

**EFFECT OF ICT ADOPTION ON FINANCIAL REPORTING EFFICIENCY IN  
KENYA: A STUDY OF PUBLIC ENTERPRISES IN TANA RIVER COUNTY**

**BY**

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## DECLARATION

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## **DEDICATION**

This thesis is dedicated to my dear mother Agnes for her intimate love, and constant prayers; my late father Joel for his blessings; Bishop K'okombo for his spiritual nourishment and prayers; my two lovely wives Pamela and Linet for their love, encouragements, care and endurance; my sweet daughters Winnie, Hellen, Juliet, Sheryl, Brenda and Sarafina for their patience and understanding; and finally to my brave sons Denish, Victor, Felix and Willis for cheering me up during the period of my study.

**MAY GOD BLESS YOU ABUNDANTLY**

## ABSTRACT

The purpose of this study was to investigate the effect of ICT adoption on financial reporting efficiency in Kenya, a case of public enterprises of Tana River County. Business organizations worldwide have come under immense pressure to maximize efficiencies as they reduce their spending in order to make profits in order to remain competitive. However the recent advancement in technology has seen numerous changes in styles of competition, production environment, and cost structures of firms. These changes have been advocated as imposing pressures for changes in operational strategies and financial reporting in order to improve overall firm efficiency. Firms that don't yield to these pressures end up being faced out of the market. In Kenya this pressure resulted in the exit of giant public enterprises while many more continue to register dismal performance due to high operational costs, inefficient service delivery suboptimal practices, ambiguous systems/processes and inadequate internal controls. While it is believed that use of ICT improves efficiency at firm level, there is no consistent empirical evidence to support that belief. Prior study results give mixed findings with some supporting while others oppose, hence the need for this study. The objectives of the study were to;- establish the effect of IS adoption on financial reporting efficiency, examine the effect of MRP on financial reporting efficiency, analyze effect of ERP usage on financial reporting efficiency, explore effect of e-business on financial reporting efficiency and determine the challenges facing ICT adoption in financial reporting in the context of public enterprises. The study was supported by several theories relating to individual variables including Technology acceptance model (TAM), Diffusion of innovation theory (DOI), Resource based view (RBV) and information richness theory (IRT). Descriptive census survey method was used in which all the 200 accountants and auditors working in public enterprises in Tana River County were given questionnaires which they filled and handed back, The data was then organized analyzed and interpreted using Statistical Package for Social Sciences (SPSS ver. 18.0). Multiple regression analysis was used to test the hypothesized cause-effect relationship between ICT adoption and efficiency in financial reporting. Results were presented in charts, graphs and tables. The study model established that financial reporting efficiency is a function of adoption of IS, MRP practices, ERP usage and to a minor level, e-business. The researcher therefore suggested the following standardized multiple regression model for prediction of financial reporting efficiency in public enterprises in Tana River County;  **$FRE = 0.202IS + 0.106E\text{-Business} + 0.222MRP + 0.691ERP$** . Based on these findings, the study concluded that ICT adoption significantly influences efficiency in financial reporting in public enterprises of Tana River County. Consequently it is recommended that the government should enhance use of ICT in financial reporting in order to improve general efficiency of public enterprises in Kenya.

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**ABBREVIATIONS AND ACRONYMS**

ICT – Information Communication Technology

IT – Information Technology

IS – Information System

AICPA – American Institute of Certified Public Accountants

MRP – Material resource planning

MRPII – Manufacturing resource planning

ERP – Enterprise Resource Planning

ATM – Automated Teller Machine

E-Accounting – Electronic Accounting

E-Business – Electronic Business

ICPAK – Institute of Certified Accountants of Kenya

OECD – [Organisation for Economic Co-operation and Development](#)

TAM – Technology Acceptance Model

AIS – Accounting Information System

SAP – Structural Adjusted Program

TAM – *Technology Acceptance Model*

IASB – International Accounting Standards Board

ROA – Return on Assets

ROS – Return on Sales

ROI – Return on Investment

ATO – Asset Turn Over

ROE – Return on Equity

## DEFINITION OF OPERATIONAL TERMS

The following terms have the following operational meanings as used in this study;

***Auditing:*** is the examination and verification of a company's financial and accounting records and supporting documents by a professional so as to give his profound opinion as to the truth and fairness of the financial statements of that company.

***Public Enterprise (State-Owned Enterprise-SOE)***– A legal entity that is created by the government in order to partake in commercial activities on its behalf.

***Cloud computing:*** refers to a computer system, which, involves the hosting of real-time services through the internet.

***Cloud computing accounting software:*** is internationally available software to support many handlers of accounting data in large scale through internet.

***ETail:*** is a sub-category of e-Commerce (electronic commerce) that deals with Online Retail.

***Efficiency:*** is the optimum use of input resources in the production of maximum output.

***Adoption:*** is the degree of acceptance and use of a new idea, practice, technology or object by an individual or other unit

***Financial reporting:*** is the communication of financial information, like financial statements, to both internal and external stakeholders usually by an accountant.

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## CHAPTER ONE

### INTRODUCTION

#### **1.1 Overview**

This chapter covers the background of study, statement of study, justification of study, objectives of study, research hypotheses, significance of study, scope of study and limitations of the study.

#### **1.2 Background of the study**

The purpose of this study was to investigate the effect of ICT adoption on financial reporting efficiency in Kenya. More specifically, the study examined the effect of ICT adoption, including its contextual significance, implications and threats on efficiency in financial reporting in public enterprises of Tana River County.

Despite the growing number of studies on the adoption of information communication technology (ICT) and its effect in financial reporting efficiency, the available literature still suggests need for advancing understanding of the key factors experienced in different contexts around the world. In addition, this area of study is still under-researched in African settings. Most of the existing literature represents other contexts in countries and regions of the world such as Europe, USA, Asia and Australia, while far less research in this area has been carried out in African contexts, (Ngplains 2002). Rom & Rohde, (2007) also hold the view that traditional, researches on ICT focused majorly on the study of information processing, on computer systems security and on the development of new systems – leaving for study the relationship between ICT and financial reporting. He acknowledges that “a few studies that have, in some way, covered this relationship fall

short due to their focus on outdated tools and undetailed analysis” (Rom & Rohde, 2007).

Besides, the recent advancement in technology has seen numerous changes in styles of competition, production environment, and cost structures of firms (Dixon, 1998). These changes have been advocated as imposing pressures for changes in operational strategies and financial reporting needs to meet the changing needs of managers, report profitability and keep the firm on competitive advantage. Firms that don't yield to these pressures end up being faced out of the market (Xiao et al 1996).

Financial reporting must therefore be efficient in order to cope with the changing technology and the business scenario which has enlarged into a global economic village called e-business. E-business is “the sharing of business information, maintaining business relationships, and conducting business transactions by means of telecommunications networks” (Zwass, 1996).

ICT has been defined as ‘any technology used to support information gathering, processing, distribution and use’ (Beckinsale and Ram, 2006). The definition used in this study classifies ICT into information technologies, telecommunications technologies and networking technologies (Nicol, 2003). This covers all forms of technologies such as computers, Internet, websites as well as fixed-line telephones, mobile phones and other wireless communications devices, networks, broadband and various specialized devices (Manueliet al, 2007).

From a stream of ICT literature that focuses on the financial reporting, this research takes the ICT adoption approach to advance the understanding of technology uptake among Accountants in developing nations within Africa (Beckinsale and Ram, 2006; Zappala and



Gray, 2006; Manuelli et al., 2007). ICT as used in this study also includes expansive meaning of [information technology](#) (IT).

Prior to the advent of personal computers, businesses were limited to two methods for keeping track of financial data. One method was to install a mainframe computer and set up a data processing department. This approach had its own difficulties including, the cost of mainframe computer which was very high and also many qualified ICT personnel were required to handle the various tasks involved in processing the accounting data. In most cases, large corporations were the only organizations that could afford such an expensive system. The other option was to have a manual accounting system. Such a system consisted of paper ledgers, typewriters and calculators. Each customer or vendor was on a separate ledger card which contained all the transactions for that company. Typewriters were used to type invoices and cheques, while all calculations were performed using calculators. The key drawback of the manual system was that it was possible for errors to be introduced into the system and that the error could go undetected for quite some time. Most firms had no option but to adopt manual systems since the mainframe accounting system was not within their means. (Tavakolian, 1995).

