q1), staffs’ competence on the use of IFMS in their professional activities (Q2), extent of information provision by the IFMS for planning activities (Q3), effectiveness of IFMS in providing financial reports for decision making (Q4), respondents’ agreement on IFMS’ provision of facilities for tracking expenditure (Q5) and respondents’ agreement on the effectiveness of IFMS in facilitation of information sharing (Q6).

The study collected primary data from 100 respondents and the responses were based on a five-point Likert scale i.e., 1=Strongly Agree, 2=Agree, 3=Neutral, 4=Disagree and 5=Strongly Disagree. It also used 1=Excellent, 2=Very good, 3=Good, 4=Average and 5=Poor.

For completion of this research, the Statistical Package for Social Science (SPSS) software was used for data coding and for the final step, data transcribing.

3.10.4 Data transcribing

This is the final step where the coded data from the questionnaires are inserted directly into computers and transcribed into SPSS software Version 17 for data analysis.

3.11 Data Analysis

Data analysis is an application of reasoning to understand, clear and interpret the data or information that have been collected through the questionnaires (Zikmund, 2003). Therefore, data collected through the questionnaire were analyzed statistically by using the Software Package for Social Science (SPSS Version 17.0 for Student Version). Besides, it also enables us to present our data or information better through graphical presentation (e.g. bar chart, histogram).

SPSS was also used to test the relationship between the independent variables and dependent variable using Pearson Correlation analysis. Hypothesis findings of this
research can be evaluated using SPSS to determine whether the hypothesis is supported by our research.

### 3.11.1 Descriptive Analysis

Descriptive analysis is where raw data are transformed into a form that will make researchers easier to understand and interpret, rearranging, ordering and manipulating data to provide descriptive information. It is used to determine the main tendencies of the variables. Certain measures like mean, mode, standard deviation and range are forms of descriptive analysis used to describe the sample data matrix in such a way as to portray the typical respondent and to reveal the general patterns of responses (Burns and Bush, 2006).

This is where all the information will be presented in tables and graph form to ease the researchers to understand the content of the data collected.

In this research, the descriptive analysis was conducted to obtain description samples and variables. It was also used to gather the details about the three personal particulars of the respondents such as gender, age and education level.

### 3.11.2 Reliability Measure of Variables

Reliability refers to the precision and accuracy of the measurement instrument. Our more concern was about inter-variable reliability i.e. the internal consistency of the data. This explains how the observed variables in our data are related with each other to explain a certain concept.

According to Zikmund (2003), reliability is applied to a measurement when similar. The measurement is free from error and therefore yields consistence result. Garson (2006) stated that reliability could be measured by Cronbach’s Alpha. Cronbach’s Alpha can be interpreted as percentage of variance where the observed scale would explain in hypothetical true scale composed of all possible items in the universe. In general, reliability that are less than 0.6 are considered as poor, while those in 0.7 ranges are considered acceptable and lastly reliability above 0.8 are considered good.
Table 3.3 Reliability Coefficient (all items)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Number of Items</th>
<th>Observations</th>
<th>Cronbach’s Alpha for dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agreement scale</td>
<td>3</td>
<td>10</td>
<td>0.768</td>
</tr>
<tr>
<td>Excellence scale</td>
<td>3</td>
<td>10</td>
<td>0.673</td>
</tr>
<tr>
<td>Overall</td>
<td>Cronbach’s Alpha:</td>
<td></td>
<td>0.822</td>
</tr>
</tbody>
</table>

Table 3.3 above indicates reliability measure for all items used in the study. The overall Cronbach’s alpha coefficient for all items is 0.822 indicating a very good reliability. This reliability value for our study is substantial considering the fact that the highest reliability that can be obtained is 1.0 and this is an indication that the six questions of the study were accepted for analysis.

3.11.3 Inferential Analysis

Pearson’s Correlation Coefficient Analysis

Correlation Coefficient is a statistical measure of the co-variation, or association, between two variables. It is used to reveal the magnitude and direction of relationship. According to Hair et al. (2007), the number representing Pearson correlation is referred to as a correlation (r). It ranges from -1.00 to +1.00, and zero representing absolutely no linear relationship between two variables. If the value of r is +1.00, there is a perfect positive linear relationship. Besides that, there is a perfect negative linear relationship if the value of r is -1.00.