However, with the introduction of PC-based Accounting Systems, both the computer hardware and the accounting software have become cheaper, creating an opportunity for almost all business enterprises including SMEs to adopt e-accounting or accounting information system (AIS). Nevertheless, there are several factors that determine whether an organization adopts e-accounting or not. Such factors have created a division between e-accounting adopters and non-adopters. [Fontinelle](#), (2011) noted that “It is generally believed that growth within Accounting Information System (AIS) come alive with the

advent of Information and Communication Technology (ICT), with notable products like;- Enterprise Resource Planning (ERP) system, software and ancillary equipment such as Automated Teller Machine (ATM), debit cards, E-commerce, modern computer hardware and softwares, database, internet, intranet, Extranet, Telecommunication, Oracle, Structural Adjusted Program (SAP), Peachtree, Tax Software (Turbo Tax), Statistical Package for Social Sciences (SPSS), and lately, cloud accounting”.

Financial reporting is defined by accounting dictionary as the communication of financial information, like financial statements, to both internal and external stakeholders usually by an accountant. From this definition financial reporting bears the same meaning as accountancy which has also been defined by the same dictionary as the practice of preparing and communicating financial statements about a particular business body to its users such as shareholders and managers. The definition also marches with accounting practice which has been defined as the practical application of accounting policies within a business, as distinct from accounting theory. Hence the term financial reporting will be used in this study interchangeably with accountancy and accounting practice to mean one and the same thing. This definition should however not be confused with public practice accounting, where accounting firms provide accounting, taxation or auditing services to other organisations or individuals, as this is outside the scope of this study.

Traditionally, financial reporting involved preparing accounts and reporting on assets and liabilities, revenue and expenditures/sales to stakeholders. However modern financial reporting can be viewed as a specialized information system (IS) known as Accounting Information System (AIS) aimed at recognizing, measuring, recording, processing and reporting economic events affecting business entities, sending, receiving, storing or

otherwise processing electronic communications. In this study the terms E-Accounting (EA), Information Technology Accounting (ITA) Accounting Information System (AIS) and Financial Information System (FIS) are used interchangeably to refer to any accounting system that depends on ICT for performing its information system functions.

Accounting Information System (AIS) began as electronic data process (EDP) and developed largely as a result of the rise in technology usage in accounting system, the need for ICT control, and the role of computers on the ability to perform attestation services. This increased the use of computers in businesses and with it came the need for accountants to become familiar with EDP concepts in business through rigorous retraining. Since then, ICT has diverged accounting practice significantly from its initial primary role of processing accounting transactions and supporting financial reporting.

Efficiency is a borrowed term from economics and is defined as the relationship between inputs and outputs. Inputs can be classified as, physical, human, financial knowledge and information. An efficient activity is one in which an optimum output is obtained from a given input (Nwankwo, 1981; Owolabi, 1996). Efficiency in business institutions was defined as the optimum use of input resources in the production of maximum output (Hermes et al 2011). The measure should be viewed in terms of how an organization uses its resources, such as available funding and staff, in order to achieve its objectives. An organization applies these resources in such a way as to maximize their contribution to organization's outputs.

Financial reporting efficiency was viewed by Barney (2001) as contingent on competitiveness of accounting practice skills and resources; he maintained that

accounting practice resources and skills are considered a success when they help the accountant to formulate and developed efficiency, effectiveness, and economy (Bharadwaj et al., 1993). Financial reporting efficiency in public enterprises can be measured by looking at its output and how it has overcome the inefficiencies which affected the relevant reporting system before implementation of ICT. Such output includes efficient financial reporting dissemination, adequate financial information integration and accounting information trustworthiness.

### **1.3 Statement of the problem**

Business organizations worldwide have come under immense pressure to maximize efficiencies as they reduce their spending in order to make profits in order to remain competitive (Milis and Mercken, 2003). However the recent advancement in technology has seen numerous changes in styles of competition, production environment, and cost structures of firms. These changes have been advocated as imposing pressures for changes in operational strategies and financial reporting in order to improve overall firm efficiency. Firms that don't yield to these pressures end up being faced out of the market. In Kenya this pressure resulted in the exit of giant public enterprises like Kisumu Cotton Mills (KICOMI), Kenya Railways and Kenya Cooperative Creameries (KCC) while many more continue to register dismal performance due to high operational costs, inefficient service delivery suboptimal practices, ambiguous systems/processes and inadequate internal controls. (Mwaura, 2007). While it is believed that use of ICT improves efficiency at firm level, there is no consistent empirical evidence to support that belief. Prior study results give mixed findings with some supporting while others oppose, hence the need for this study.

## **1.4 Purpose of the study**

The purpose of this study was to investigate the effect of ICT adoption on financial reporting efficiency in Public Enterprises in Tana River County, Kenya.

## **1.5 Objectives of the study**

The specific objectives of the study were to;-

1. Establish the effect of Information System (IS) adoption on financial reporting efficiency in public enterprises of Tana River County
2. Evaluate the effect of e-business on financial reporting efficiency in public enterprises of Tana River County
3. Examine the effect of Material Requirements Planning (MRP) on financial reporting efficiency in public enterprises of Tana River County
4. Analyze effect of Enterprise Resource Planning (ERP) usage on financial reporting efficiency in public enterprises of Tana River County
5. Determine the Challenges Facing ICT adoption in Financial Reporting in public enterprises of Tana River County

## **1.6 Research Hypotheses**

The following null hypotheses guided this study

- H<sub>01</sub>: Information System (IS) adoption has no significant effect on financial reporting efficiency
- H<sub>02</sub>: Material Requirements Planning (MRP) has no significant effect on financial reporting efficiency

H<sub>03</sub>: Enterprise Resource Planning (ERP) has no significant effect on financial reporting efficiency

H<sub>04</sub>: E-business has no significant effect on financial reporting efficiency

Hypothesis was used because the study is analytical in nature.

## **1.7 Significance of the study**

In the context of practical contribution, the result of this study is expected to provide valuable contribution not only to firms' managements but also to the learning institutions and academics who are concerned with imparting relevant skills to their accounting students and preparing them for new technology based accounting. The results may also be useful to the standards setting body – International Accounting Standards Board (IASB) in setting new guides and standards, practicing accountants and auditing firms to improve skills of their existing and potential employees and also to select the right application software to employ in carrying out accounting/audit tasks, business managements and governments in implementing modern accounting practices that suite the technological world, investors who will be able to know the level of reliability they can place on a firm's financial statements and finally researchers and academicians for more research work in this area of study. It is also expected add value to the body of knowledge.

## **1.8 Scope of the study**

The study targeted staff working in the accounting and audit departments of public enterprises in Tana River County, including state agencies, parastatals and government

departments where information technology platforms host computerized accounting systems and controls.

The study was done in a period of eight months.

Even though use of ICT covers wide aspects ranging from automation, profession, theory, statutory obligations, capital investment and a host of several others factors, this work was restricted to cover the effect of ICT adoption within the context of financial reporting only. It also covered use of relevant ICT applications and systems that have a bearing on financial reporting. The study also covered ICT environment that govern the preparation and presentation of financial statements, by an accountant, distinct from the public accounting practice. It also serves as a guide for further research work on the field of ICT effect on accounting practice.

### **1.9 Limitations of the study**

The subject under study is very volatile as ICT keeps changing day and night. This makes it very difficult to arrive at a logical conclusion. The work therefore suffered from the problem of concluding on historical status regarding the effect of ICT adoption on financial reporting. To overcome this problem, the researcher has made a recommendation for future studies to be conducted at intervals and also to organize the studies under a theory so that findings can be generalized and the knowledge derived used to predict future as well as current effects. The study was also limited to only one out of 47 counties, which was not representative enough of the whole country. The researcher has therefore recommended for a nation-wide research to be conducted in future.





## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Overview**

This chapter will discuss literature relating to the effect of ICT adoption on financial reporting efficiency. For a better understanding of the problem, a revisit of previous studies was outlined as a basis for defining research hypothesis and objectives of study. It specifically reviewed ICT adoption in financial Reporting, IS adoption, E-business (internet, intranet, website), Material requirements planning (MRP), Enterprise resource planning (ERP), Financial Reporting Efficiency (Efficient Financial Reporting Dissemination, Adequate Financial Information Integration, Accounting information trustworthiness), Theoretical Framework (Technology Acceptance Model, Diffusion of Innovation Theory, Resource Based View and Information Richness Theory), Conceptual Framework and Challenges Facing ICT adoption in Financial Reporting. The chapter also covers Literature summary and Research gap,

#### **2.2 ICT Adoption in Financial Reporting**

ICT adoption is the acceptance/internalization and usage of information and communication technology by individuals and business firms with a belief that it is among the main alternatives for cost reduction in an organization. ICT adoption in any business firm has proved to be beneficial to both firms and customers, as it plays a significant role in reduction of operational inefficiency in an organization as well as improvement in its decision making (Krishnaveni & Meenakumari, 2010). ICT is an essential tool for efficient administration of an organization, and for better delivery of

services to clients as its adoption improves the supply of timely and accurate financial information, reduce the cost of production due to better access to market information and facilitates organizational flexibility, which results into 'improved product quality' (Majumdar et al; Apulu&Lathan, 2010)

ICT adoption and its usage in financial reporting has also proved beneficial to the accountants and management of organizations as it increases the supply of information for decision making, facilitates easy dissemination of financial information within and without the organization which in turn reduces the time constraints in accessing the required information and monitoring activities (Spanos et al, 2002). ICT adoption also results into increased organizational capability and improved performance as a result of low operating costs, improved coordination, decreased inefficiency and uncertainty as well as increases in revenues (Hengst& Sol, 2001; Jimenez-Zarco et al, (2006). ICT adoption is also beneficial as it improves information accessibility on customers and provides effective means of customer service delivery. "With improved ICT uses in organization, customers can easy acquire goods and services online and easily access services and product information online, communicate with organizations easily which in turn brings customer satisfaction on services offered by the organization" (Melville et al, 2004).

The information stimulates the creation of new knowledge by giving firms and innovators fast access to knowledge. Lefebvre, (1996) concluded that ICT adoption in financial reporting brings a host of other benefits including saving time and space in the sending as well as retrieving of information both within and across diverse organizations using cloud accounting; providing faster response to market needs and allowing more flexibility in

system and product design; production and equipment delivery; and, facilitation of training of existing staff on new and sophisticated equipments. Further he concluded that ICT adoption has also leads to acquisition of additional capabilities by the employees in these organizations, gives employees sociological and psychological impetus at the workplace, improves work-group effectiveness, organizational climate, job satisfaction, personal growth and accomplishment.

Granlund, (2007) however acknowledges that even although ICT plays an important role in the field of financial reporting, the relationship between ICT and accounting has not been studied thoroughly well. He also states that, accountants are reluctant to adopt ICT in financial reporting due its dynamic nature, even though it makes work easier, faster and cleaner”.

Banda, (2012), looked at the adoption of ICT and its impact on performance financial reporting in organizations and concluded that there exists positive relationship and a fair use of ICT in business process automation resulting into increased staff productivity, reduced transaction costs and growth.

Shanker (2008) in his study concluded that ICT adoption by business institutions improves efficiency as it assists in reduction of transaction costs, overcome the constraints of distance by cutting across geographic boundaries thereby assisting to improve performance and coordination of activities within organizational boundaries. He notes that financial reports, like cash flow statements, income statements, statement of affairs, market share reports and departmental profit and loss, have also been improved in quality and are now more accessible with computerized system. Importantly,

computerized Financial reporting systems allow accountants to process large amounts of data and produce financial information quicker, cheaper and more efficient. He however noted that, since ICT was introduced in accounting profession, accountants have only automated existing processes rather than envisioning how ICT could be used to conduct business in new and innovative ways, adding that ICT has also led to more transparency in organizations since it enables networking and information sharing that leads to demands for greater openness and transparency (Shanker, 2008).

Deloitte's third-quarter 2012 CFO Signals survey indicated that, nearly half of CFOs reported that their ICT systems do not adapt well to changes in business strategy, tactics and/or scale, and only about 40 percent felt positive about their ability to provide information in ways that reveal relevant business insights and facilitate decision-making" (Deloitte, 2012)

In the Kenyan perspective, very few studies in this specific area of study have been carried out and published. A study by Peterson et al (1996) on effect of computers on the accounting systems found that, there is no significant effect, and that computers only helped to strengthen the manual accounts and not efficiency. Nganga, & Mwachofi, (2013), assert that ICT fuels the greatest wave of technical innovation currently spreading across the globe, affecting new areas of social and economic activity, adding that "Unsurprisingly, financial businesses everywhere have been in the throes of organizational changes and innovation based on new possibilities opened up by ICT" Nganga, (2013).

### **2.2.1 Information System (IS)**

An information system (IS) is a computerized [database](#) designed to accept, store, process, transform, make useful, and analyze data and to report results, usually on a regular, ongoing basis. It is often construed as a larger system including not only the database and the software and hardware used to manage it but also including the people using and benefiting from it and also including all necessary manual and machine procedures and communication systems.

A business information system was defined by Hooper and Page (1997) as “the sum of all the tools, techniques and procedures used by the business to process data”. Fisher and Kenny (2000) suggested that organisations infuse information systems into their operations so as to enhance competitiveness and facilitate business growth and success. On the other hand, Laudon and Laudon (2001) believed that information systems are embedded in organisations and are the result of standard operating procedures, work flows, politics, organisational culture and structure. Although organisations have different information systems because they have varying information needs, they all strive for competitive advantage through continuous improvement; re-evaluation of the effectiveness and efficiency of their business information system (Chaffey and Wood, 2005).

Kajogbola, (2004) concluded that adopting IS in financial reporting results in more effective use of time and accurate calculation of data and faster communication of financial results, hence contributes significantly to closing communication gaps, as stakeholders can now communicate easier and faster, through E-mails, internet, intranet

and websites, when accessing financial statements and relevant analysis for quick financial decisions

### **2.2.2 E-business**

E-business has been defined by Zwass, (1996) as the sharing of business information, maintaining business relationships, and conducting business transactions by means of telecommunications networks. E-business has the potential of generating tremendous new wealth, mostly through entrepreneurial start-ups and corporate ventures. It is also transforming the rules of competition for established businesses in unprecedented ways (Amit&Zott, 2001).

The growth in global e-business is important primarily for the manner in which it is altering the overall business environment and for the productivity-enhancing practices that e-business enables (Amit&Zott, 2001; Krovi, 2001; Singh &Kundu, 2002). Though national markets remain important, e-business alters the competitive landscape by reducing the barriers between geographic markets (Zhao, 2006). The basis upon which efficiency is determined is also altered in some cases where a limited number of firms gain advantages by achieving previously unthinkable economies of scale, while in other cases a reduction in essential fixed costs, and operational costs precipitates a substantial decline in the minimum efficient scale, thereby allowing room for efficient financial reporting and a greater number of competitors (Mansell, 2001). In addition to the impact on competitive dynamics, e-business has enabled a broad set of productivity-enhancing practices (Zhao, 2006).

In a more dynamic sense, e-business enables a more rapid diffusion of existing innovations and supports the development of further innovations, such as in the realm of supply chain management. Although the ability of individual firms to reap extraordinary profits was initially overestimated, there is little doubt that the social gains to e-business innovations have been dramatic (Loch, Straub &Kamel, 2003). In relation to the use of Information Communication Technologies (ICTs) in creating business value, electronic commerce (e-commerce) is also considered as being synonymous to the term e-business (Hinson &Boateng, 2007). These conceptualizations underpin the use of these terminologies in this study.

Spanos et al (2003) hold the view that buyers and sellers are able to share information and transfer goods across national borders with the use of ICT, which helps to increase access to global supply chains. Jiménez-Zarco et al. (2006) also concluded that ICT plays an important role in acquiring, creating and managing knowledge as it enables the diffusion of organizational data that can be crucial for effective decision making and control at all levels. They further noted that ICT helps in organizational planning and improves organizational communication and flexibility.

### **2.2.2.1 Internet**

Within a short period of less than 20 years, the Internet has grown from an essentially academic facility to the backbone of the information superhighway. It is now widely used in homes, schools, universities, business companies, and public sector organizations for a variety of purposes. Scupola (2002) suggests that the Internet has increased the cost-

effective flow of information via enabling more open communication systems which further lead to a perfect information in the market and an efficient resource allocation.

The Internet appears particularly pertinent to financial reporting. First, it is a global network which makes physical and national boundaries less meaningful and thus provides a seamless information delivery channel. With the advent of World Wide Web, it supports powerful hypertext and hypermedia presentations. In addition, the Internet is capable of integration with other information and communication technologies. In particular, its convergence with database technology opens many opportunities for improving financial reporting. Indeed, the Internet is increasingly used for corporate reporting (Lymer et al, 1999).

Studying the factors that influence internet adoption Taragola et al, (2001) concluded that internet adoption is positively related to computer training of the firm manager, creativity and innovation, growth, stabilization and negatively related to intrinsic objectives (being independent). The conclusion of the study shows that factors determining e-accounting adoption are actually different from those determining ICT adoption in general. If the firm has low volume of activities, then the benefits of ICT adoption and usage is likely to be outweighed by the associated costs, Taragola et al, (2001).

#### **2.2.2.2 Intranet**

Intranets are internal corporate networks that operate like Internet sites. They are not public areas; they restrict access to staff or groups of staff. Organizations use them in various ways. Some will build a site that simply holds corporate documents such as policies, employment contracts, templates and key data. Others may add functionality



like internal email, discussion boards, networked projects and access to application systems. The core benefit of an Intranet is that it can centralize its functions, making it a hub around which employees can work. Intranet technology can actually make your company more efficient by enhancing team productivity, save you money, foster communication, keep employees up-to-date, and enable one-stop access to important documents.

### **2.2.2.3 Website**

A website is a set of related [web pages](#) typically served from a single [web domain](#). A website is hosted on at least one [web server](#), accessible via a network such as the [Internet](#) or a private [local area network](#) through an Internet address known as a [Uniform resource locator](#). All publicly accessible websites collectively constitute the [World Wide Web](#). Website Performance Optimization (WPO) improves user and business metrics. WPO also decreases operating costs by reducing hardware requirements and bandwidth, which in turn reduces carbon footprint. It's a win on all fronts. We're going to see even more case studies on the positive impact of performance optimization, and as a result, the interest in learning more about this field will continue to grow.  
<http://www.stevesouders.com>

### **2.2.3 Material Requirements Planning (MRP)**

Material Requirements Planning (MRP) is a time-phased priority-planning technique that calculates material requirements and schedules supply to meet demand across all products and parts in one or more plants. It is used in production as well as [inventory control system](#) to [manage manufacturing](#) processes. Most MRP systems are [software-](#)

based operated on ICT platform, while it is possible to conduct MRP by hand as well. Information Technology plays a major role in designing and implementing MRP systems and processes as it provides information about manufacturing needs (linked with customer demand) as well as information about inventory levels. MRP techniques focus on optimizing inventory and are used to explode bills of material, calculate net material requirements and plan future production.

Accounting software is critical to business and the MRP system can help in this area as well. The accounting module will look at purchasing and inventory. The system will also track cash flow and taxes to keep everything up to date. Maintaining accurate financial statements is the key to running an efficient business. The best thing about the MRPII is the way that all aspects of the business are now combined into one system. In order for the system to work properly, there needs to be collaboration between IT staff and other members of the organization. This system is a major upgrade over previous versions because of the integration aspect, <http://mrpsystem.org>.

According to Moustakis V. (2000), MRP interfaces with other organizational information resources. MRP is part of the organizational information management infrastructure which contributes to the achievement of broader goals associated with quality, customer satisfaction, just in time delivery and overall financial performance of the firm.

#### **2.2.4 Enterprise Resource Planning (ERP)**

ERP system is an integrated commercial software package that can perform all the major business functions of an organization. These functions generally include all elements of the value chain from raw material purchases, inventory management,

production, goods shipments, invoicing, accounting, and human resource management (Peslak, Subramanian, & Clayton, 2008). ERP is a complete project which integrates information and business processes in order to enable the organization to share their information among all departments (Swartz & Orgill, 2001) explained that ERP system increases the productivity of human resources, finance, purchasing, inventory control, supply chain and customer relationship management of business organizations. The software infrastructure facilitates the flow of information among all functions within the business. This infrastructure is developed on a common database that is responsible for storing all information that essential for business operations and decision making. Enterprise Resource Planning systems automate and integrate the core functionality of an organization (Markus, Tanis, & Fenema, 2000).

Hunton, Lippincott, & Reck, (2003) compared the Financial Performance of ERP adopters and Non-Adopters. The total sample size comprised 123 companies (63 ERP adopters and 60 Non-adopters). They compared the results of ROA, ROS, ROI and ATO in different periods of ERP pre-implementation (t-3 to t-1) and Post implementation (t+1 to t+3) for 3 years' time. The study found that that return on assets (ROA), return on investment (ROI), and asset turnover (ATO) were significantly better over a 3-year period for adopters, as compared to non-adopters.

Sale (2005) compared the actual with the expected performance to examine the impact of ERP on financial accounting measures. Author used case study of Texas Instruments, Inc. where ERP system is functional. Author Collected secondary financial data of ROI, ROE, ROA, Employees, Productivity and Inventory from 1998 to 2002. The study found negative values of ROE, ROI, ROA after two years of implementation of ERP system

while study also found increase in organizational productivity post implantation period. Author concluded that ERP system do not improve financial performance immediately after its installation in organization.

### **2.3 Financial Reporting Efficiency**

Financial reporting is used in this study in the context of practical application of accounting policies within a business, involving collecting, processing and communication of financial information, like financial statements, to both internal and external stakeholders usually by an accountant, as distinct from accounting theory. Generally financial reporting and accounting practice mean one and the same thing, and presents accounting information to organization for management use (Hakansson and Lind, 2004). It is a tool for efficient resource administration, and support of appropriate decision making. Financial reporting approach has disciplinary and calculative practice, such as assessing costs, resource and expense allocation methods which are implemented to support effective decision-making and performance-measuring (Quattrone, 2009).

According to France (2013), in his empirical finding, today's sophisticated financial management systems can increase the efficiency and accuracy of financial reporting, and automate and streamline business processes, thereby reducing time and labor costs while increasing productivity including accuracy. He adds that "as the accountant's role becomes more strategic, there is a growing need to improve the finance organization's ability to provide information and insight so that companies can increase their agility and competitiveness in their markets. Yet outmoded, disparate or incompatible systems that are dependent on manual processes make it difficult for companies to rise to the challenges of managing and analyzing their financial data"(France 2013). He adds that

“having an outdated or non-integrated accounting system often means that a business may be operating at a sub-optimal level. Mitchell, Reid & Smith (1998), while underscoring the strategic importance of accounting to firms, noted that efficiency of financial reporting could be linked to the success or failure of any business. This is because accounting systems are responsible for analyzing and monitoring the financial condition of firms, preparation of documents necessary for tax purposes, providing information to support the many other organizational functions such as production, marketing, human resource management, and strategic planning. Without such a system it will be very difficult for firms to determine performance, identify customer and supplier account balances and forecast future performance of the organization.

When organizations adopt ICT in their financial reporting, they usually discover that besides the fact that computerized accounting systems handle financial data efficiently, their true value is that they are able to generate immediate and accurate reports regarding the organization financial status (Hotch, 1992). In order to survive the current wave of competition, managers need updated, accurate and timely accounting information driven by ICT, (Lohman, 2000; Amidu and Abor, 2005). According to Ssewanyana (2007), the adoption and usage of (ICT) is changing business processes, and the way people live and work and new innovations as a result of ICT adoption will continue to emerge globally.

Financial reporting efficiency can be measured based on qualitative characteristics of financial reports which are; adequate financial information integration, efficient financial reporting dissemination and accounting information trustworthiness, Chen and Tan, (2004). These are qualitative characteristics which enable effective communication between accountants and users of financial reports, (William and Flora, 2006).