Table 3.4: Rule of Thumb about Correlation Coefficient Size

<table>
<thead>
<tr>
<th>Coefficient Range</th>
<th>Strength of Association</th>
</tr>
</thead>
<tbody>
<tr>
<td>+/- .91 - +/- 1.00</td>
<td>Very Strong</td>
</tr>
<tr>
<td>+/- .71 - +/- .90</td>
<td>High</td>
</tr>
<tr>
<td>+/- .51 - +/- .70</td>
<td>Moderate</td>
</tr>
<tr>
<td>+/- .21 - +/- .50</td>
<td>Small but definite relationship</td>
</tr>
<tr>
<td>+/- .00 - +/- .20</td>
<td>Slight, almost negligible</td>
</tr>
</tbody>
</table>

Source: Hair, Money, Samuel and Page (2007).
The Pearson’s correlation coefficient analysis helped the researcher to better understand whether there is a positive relationship, negative relationship, or no correlation between dependent variable and independent variables.

By using this analysis, the strength of relationships between variables was able to be analyzed by the researchers. Researchers used Pearson correlation coefficient to measure whether there is a significant relationship between independent variables and dependent variable.

3.12 Conclusion

Research methodologies were used in collecting, analyzing, and interpreting data. Computer software, such as SPSS, was used to assist in doing the analysis and interpretation.

First, questionnaire survey is used to obtain more accurate information from the larger group of respondents. Other than primary data, secondary data such as case studies and journals were used to help researchers to better understand the topic being investigated.

Target population, sampling frame and location, sampling elements, sampling techniques, and sample size were discussed in the earlier parts. Scales used in constructing the measurement were also explained. Other than that, data preparation processes such as checking, editing, coding, and transcribing were discussed.

In the next chapter, the data that have been analyzed were interpreted and explained to readers to help them understand the respondents’ demographic profile, including the results, as well as the hypothesis as to whether they are or are not accepted.
CHAPTER FOUR
RESEARCH FINDINGS AND THEIR DISCUSSION

4.1 Introduction
In the previous chapter, we look at how the study’s research method is conducted, how the sampling size is determined, this study’s questionnaire design, and the processing and analysis of collected data. This chapter presents and discuses research results on the effectiveness of Accounting Information System (AIS) which is implemented to promote accountability in the Tanzanian public sector. The main sections of the chapter include samples’ descriptions, analysis of the findings and their discussions.

4.2 Descriptive Analysis
This part discusses samples description and respondent’s demographic profile.

4.2.1 Description of the Sample
This section describes the sample used in the study. It includes discussions of two aspects. First, the study introduces the variables used in study followed by descriptive analysis of demographic characteristics of respondents.

4.2.1.1 Description of Variables
This study used structured questions to measure the level of agreement on the use of IFSM among various respondents selected from the study. Taken as variables, six question sought to determine respondents’ agreement on the use of IFMS in management of finances in public sectors (Q1), staffs’ competence on the use of IFMS in their professional activities (Q2), extent of information provision by the IFMS for planning activities (Q3), effectiveness of IFMS in providing financial reports for decision making (Q4), respondents’ agreement on IFMS’ provision of facilities for tracking expenditure (Q5) and respondents’ agreement on the effectiveness of IFMS in facilitation of information sharing (Q6). The study collected primary data from 100 respondents and the responses were based on a five-point Likert scale i.e., 1=Strongly Agree, 2=Agree, 3=Neutral, 4=Disagree and 5=Strongly Disagree. It also used 1=Excellent, 2=Very good, 3=Good, 4=Average and 5=Poor.
The above table 4.1 indicates summary statistics for all 6 questions regarding effectiveness of Accounting Information System in promoting accountability in the public sector for all 100 subjects. It can be seen that most of the mean scores for responses were “neutral” and one item showed “agree” under agreement scales. While most of mean scores for responses were “very good” and one item showed “good” under excellence scale.

Respondents agreed on the use of IFMS in management of finances in public sectors and they also ranked “very good” on their competences on the use of IFMS in their professional activities. Also, respondents ranked “very good” on the effectiveness of IFMS in providing financial reports for decision making. This indicates that, on average, most of the respondents are aware about the Accounting Information System (AIS) and its use in the public sectors.

### 4.2.1.2 Demographic Characteristics

This study intended to identify demographic characteristics of all respondents interviewed by the researcher. Demographic characteristics provide enough information about the typical respondent as thus it stimulates further analysis on the samples to be studied.

In the questionnaire survey, each respondent was asked four questions regarding their demographic profile, including gender, age group, and education level. This
part provides an analysis of the demographic characteristics of the respondents based on frequency analysis.

**Gender**

**Table 4.2 Gender of the Respondents**

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Label</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>63</td>
<td>63.0</td>
</tr>
<tr>
<td>Gender</td>
<td>Female</td>
<td>37</td>
<td>37.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Researcher’s field data analysis, 2013.

Table 4.2 above, shows an unbalanced percentage of respondents, whereby female (37%), while male (63%). In other words, from the 100 respondents, 63 of them are male while the remaining 37 are female.

This study recorded uneven sex distribution among respondents interviewed during the study. As seen above, males appeared by 63% while females were 37% slightly lower than males. Considering the options of majority sex and accessibility of both sexes, these results indicate that males comprise the majority of accountants found in Tanzania public sectors and thus they were more accessible as respondents than females.

**Age**

**Table 4.3 Age of the Respondents**

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Label</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age Group</td>
<td>24 - 35 yrs</td>
<td>26</td>
<td>26.0</td>
</tr>
<tr>
<td>Age Group</td>
<td>36 - 44 yrs</td>
<td>30</td>
<td>30.0</td>
</tr>
<tr>
<td>Age Group</td>
<td>45 – 54</td>
<td>39</td>
<td>39.0</td>
</tr>
<tr>
<td>Age Group</td>
<td>55 and above</td>
<td>5</td>
<td>5.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Researcher’s field data analysis, 2013.
Table 4.3 shows age group of the respondents. The majority of the respondents fall under the age group category of 45 - 54 years old (accounted for 39% or 39 respondents) followed by the age group of 36 - 44 years old (30% or 30 respondents), 24 - 35 years old (26% or 26 respondents), and 50 years old and above (5% or 5 respondents).

These results implied that data were mostly collected from adult respondents who were assumed to have knowledge and experience in accountancy and in Accounting Information System in managing finances in public sectors as thus assured validity of the data.

**Education**

**Table 4.4 Education level of the Respondents**

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Label</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>Diploma</td>
<td>18</td>
<td>18.0</td>
</tr>
<tr>
<td></td>
<td>Undergraduate Degree</td>
<td>58</td>
<td>58.0</td>
</tr>
<tr>
<td></td>
<td>Postgraduate Degree</td>
<td>24</td>
<td>24.0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

*Source: Researcher’s field data analysis, 2013.*

Table 4.4 shows the education level of the respondents. The majority of the respondents degree holders (58% or 58 respondents) followed by post graduate (24% or 24 respondents) and diploma (18% or 18 respondents).

Results from the study found that interviewed respondents had a satisfactory education level. Out of 100 respondents 82 (82%) had attained university degrees and 18 (18%) had attained college diplomas. Most respondents are degree holders, because there a lot degree holders in the labor market. None of the respondents was found with less level of education as this could also indicate that the sample selected for the study was reliable and legible.

**4.3 AIS Application in the Public Sector**

The Tanzania Government’s Ministry of finance uses an Integrated Financial Management System (IFMS) as accounting information system (AIS). The IFMS according to Dorontinsky (2003) and Rozner (2008) is an accounting information
system that tracks financial events and summarizes financial information. It supports adequate management reporting, policy decisions, fiduciary responsibilities and the preparation of auditable financial statements.

In the ministry of finance, IFMS is applied more specifically to the computerization of public financial management (PFM) processes, from budget preparation and execution to accounting and reporting, with the help of an integrated system for financial management of line ministries spending agencies and other public sector operations.

The purpose of this study was to determine the extent to which AIS promotes financial accountability in Tanzania public sectors. This section intends first to answer our first research question which is to determine the extent to which AIS is applied in the public sector. Then, to obtain the factors that influence application of the system in those sectors. Lastly, is to determine the extent of contribution which the AIS have to the financial accountability of the public sectors.

Figure 4.1 below shows the extent level of respondents’ agreement to which AIS is applied in the public sector. 76% agreed on the usage of the system in the public sector while 2% disagreed. These results indicate that many accountants are aware on the usage of the AIS in the public sector. To this juncture therefore, we are guaranteed to determine the factors that influence AIS application in the public sector.
4.4 Inferential Analysis

Inferential analysis is used to provide generation of conclusion regarding the characteristics of the population based on the sample data (Burns and Bush, 2000). Furthermore, it aims to examine the individual variables and its relationships with other variables.

4.4.1 Pearson’s Correlation Coefficient

Pearson’s correlation coefficient is known as a method of measuring the correlation and it is based on the method of covariance. Pearson’s correlation coefficient will indicate the direction, strength and significant of the bivariate relationship among all the variables that were measured at an interval or ratio level (i.e. gender, age and education levels). The number representing the Pearson correlation is referred to as a correlation coefficient. Correlations of +1 mean that there is a perfect relationship between two variables.