### **2.3.1 Efficient financial reporting dissemination**

Financial reports prepared and audited should be published for the purpose of promoting efficient performance of an organization. However, global consistency is needed for financial, as well as non-financial, information disseminated to investors in our markets. Moreover, there is a growing consensus around the world that financial reporting in any marketplace should be of high quality in order to serve the needs of investors. At present, financial reporting requirements vary from country to country under the guide international Financial Reporting Standards (IFRS) set by IASB. An efficient financial report should have the following attributes;(IASB 2012)

#### **2.3.1.1 Timeliness**

Financial reports should be prepared in time so that management can be able to make informed decisions and at the same time auditors have to carry on their work after the preparation of financial reports. Although timeliness is key in financial reporting, it should in no way conflict other characteristics of quality financial reports like completeness, Comparability and reliability among others, (William and Flora, 2006).

#### **2.3.1.2 Comparability**

Financial reports should be provided on a consistent basis so that valid comparisons can be made with information produced by other sources. According to the (IASB 2012) Framework for preparation and presentation of financial statements, accounting information users must be able to compare the financial reports of an organization overtime and also be able to compare financial reports of the organization with others. Comparability refers to the ability to compare similar information from the same entity in

different time periods or from various entities for the same time period (Corporate report, 1975). Comparable information reveals the strengths and weaknesses in an organization and the edge it has over other organizations, (David and Perkins, 2006).

### **2.3.1.3 Consistency and Accuracy**

The usefulness of financial and other statements is affected by the quality of reporting, with consistency and accuracy being key measures of quality. According Barney (2001), “financial performance is viewed as contingent on competitiveness of accounting practice skills and resources”. Accounting practice, resources and skills are considered a success when they help the accountant to formulate and develop efficiency, effectiveness, and economy (Bharadwai et al., 1993). Financial reports are prepared in an effort to assess financial performance of the organization. The quality of a financial report is what distinguishes a good accounting system from a bad one. To that effect therefore, in this study financial reporting efficiency was measured and interchangeably used as quality of financial reports.

### **2.3.2 Adequate financial information integration**

Financial integration is the process through which financial markets in an economy become more closely integrated with those in other economies or with those in therest of the world. This implies an increase in capital flows and a tendency for pricesand returns on traded financial assets in different countries to equalize(De Brouwer,2005). Financial integration among economies is believed to have two positive impacts. Itcan, on the one hand, improve theallocative efficiency of capital, and on the otherhand, help diversify risks.Financial integration facilitates risk-sharing and thereby should enhance

production specialization, capital allocation, and ultimately, economic growth (Obstfeld, 1994).

### **2.3.2.1 Completeness and Understandability**

Financial reports are considered complete when they show the flow of all transactions over a period usually a month, quarter or a year. All relevant information must be disclosed in a way that aids understanding of the users, (William and Flora, 2006).

Understandability calls for the provision of all the information, in the clearest possible form, which, reasonably instructed readers can make use of, (David and Perkins, 2006).

### **2.3.3 Accounting information trustworthiness**

Financial reporting should provide information to help present and potential investors and creditors and others to assess the amounts, timing, and uncertainty of the entity's future cash inflows and outflows (the entity's future cash flows). The information is essential in assessing an entity's ability to generate net cash inflows and thus to provide returns to investors and creditors.

#### **2.3.3.1 Reliability and Relevance**

Accounting reliability refers to whether financial information can be verified and used consistently by investors and creditors with the same results. Basically, reliability refers to the trustworthiness of the financial statements. Information should be free from material error and bias if it is to be considered reliable. Some bad decisions made by investors are as a result of unreliable decisions. The usefulness of financial reports implies that information provided is reliable. Information will be more reliable if it is independently verifiable, (Nkundabanyanga, 2004). The IASB (2012) described three



attributes that all reliable financial information has: verifiability, representational faithfulness, and neutrality.

Relevance is the ability of financial reports to influence economic decisions of users (Corporate Report, UK (1975)). Financial reports should help the users to understand the past, present and predict the future. In a nutshell, information provided should satisfy the needs of the users, (Welsch, 1987).

## **2.4 Theoretical Framework**

This study was supported by several theories relating to individual variables including Technology acceptance model (TAM), Diffusion of innovation theory (DOI), Resource based view (RBV) and information richness theory (IRT). These theories are closely related in their definition of the two variables and their practical application.

### **2.4.1 Technology Acceptance Model (TAM)**

Technology Acceptance Model (TAM) was originally proposed by Davis in 1989. The model was designed to predict user's acceptance and usage of Information Technology in an organizational context. TAM focuses on the attitude and explanations of intention to use a specific technology or service; it has become a widely applied model for user acceptance and usage. There are a number of meta-analyses on the TAM that have demonstrated that it is a valid, robust and powerful model for predicting user acceptance (Bertrand and Bouchard, 2008). The TAM model which deals with perceptions as opposed to real usage, suggests that when users are presented with a new technology, two important factors influence their decision about how and when they will use it. These key factors are: Perceived usefulness (PU) – this is the degree to which a person believes that

using a particular system would enhance his or her job performance, Perceived ease-of-use (PEoU) – the degree to which a person believes that using a particular system would be free from effort

#### **2.4.2 Diffusion of Innovation Theory (DOI)**

DOI theory was developed by Roger's in 1995. Rogers defines diffusion as “the process by which an innovation is communicated through certain infrastructure channels over time among members of a social system”. An innovation, according to Rogers (1983), is “an idea, practice, or object that is perceived as new by an individual or other unit of adoption”. The innovation - diffusion model states that an innovation (technology) is passed on from its source to end users through a medium of agents and its diffusion in potential users for the most part is dependent on the personal attributes of the individual user. The model assumes that the technology in question is appropriate for use unless hindered by the lack of effective communication.

This study uses DOI model and its prior research findings to define independent variables in the conceptual framework, the findings listed the following indicators for ICT adoption at firm level;- Material requirements planning (MRP), Enterprise resource planning (ERP), E-business (Internet, Intranet, Web site) and Information System (IS) adoption.

#### **2.4.3 Resource based view (RBV) and Information Richness Theory (IRT)**

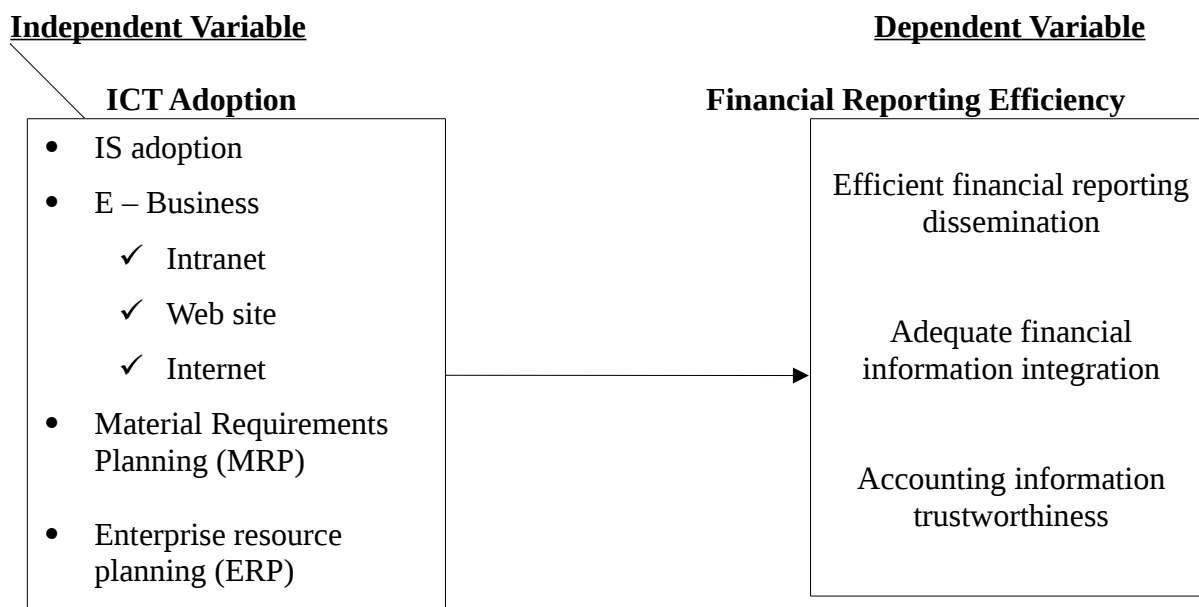
Resource based view theory (RBV) was developed by Barney, in 1991 and Information Richness Theory (IRT) by Chen and Tan, in 2004. According to the RBV, “financial performance is viewed as contingent on competitiveness of accounting practice skills and

resources” Barney (2001), accounting practice resources and skills are considered a success when they help the accountant to formulate and developed efficiency, effectiveness, and economy (Bharadwaj et al., 1993). Therefore, an accountant who has more resources and skills in accounting practice is believed to be successful in financial reporting. IRT on the other hand explains that information influences users' understanding decision in a timely and efficient manner (Chen and Tan, 2004).