Hair, Money, Samouel and Page (2007) proposed Rules of Thumb on coefficient range and strength of association as shown in table below:
Table 4.5 Rules of Thumb about Correlation Coefficient Size

<table>
<thead>
<tr>
<th>Coefficient Range</th>
<th>Strength of Association</th>
</tr>
</thead>
<tbody>
<tr>
<td>+/- .91 - +/- 1.00</td>
<td>Very Strong</td>
</tr>
<tr>
<td>+/- .71 - +/- .90</td>
<td>High</td>
</tr>
<tr>
<td>+/- .51 - +/- .70</td>
<td>Moderate</td>
</tr>
<tr>
<td>+/- .21 - +/- .50</td>
<td>Small but definite relationship</td>
</tr>
<tr>
<td>+/- .00 - +/- .20</td>
<td>Slight, almost negligible</td>
</tr>
</tbody>
</table>

Source: Adapted from Hair, Money, Samouel and Page (2007)

4.4.2 Factors Influencing AIS Application

In determining the factors that influence application of AIS in Tanzania public sectors, several aspects were measured in relation to the usage of the AIS. These aspects included the influence of age, education level, level of experience and staffs’ level of competence.

i. Influence of Age on AIS application

In order to determine the influence age on AIS application, this study performed a correlation test between age of the respondents and the usage of IFMS in managing finances in public sectors. Consider table 4.6 below.

Table 4.6 Correlation between age group and AIS application

<table>
<thead>
<tr>
<th>AIS application</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
<th>Age</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS application</td>
<td>1</td>
<td>.383**</td>
<td>.000</td>
<td>100</td>
<td>1</td>
<td>.383**</td>
<td>.000</td>
</tr>
<tr>
<td>Age</td>
<td>.383**</td>
<td>.000</td>
<td>1</td>
<td>100</td>
<td>1</td>
<td>.383**</td>
<td>.000</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (2-tailed).
Source: Data generated by SPSS version 17.0

Direction of relationship
From the table above, there is positive relationship between age and AIS application because of the value for correlation coefficient is positive. The age variable has a 0.383 correlation with the AIS application variable. In other words, age variable has a 0.383 correlation with the AIS application variable.

Strength of relationship
The value of this correlation coefficient (0.383) falls under coefficient range from ±0.21 to ±0.40. Therefore, the relationship between age and AIS application is small but definite relationship.

Significance of relationship
The relationship between age and AIS application is significant. It is because the p-value 0.000 is less than alpha value 0.01. Therefore, as seen from the table, the test has shown that there is a significant relationship between age of accountants and application of AIS in public sectors. Many accountants are seen to be matured to influence the usage of AIS in the public sectors as their ages start from 24 to more than 55. The existing relationship between age and usage of the system is also seen to be significant. As more than average respondents agree on the usage of IFMS in managing finances, a significant relationship between age of respondents and usage of the system tells us that, the variables age of accountants and application of AIS are dependent, in the sense that matured accountants can be well trained and understand how to apply the system in their daily work basis.

ii. Influence of education level on AIS application
A correlation measure was also applied to determine the influence education level of respondents to the AIS application in the public sector. Consider table 4.7 below.
Table 4.7 Correlation between Education level and AIS application

<table>
<thead>
<tr>
<th></th>
<th>AIS application</th>
<th>Education level</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS application</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>1</td>
<td>.195**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.001</td>
</tr>
<tr>
<td>N</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Education level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>.195**</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (2-tailed).

Source: Data generated by SPSS version 17.0

Direction of relationship

From the table above, there is positive relationship between education level and AIS application because of the value for correlation coefficient is positive. The education level variable has a 0.195 correlation with the AIS application variable. In other words, education level variable has a 0.195 correlation with the AIS application variable.

Strength of relationship

The value of this correlation coefficient (0.195) is fall under coefficient range from ±0.01 to ±0.20. Therefore, the relationship between education level and AIS application is slight, almost negligible.

Significance of relationship

The relationship between education level and AIS application is significant. It is because the p-value 0.001 is less than alpha value 0.01.

As seen on table 4.7 above, it can be suggested that respondents selected for the study had received college to university education necessary to influence AIS application in the public sectors. Many respondents agreed on the application of the system and only 2% disagreed. This indicates that the system is highly applied in the public sector especially with the influence of educated accountants who use AIS.
Moreover, the existing relationship between education level and application of the system is also seen to be very significant. This statistical significant relationship that exists between education level of accountants and AIS application indicates that the chance of arriving at the same relationship between these two variables with the same kind of observations, is 1%. This means that application of AIS in the public sectors depends much on the education level of accountants. Thus, sectors with higher rates of educations levels among accounts are likely to positively impact AIS application in Tanzania public sectors.

iii. Influence of competence level on AIS application

In order to determine the influence competence level of AIS users on AIS application, this study performed a correlation test between competence level of the respondents and the AIS application in managing finances in public sectors. Consider table 4.8 below

**Table 4.8 Correlation between Competence level and AIS application**

<table>
<thead>
<tr>
<th>Competence level</th>
<th>AIS application</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS application</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pearson Correlation</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.190**</td>
<td>.001</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Data generated by SPSS version 17.0

Direction of relationship

From the table above, there is positive relationship between competence level and AIS application because of the value for correlation coefficient is positive. The competence level variable has a 0.190 correlation with the AIS application variable. In other words, competence level variable has a 0.190 correlation with the AIS application variable.
**Strength of relationship**

The value of this correlation coefficient (0.190) is fall under coefficient range from ±0.01 to ±0.20. Therefore, the relationship between competence level and AIS application is slight, almost negligible.

**Significance of relationship**

The relationship between competence level and AIS application is significant. It is because the p-value 0.001 is less than alpha value 0.01. Therefore, as seen from the results, many respondents are seen to have good competence levels and only 2% with average competence level disagreed on the usage of the system in Tanzania public sectors. These results indicate that competence level of accountants have a lot of influence to the AIS application in the Tanzania public sectors.

The existing relationship between competence level and usage of the system is also seen to be very significant as its p value is 0.001. This statistical significant relationship that exists between competency level of accountants and AIS application imply that application of AIS in the public sectors depends much on the competency level of accountants. Thus, with well organized programs of training to AIS users in Tanzania public sectors, competency levels of these accountants will raise as will boost the AIS applications within these sectors.

**4.5 Contribution of AIS to Financial Accountability**

This part intends to answer the second research question of study, which is to determine the extent to which AIS promotes accountability in Tanzania public sectors. Shown in figure 4.2 below, the overall level of accountability as ranked by respondents is average (forming 52%), followed by “good” (38%) and then 10% of poor AIS contribution to financial accountability. The overall results indicate that on average level the AIS promote accountability in Tanzania public sectors.
Correlation measures were also used to determine if the relationship exists between two continuous variables. As this study is concerned, it was vital to determine if correlation/relationship exist between AIS effectiveness in planning activities and financial accountability. It was also the intention of this study to determine if correlation/relationship exist between AIS effectiveness in providing financial reports and financial accountability. In other words, in order to determine AIS contribution to financial accountability, this study sought to understand the relationship there exist relationships between AIS effectiveness in planning activities/effectiveness in report provision and financial accountability.

4.5.1 Effectiveness of AIS in planning activities
To determine the extent to which the AIS is effective at promoting accountability especially in providing necessary information for planning activities, the researcher performed a correlation test on the two variables namely financial accountability and AIS effectiveness in planning activities.

Table 4.8 below presents the relationship between financial accountability and effectiveness in planning.
Table 4.9 Relationship between AIS effectiveness in planning activities and financial accountability

<table>
<thead>
<tr>
<th></th>
<th>Financial accountability</th>
<th>Planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial accountability</td>
<td>Pearson Correlation 1</td>
<td>.653**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>100</td>
</tr>
<tr>
<td>Planning</td>
<td>Pearson Correlation .653**</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Researcher’s field data analysis, 2013.

From Table 4.9 above, it shows that there is a positive .653 correlation. Correlations can range from –1 to +1. With positive correlation, we can conclude that as in 1 variable increases, so does the other (i.e. if we had a negative correlation, we would conclude that, if one variable increases, the other one decreases).

In our study, .653 Pearson correlations indicate two things. First, as the effectiveness of AIS in planning activities in the public sectors increases, so does financial accountability in the said sectors. Thus, the .653 Pearson correlations give a clear picture that effectiveness of AIS in planning activities positively affect financial accountability in Tanzania public sectors. The .653 Person correlations also indicate that higher financial accountability in Tanzania public sectors is obtained in sectors where AIS is more effective in planning activities.

Now that we have a positive correlation between AIS effectiveness in planning activities and financial accountability, the next thing to prove is “Is this correlation statistically significant?” Could this happen by random chance alone or is there something significant about this correlation? In other words, by random chance alone, what is the chance arriving at the same correlation between the same AIS effectiveness in planning activities and financial accountability with the same number of observations.