This study applies information richness in financial reporting efficiency and the context to which it is used to identify the cause of financial performance variables. IRT measures financial reporting efficiency by using four dimensions which reflect accounting practice efficiency and encompasses namely;- adequate financial information integration, efficient financial reporting dissemination, and accounting information trustworthiness. All dimensions are developed from resource-based view, information richness theory and relevant literature review.

## **2.5 Conceptual Framework**

This study uses Diffusion of Innovation (DOI) define independent variable and Resource based view (RBV) and information richness theory (IRT) to define the dependent variable.



**Fig. 2.1: Conceptual framework**

*Source: Author - 2014*

### 2.5.1 Independent Variable

The main Independent variable in this study is ICT adoption which is measured at firm level by;-Information System (IS) adoption, E-Business (measured by internet, intranet and website), Material resource planning (MRP), and Enterprise resource planning (ERP).

### 2.5.2 Dependent Variable

The main Dependent variable in the study is financial reporting efficiency which is measured by;-Adequate financial information integration, efficient financial reporting dissemination and accounting information trustworthiness

## **2.6 Challenges Facing ICT adoption in Financial Reporting**

Technology adoption climates in developing countries are, by nature, problematic, characterized by poor business and governance conditions, low educational levels, and inappropriate infrastructure. By its very nature the ICT phenomenon is relatively new in the developing world. Available data, suggests that the majority of developing countries such as Kenya in sub-Saharan Africa are lagging behind in the information revolution (Zhao and Frank, 2003). Not surprisingly, the quest for adoption of ICT in financial reporting has been problematic and will require fundamental shifts in the regulatory environment, as well as renewed attention to public-private partnerships and social services. For example, developed countries have 80 per cent of the world's Internet users, while the total international bandwidth for all of Africa is less than that of the city of São Paulo, Brazil. There is little doubt that sub-Saharan Africa's populations are missing out on the boons of ICT (Bigum, 2000).

Although the proliferation of accounting software and PC has created an opportunity for organizations to adopt ICT in financial reporting, it also creates problems for innovation adoption. Accounting software is a critical application in companies of all sizes, computer managers are hence caught in a no-win situation. They are encouraged to embrace new technologies or face obsolescence. On the other hand, experimenting with new technologies at the expense of the accounting data can be a risky proposition. Changing accounting systems to fit new technology can be a very difficult task as data needs to be converted from the existing system to new system; accounting staff and all users need to be retrained and sometimes source documents and reports need to be redesigned. System

capacity should be checked to ensure it can accommodate firm's data requirement. This will ensure financial data cannot be lost due to the system crumbling down for lack of space and speed(Preston, 1993).

ICT also suffers from a number of barriers that disable its adoption and subsequent usage. The BECTA Report (2003) identifies the key barriers to using technology as: Lack of access to appropriate ICT equipment, lack of time for training and appropriate training, exploration and preparation, lack of models of good practice in ICT, negative attitudes towards ICTs in Accounting, technology anxiety and lack of confidence, fear of change and a lack of personal change management skills, unreliable equipment and lack of technical, lack of stable power supply, and lack of administrative and institutional support. The report further classifies the barriers into the four factors namely; resource-related factors, factors associated with training, skills, knowledge and computer experience, attitudinal and personality factors and cultural factors.

## **2.7 Literature Summary and Research Gap**

The foregoing literature indicate inconsistent results regarding effect of ICT adoption on financial reporting efficiency with some supporting while others oppose.

Most authors agree that ICT adoption results into cost reduction and improvement of operational efficiency (Krisnaveni & Meenamkumari, (2010); enhanced dissemination and accessibility of financial information (Spanos, 2002);Timely and accurate reporting (Lefebvre, 1996), Kajogbola, (2004); fuels technical innovation. E-Business gives organizations competitive advantage (Amit & Zott, 2001). Nixon (1998) holds the view that ICT adoption has significant effect in changes in styles of completion production environment, cost structures and overall efficiency of financial reporting.

However other authors hold the negative view of the effect of ICT on financial reporting. Peterson et al, 1996 concluded that ICT adoption is not a significant predictor of financial reporting efficiency. Besides, Granlund, (2007) hold the view that insufficient research has been done in this area of study. Rom & Rohde, (2007) hold a similar view that very few studies have been done in this area especially in the developing economy like Kenya; He further concluded that the few studies fall sort due to their outdated tools and undetailed analysis.

From the foregoing literature summary, it is evident that exists inconsistency and inadequacy gaps, which this study sought to fill and also to add to the body of knowledge.

## CHAPTER THREE

### RESEARCH METHODOLOGY

#### 3.1 Overview

This chapter describes the methods, techniques and procedures that were used in conducting the study, including research design, data collection procedures and instruments; validity and reliability of instrument, data analysis and presentation and ethical considerations.

#### 3.2 Research Design

Research design refers to the procedures used by researcher to explore the relationship between variables in order to form subjects into groups and administer treatment and analysis of data (Amin, 2005).

This study adopted a cross-sectional survey research design. This design was preferred for the study since it provided a quick, efficient and accurate means of accessing information about the population (Oso and Onen, 2005). According to Oso and Onen (2005) and Cochran, (1997) survey is the present oriented methodology used to investigate a population by selecting samples to analyze and discover occurrences. The authors point out that survey provide quantitative description of a part of population and basically with explorations and explanations of opinions, attitudes, preferences and perception of groups of people of interest to the researcher, hence according to this study the variables were ICT adoption and financial reporting efficiency.



All the 200 accounting and auditing staff of public enterprises in the county were censured by personally administering a questionnaire on them for their perceptions, and opinionson the extent to which ICT affects financial reporting efficiency in their organizations. The questionnaires were filled and handed back to the researcher. The collected data was later analyzed using multiple regression model and report tabulated accordingly.

### **3.3 Study area**

This study was conducted in Tana River County which is in the northern part of Coastal Region bordering Kitui to the West, Mwingi to the Northwest, Garissa to the north east, Ijara to the east, Meru North and Isiolo to the north, Lamu to the south east and Malindi to the southwest. It also borders the Indian Ocean to the south with a coastal strip of 35km. The County covers an area of 35,375.8 square kilometers and has a population of 240,075 (Census 2009).Tana River was chosen for this study due to its low economic activity and its unique geographical position. According to Kenya National Bureau of Statistics, the county was ranked 43 out of 47 counties countrywide in the year 2012 with poverty index of 76.9%. (<http://statistics.knbs.or.ke>)

### **3.4 Study Population and Sampling Design**

The study targeted 200 officers working in accounting and audit departments of ten public enterprises of Tana River County, ranging from state agencies, parastatals and government departments. The data was stratified as follows;-

**Table 3.1: Accounts and Audit Staff in Public Enterprises – Tana River County**

<b>Organisation Name</b>	<b>Supervisory Staff</b>	<b>Management Staff</b>	<b>Total (no.)</b>
Tana and Athi River Development Authority (TARDA)	25	5	30
Kenya Tourist Development Corporation (KTDC)	17	3	20
Kenya Wildlife Service (KWS)	18	2	20
Tana Water & Sewerage Co. (TAWASCO)	23	2	25
Kenya Commercial Bank-Garsen	18	2	20
Kenya Commercial Bank-Hola	12	3	15
Tana River County Treasury	28	7	35
National Treasury (Tana Delta sub county)	8	2	10
National Treasury (Tana River sub county)	12	3	15
National Treasury (Bura sub county)	8	2	10
<b>Total</b>			<b>200</b>

Source: *Public Staffing Report 2013* – Tana River

This study used census survey method on the entire population due to its small size. Researcher distributed questionnaires to all the two hundred (200) respondents and later collected the filled questionnaires; hence there was no need for sampling.