From the table above, the recorded Sig (2-tailed) number is .00 which indicates a statistical significant correlation. This is because, if the number is below .05, then
there is a statistical significance in the correlation/relationship between the variables. (A Sig (2-tailed) number which is above .05 indicates no statistical significance)

In our study, the recorded sig (2-tailed) of .00 indicates that the correlation between AIS effectiveness in planning activities and financial accountability is statistically significant. This significance level also indicates that by random chance alone, the chance of arriving at the same correlation between AIS effectiveness in planning activities and financial accountability in this study of same number of observations is 1%.

4.5.2 Effectiveness of AIS in providing financial reports

To determine the extent to which the AIS is effective at promoting accountability especially in providing financial reports for decision making, the researcher performed a correlation test on the two variables namely financial accountability and AIS effectiveness in reports.

Table 4.10 below presents the relationship between financial accountability and effectiveness in reports.

**Table 4.10 Relationship between AIS effectiveness in reports and financial accountability**

<table>
<thead>
<tr>
<th></th>
<th>Financial accountability</th>
<th>Reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial accountability</td>
<td>Pearson Correlation 1</td>
<td>.381**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reports</td>
<td>Pearson Correlation .381**</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Researcher’s field data analysis, 2013.

Table 4.10 above indicates that there is a positive .381 correlation. As correlations range from −1 to +1, with our positive correlation, we can conclude that as one variable increases, so does the other. (I.e. if we had a negative correlation, we would conclude that, if one variable increases, the other one decreases).
As seen on the previous discussion, .381 Pearson correlations also indicate two things. First, as the effectiveness of AIS in providing reports for decision making in the public sectors increases, so does financial accountability in the said sectors. Thus, the .381 Pearson correlations give a clear picture that effectiveness of AIS in providing reports for decision making positively affect financial accountability in Tanzania public sectors. The .381 Person correlations also indicate that higher financial accountability in Tanzania public sectors is obtained in sectors where AIS is more effective in providing reports for decision making.

This study also intended to determine if an obtained correlation between AIS effectiveness in providing reports for decision making and financial accountability was statistically significant. Could this happen by random chance alone or is there something significant about this correlation? In other words, by random chance alone, what is the chance arriving at the same correlation between the same AIS effectiveness in providing reports for decision making and financial accountability with the same number of observations.

As seen in table 4.10 above, the recorded Sig (2-tailed) number is .00 which indicates a statistical significant correlation. As suggested by our significance rule, if the number is below .05, then there is a statistical significance in the correlation/relationship between the variables. (A Sig (2-tailed) number which is above .05 indicates no statistical significance)

In our study, the recorded sig (2-tailed) of .00 indicates that the correlation between AIS effectiveness providing reports for decision making and financial accountability is statistically significant. This significance level also indicates that by random chance alone, the chance of arriving at the same correlation between AIS effectiveness in providing reports for decision making and financial accountability in this study of same number of observations is 1%.

Generally, the recorded sig (2-tailed) number of .00 in both correlation tests rejects the null hypothesis and accepts our hypothesis that Accounting Information System (AIS) of the Ministry of Finance promotes financial accountability to its stakeholders.
CHAPTER FIVE
CONCLUSION AND RECOMMENDATION

5.1 Introduction
This chapter presents conclusions on key findings of the study on the effectiveness of Accounting Information System (AIS) in promoting accountability in the public sector. It includes summary of findings, conclusion of the study and recommendations and opportunity for future research.

5.2 Summary
The main objective of this study was to identify the extent to which Accounting Information System (AIS) of the Ministry of Finance promotes financial accountability to its stakeholders. It wanted specifically to identify the extent which AIS is applied by Ministry of Finance, to determine the extent to which AIS is promoting Financial Accountability in government institutions and to identify challenges which hamper the use of AIS in promoting Financial Accountability.

Primary data were collected from 100 subjects regarding their perceptions on the effectiveness of AIS in promoting financial accountability in the public sector. Data from Assistant Accountant General, Chief accountants, Heads of technique and Application System Development Unit, Principal Accountants, Senior Accountants and Junior Accountants were collected.

From the first objective of this study, as suggested from our analysis, most respondents showed that the IFMS was highly used in managing finances in public sectors, and most of the staffs were very competent in using the system. This indicated that the IFMS is highly used in managing finances in public sectors.

Moreover, this study intended to identify the factors that influence AIS application in Tanzania public sectors. Thus, the researcher used several aspects to measure their relation to the application of the AIS. These aspects included the influence of age, education level, level of experience and staffs’ level of competence. Regarding the influence of age, many accountants were seen to be matured to influence application of AIS in the public sectors as their ages started from 24 to more than 55.

Also, with education level, respondents selected for the study had received college to university education necessary to influence AIS application in the public sectors.

Lastly, with regards to competence level, many respondents (forming 72%) were seen
to have good competence levels on the usage of the system. This indicated that competence level of accountants have a lot of influence to the AIS application in the Tanzania public sectors.

AIS application in the public sectors was therefore made it easier by mature age of public sectors’ accountants, their levels of education which also included training, knowledge advantage and exposure to new systems. Moreover, competence level of accountants has a lot of influence to the AIS application in public sectors. This could be the reason why most accountants are aware of the AIS application as such, they apply in their daily professional activities.

Therefore, based on the first objective of the study on the extent to which AIS is applied by Ministry of Finance, the study found the system is highly applied as majority of accountants apply it in their professional activities. This was a result of the mature level of accountants, education influence and competence level of accountants.

Moreover, based on the second objective of the study on AIS contribution to financial accountability in Tanzania public sectors, two aspects were measured in relations two financial accountability. These were effectiveness of AIS in planning activities and AIS effectiveness in providing reports.

Regarding AIS effectiveness in planning activities, results showed that there is a positive and statistical significant correlation between AIS effectiveness in planning activities and financial accountability. This indicated that, with the increase in AIS effectiveness in planning activities, there will also be an increase in financial accountability. Furthermore, with regards to AIS effectiveness in providing reports for decision making, results also suggested that there is a positive and statistical significant relationship between AIS effectiveness in reports and financial accountability. This also indicated that, with the increase in AIS effectiveness in providing reports for decision making, there will also be an increase in financial accountability.

Therefore, this study concludes that AIS contributes to financial accountability in Tanzania public sectors. This has resulted from application of AIS by many accountants than it was applied before. Additionally, the AIS have been effective in providing information for planning activities and in providing reports for decision
making. These two aspects positively affect financial accountability in Tanzania public sectors.

5.3 Conclusion

Among several reforms that the government of Tanzania has embarked, include the reform in the financial sector of the public service, with the aim of increasing accountability and transparency within the sector. The sector previously faced a number of challenges, one being failure to track records of expenditure, and second being accumulation of domestic debt errors.

With the reform programs therefore, these challenges were redirected to the introduction of an Integrated Financial Management System (IFMS) as an Accounting Information System (AIS) which was thought to guarantee efficiency and accountability within the financial sector.

As seen from the study, most accountants in Tanzania public sectors are competent users of the AIS and they also apply it in their daily professional activities. Most of accountants are matured enough to impact AIS application. Also many accountants have a well established education background which has a lot of influence to the AIS application in Tanzania public sectors.

Furthermore, application of AIS in Tanzania public sectors has increased the system’s effectiveness in providing information for planning activities. Apart from that, there has been an increase in the system’s effectiveness in proving reports for decision making. These two areas are seen to positively impact financial accountability in Tanzania public sectors.

However, the findings also identified two challenges that may be hampering AIS while promoting accountability in financial sectors. The first problem is AIS’ failure to track records of expenditure. This was shown by a bigger portion of respondents who disagreed on the effectiveness of the system in providing facilities for tracking expenditure. Another problem is poor facilitation of information sharing by the IFMS. This was also shown by the bigger portion of respondents who disagreed on the effectiveness of the IFMS in facilitating information sharing.

Therefore, with regards to the analysis of the study, and despite the underlying challenges facing AIS, it can be concluded that, the introduced Integrated Financial
Management System (IFMS) as an Accounting Information System (AIS) is effective in promoting accountability in the public sector.

5.4 Recommendations

Following the observations from this study, the researcher recommends the following:

This study has policy implications specifically directed to the government. With the failures of financial accountability, the government was concerned with reforming the system and introducing new mechanisms such as the AIS. As seen in many studies, most policies lack implementations as one of their impediments. 15 years since the financial reform in Tanzania, this study finds out that the problem of tracking expenditures yet persists. It can be therefore recommended that, the government should assess its policy implementation mechanism from time to time so as to identify areas that lack implementations.

Secondly, as seen from our study, results show that there exist significant relationships between AIS application and aspects such as age, education and competence level of accountants. The Ministry of Finance, its departments and agencies (MDAs) should start realizing the need to tackle such demographic categories in the best ways so as to increase performance in the financial sector.

Furthermore, as suggested from our analysis, AIS effectiveness in reports and planning directly affects accountability and transparency in Tanzania public sectors. It is thus the work of MDAs to increase efficiency in integrating with AIS so as to increase financial accountability and transparency in the public sectors.

Moreover, results from the study suggested that staffs’ competence level influences AIS application in Tanzania public sectors. In other words, increase in competence level of staffs accelerates AIS usage in public sectors. This study calls the attention of all AIS users in Tanzania public sectors. These are the last implementers of the policies and systems as such, their confidence, integrity and exposure matter a lot in reaching for financial accountability.