### **3.5 Data Collection Instruments and Procedure**

The study used the questionnaire technique for collecting the primary data, as it is an efficient means of collecting answers for research purposes, especially those of descriptive nature, as was used by Alleyne and Howard (2005).

The questionnaire was designed in such a way as to enable the researcher to extract the necessary information accurately from the respondents' answers, and to make sure that collected information is adequate for achieving the objectives of this study. The questions were designed based on a detailed review of the features of prior studies and subsequent

to an in-depth review of empirical studies of the effect of ICT on financial reporting efficiency. This was important, because, at a later stage, the collected information was to be compared with prior findings. Furthermore, the questions were arranged in an order corresponding to the order of objectives to enable logical thinking.

Data was collected with the help of questionnaires issued out to accounting and audit staff working in public enterprises. Each questionnaire was made up of thirty nine (39) questions from which the respondent was expected to choose the option he/she considers suitable for him by ticking appropriately and also give his opinion in case of open-ended questions. On five point likert-scale rating, respondents were asked to indicate the extent to which a particular variable affected financial reporting efficiency and scale it from very high extent(5) to very low extent(1).

### **3.6 Validity and reliability of Data Collection Instruments**

Validity of data collection instrument is the accuracy and technical soundness of the research instruments. It indicates how well a test measures what it was supposed to measure, (Kombo & Tromp 2006). The designed instrument was subjected to content validity testing order to check how well the items developed to operationalize a construct provided adequate and representative sample of all the items that might measure the construct of interest. This was done by consulting research supervisors, other researchers and accounting/ICT experts. The instrument was found to be valid.

Reliability of a research instrument on the other hand concerns the extent to which the instrument yields the same results on repeated trials. It is the tendency towards consistency found in repeated measurements Carmines & Zeller, (1979). Although

unreliability is always present to a certain extent, there will generally be a good deal of consistency in the results of a quality instrument gathered at different times.

The researcher subjected the research instrument to a test-retest reliability test by conducting a pilot study in the neighboring Kilifi County (with similar characteristics to those selected in the study sample; such as geographical context, socio-economic and cultural characteristics), involving 30 officers, before exposing the tool to the target population. The instrument was found to be reliable, having yielded result of 0.6 which is above the set threshold of 0.5 which was set by the researcher.

### **3.7 Data analysis and Presentation**

Data analysis is the process of bringing orderly structure and meaning to the mass of information collected. It involves examining what has been collected and making deductions and inferences (Kombo and Tromp, 2006). The data collected from the field was coded and presented in graphic and tabular form. The coding involved corroborating the findings from the questionnaires. The data was then input and analyzed using Statistical Package for Social Sciences (SPSS ver. 18) and results presented in tables rated in percentages. The researcher then discussed the findings from hypothesis testing in view to answering the objectives of the study.

In this study multiple regression analysis model was used to test for association, cause and effects between variables. Multiple regression was used because the study involved more than two independent variables used to predict the outcome of independent variables.

Multiple regression equation formula:  $Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + \epsilon$

Where:-**Y** is the value of the Dependent variable (Y), what is being predicted or explained

a (Alpha) is the Constant or intercept

$b_1$  is the Slope (Beta coefficient) for  $X_1$

**X<sub>1</sub>** First independent variable that is explaining the variance in Y

$b_2$  is the Slope (Beta coefficient) for  $X_2$

**X<sub>2</sub>** Second independent variable that is explaining the variance in Y

$b_3$  is the Slope (Beta coefficient) for  $X_3$

**X<sub>3</sub>** Third independent variable that is explaining the variance in Y

**X<sub>4</sub>** Third independent variable that is explaining the variance in Y

$B_4$  is the Slope (Beta coefficient) for  $X_4$

$\varepsilon$  is Error term

### **3.8 Ethical Considerations of the study**

All ethical requirements were observed while conducting this study.

## CHAPTER FOUR

### DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

#### 4.1 Overview

This chapter presents results of analyzed data and their discussions thereof. As part of the descriptive statistics, the demographic variables analyzed included respondents' gender, age, level of education, period in service and employment status. It also covers normality of variables, descriptive statistics of variables, hypothesis testing, study model and challenges facing ICT adoption in financial reporting.

The sample population consisted of respondents drawn from ten public enterprises within Tana River County. A total of 200 questionnaires were distributed; 195 were returned, from which 5 were discarded for not being completely filled. The overall good response rate was 95.0%. In some cases the researcher had to make several visits to have the questionnaires filled.

#### 4.2 Data Screening and Cleaning

The quality of data was first examined before embarking on descriptive and inferential analysis. Data was examined for missing values, and outliers.

##### 4.2.1 Univariate Outliers

According to Stevens (2002), outliers are cases that have data values that are very different from the data values for the majority of cases in the data set. Outliers are important because they can change the results of data analysis.

Univariate outliers are cases that have an unusual value for a single variable. In order to identify univariate outliers, all scores for each variable were converted to standard scores. A case was then treated as an outlier if its standard score had an absolute value beyond 3.0 (Stevens, 2002). Analysis of univariate outliers revealed that none of the five variables (IS adoption, MRP, ERP, E-Business, and Financial reporting efficiency) had outliers. Consequently, all the 190 cases were used for further analysis.

### 4.3 Normality of the study variables.

Normality was assessed using measures of skewness and kurtosis. The distribution was considered normal if skewness and kurtosis values fell within the interval -2.0 to 2.0 (Tabachnick and Fidell, 2007). As shown in Table 4.1, the skewness and kurtosis values for all variables were within the acceptable interval. Normality assumptions were therefore met.

**Table 4.1: Testing for Normality**

	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
Adoption of IS	-.082	.183	-.014	.363
MRP	.543	.176	-.778	.351
ERP	-1.215	.176	.448	.351
E-Business	-.301	.176	-.616	.351
Financial Reporting Efficiency	-.894	.176	-.435	.351

Source: Survey Data (2014)

#### 4.3.1 Assumption of Linearity

Pearson's product moment correlation coefficients were used to examine the assumption of linearity. Results displayed in Table 4.2 indicate that there were positive associations

among predictor variables as well as between predictor variables and the criterion variable (Financial Reporting Efficiency). The linearity assumption was not violated.

**Table 4.2: Testing for Linearity Requirements**

	1	2	3	4	5
1. Adoption of IS	1				
2. MRP	.281**	1			
3. ERP	.296**	.491**	1		
4. E-Business	.298**	.428**	.448**	1	
5. Financial Reporting Efficiency	.278**	.571**	.480**	.544**	1

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

Source: Survey Data (2014)

### 4.3.2 Assumption of Homogeneity of variances

The levenne statistic for equality of variances was used to test for the assumption of homogeneity of variances. The study posited that the variance of each subgroup across gender was the same. The desired result for non-violation of homogeneity of variances was therefore to reject this hypothesis. Table 4.3 shows that testing at the 0.05 level of significance; none of the Levenne statistics was significant. The assumption of homogeneity of variances was therefore supported.