From the findings we can see that the challenge of AIS’ failure to track records of expenditure still persists. This was indicated by respondents who were neutral and by respondents who disagreed on the effectiveness on the IFMS in proving facilities for tracking expenditure. This study calls the attention of financial sectors to improve
transparency in their expenditures so as to allow integration of the systems in their records.

Lastly, the study also identified another challenge which is poor facilitation of information sharing by the IFMS. This was shown by respondents who remained neutral and respondents who disagreed on the effectiveness of the IFMS in facilitating information sharing. It can be suggested that, the sector should improve in coping with the system which in turn will make it easy for all staffs to use the system and share information concerned.

5.5 Area for Further Studies

This study intended to cover the literature gap that exists regarding AIS application in Tanzania public sectors and its contribution to financial accountability. As suggested from this study’s results, AIS alone cannot fully lead to financial accountability in Tanzania public sectors. Therefore, this study suggests two studies to be done in this area. First, on the factors influencing financial accountability in Tanzania public sectors; and second, on the quality of services offered in public financial sectors with regards to financial accountability.
REFERENCES


Fogg, B., & Tseng, H. (1999). The elements of computer credibility. *Communications of the A.C.M.*


APPENDICES

Appendix I - Questionnaire

Title: Effectiveness of Accounting Information Systems in Promoting Accountability in the Public sector.

Introduction

The Research questionnaires were aimed at accomplishing the Research data collection process on the research objective to identify the extent which the Accounting Information System (AIS) of the Ministry of Finance promotes financial accountability to stakeholders.

This questionnaire is a partial fulfillment of Master of Business Administration (MBA) in corporate management degree at the Mzumbe University. All information, including answers to this questionnaire, shall be treated in strict confidence and will not be used outside this context.

INSTRUCTIONS

Please, kindly take few minutes to complete this questionnaire. The purpose of the study is to evaluate the effectiveness of Integrated Financial system in promoting accountability. Please respond according to provided instructions.

General Instruction: Please tick the correct answer

PART A: General Information

This section seeks to solicit biographical information from respondents. Please indicate your response to the options provided by making a cross (X) in the appropriate block.

1. Please indicate your gender

| male | female |

2. Please indicate your age group (years )

| Below 24 yrs | 1 |
3. Please indicate your level of education

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary education</td>
<td>1</td>
</tr>
<tr>
<td>Diploma</td>
<td>2</td>
</tr>
<tr>
<td>Undergraduate degree</td>
<td>3</td>
</tr>
<tr>
<td>Postgraduate degree</td>
<td>4</td>
</tr>
</tbody>
</table>

4. Please indicate your position

<table>
<thead>
<tr>
<th>Position</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assistant Accountant General</td>
<td>1</td>
</tr>
<tr>
<td>Chief accountants</td>
<td>2</td>
</tr>
<tr>
<td>Heads of Technique and Application System Development Unit</td>
<td>3</td>
</tr>
<tr>
<td>Principal Accountants</td>
<td>4</td>
</tr>
<tr>
<td>Senior Accountants</td>
<td>5</td>
</tr>
<tr>
<td>Junior Accountants</td>
<td>6</td>
</tr>
</tbody>
</table>
PART B

Please write the number of the most correct answer for each question

1.) To what extent do you agree that the integrated financial management system is adequately used in the management of finances in the public sector?
   1) Strongly Agree
   2) Agree
   3) Neutral
   4) Disagree
   5) Strongly Disagree

2.) To what extent do you think you are competent with the use of integrated financial Management system in performing your professional activities?
   1) Excellent
   2) Very good
   3) Good
   4) Average
   5) Poor

3.) To what extent is the integrated financial Management system providing you with necessary information for planning activities?
   1) Excellent
   2) Very good
   3) Good
   4) Average
   5) Poor
4.) To what extent is the integrated financial Management system effective in providing financial reports for decision making?

1) Excellent
2) Very good
3) Good
4) Average
5) Poor

Please justify
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5.) To what extent do you agree that the Integrated financial Management system provides you with facilities necessary for tracking expenditures in your organization:

1) Strongly Agree
2) Agree
3) Neutral
4) Disagree
5) Strongly Disagree

Please justify
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........................................................................................................................................
........................................................................................................................................
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........................................................................................................................................
6.) To what extent do you agree that the integrated financial management system effectively facilitate information sharing among its stakeholders?

1) Strongly Agree
2) Agree
3) Neutral ( )
4) Disagree
5) Strongly Disagree

Please justify