**Table 4.3: Test of Homogeneity of Variances**

Variables	Levene Statistic	df1	df2	Sig.
Adoption of IS	1.452	1	188	.230
MRP	3.472	1	188	.064
ERP	3.769	1	188	.066
E-Business	.160	1	188	.690
Financial Reporting Efficiency	3.486	1	188	.063

Source: Survey Data (2014)



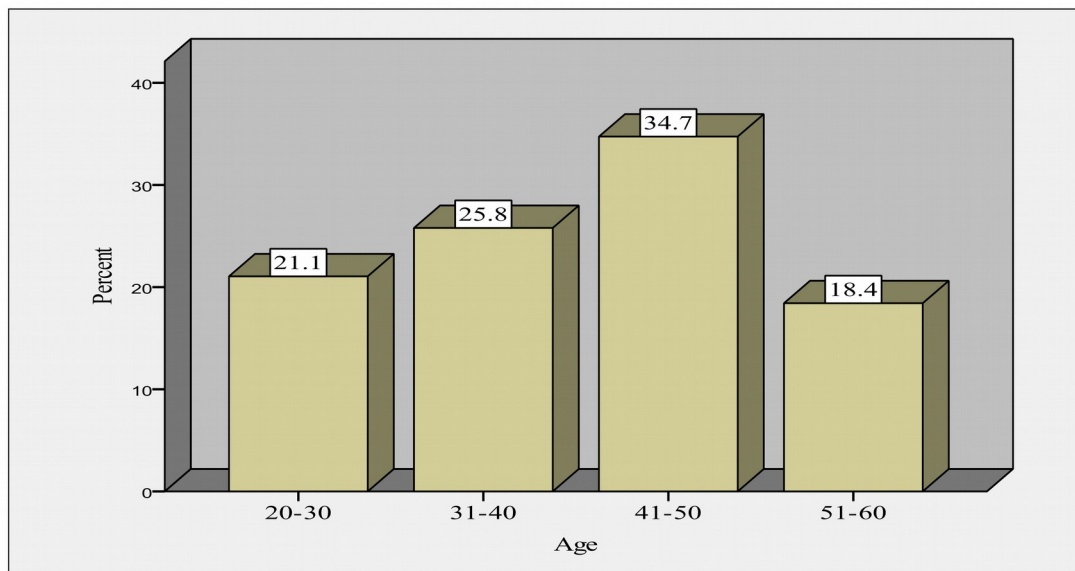
#### **4.4 The demographic Profile of the Respondents.**

Analysis of respondents' demographic information centered on establishing the respondents age, gender, education level, years of working experience, professional qualification, and employment status for the sampled respondents. These according to the researcher were essential for interpreting and discussing effects of ICT adoption on financial reporting efficiency.

##### **4.4.1 Age of the Respondents**

The inclusion of age as a variable was informed on the basis of findings from previous studies in relation to age and ICT adoption. According to Czaja and Lee (2007), even though the use of ICT by older adults increased in the last decade, computer and Internet usage are still negatively correlated with age. Besides, the findings also revealed that ICT usage differs within the cohort of older adults. It was therefore necessary to examine respondent's age and control for the potential influence posed by respondent's age on financial reporting efficiency.

Age was examined across four age brackets. Results presented in figure 4.1 below reveal that a majority of the respondents (34.7%) were aged between 41 to 50 years. The least proportion of respondents (18.4%) was aged between 51 and 60 years. These results may have positive implication on ICT adoption as it is believed that younger employees are more adoptive to technology development than older employees who want to maintain status quo.

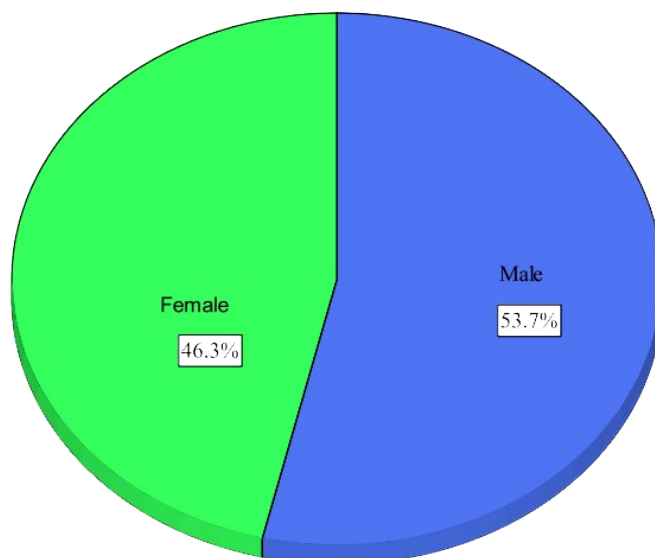


**Figure 4.1:** Respondent's Age Distribution

#### **4.4.2 Respondents' Distribution by Gender**

A lot of research evidence suggests that ICT access and usage is structured along gender lines where social, economic, education barriers as well as attitudes impact negatively on female adoption and usage of ICT's, especially in Africa (Hafkin, 2002). This explains the choice of gender as a demographic variable for consideration.

The distribution of respondents by gender displayed in figure 4.2 revealed that 53.7% of the total sampled respondents were male while 46.3% were female. These results show that there was somewhat a balance between men and women in the sample and hence gender may not have had a major influence on financial reporting efficiency.



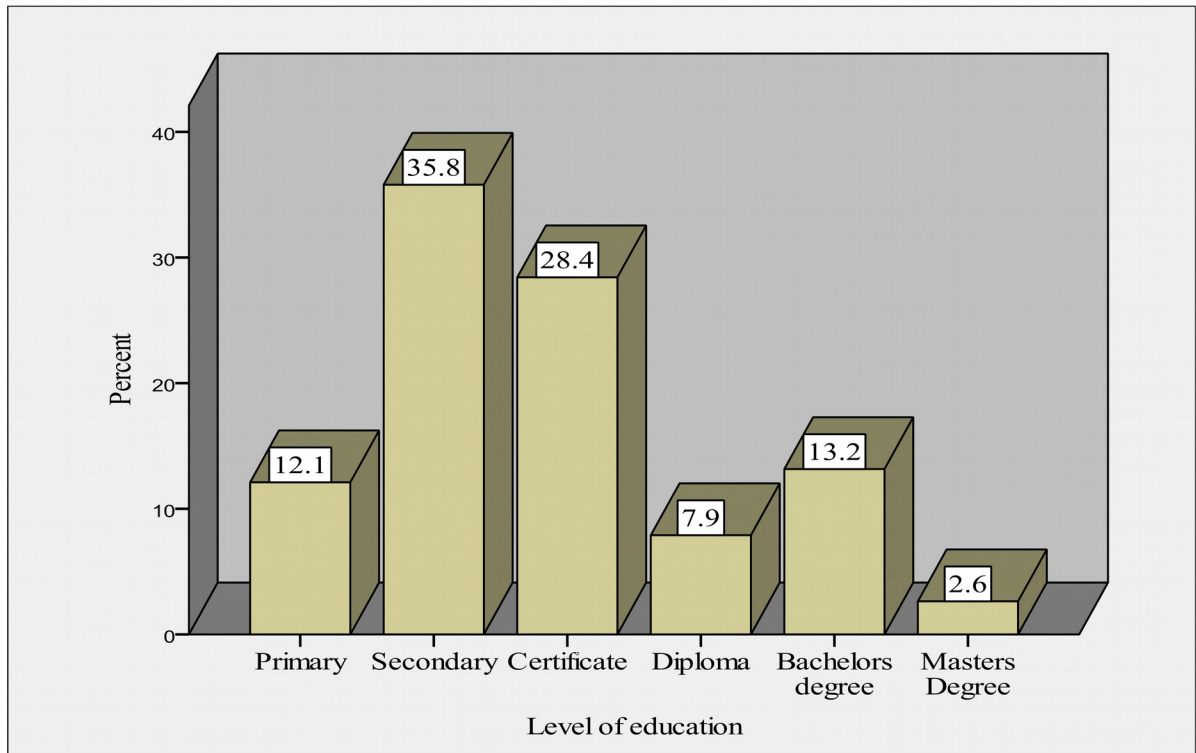
**Figure 4.2:** Gender Distribution of Respondents

#### **4.4.3 Respondents' level of Education**

The ability to read, write and interpret ICT information depends on the respondent's level of education. The researcher considered respondents level of education as an important tool that may influence financial reporting efficiency. For this reason, education level was analyzed in order to control for its influence.

As shown in figure 4.3, a higher proportion (35.8%) of the total sample respondents was of secondary level of education. This was closely followed by the proportion of respondents who had a certificate level of education (28.4%). The least proportion of respondents (2.6%) had a master's level of education.

The results show that education level could influence financial reporting efficiency among sampled respondents since a lower education level translates into lower understanding. It was therefore necessary to control for the influence of level of education.



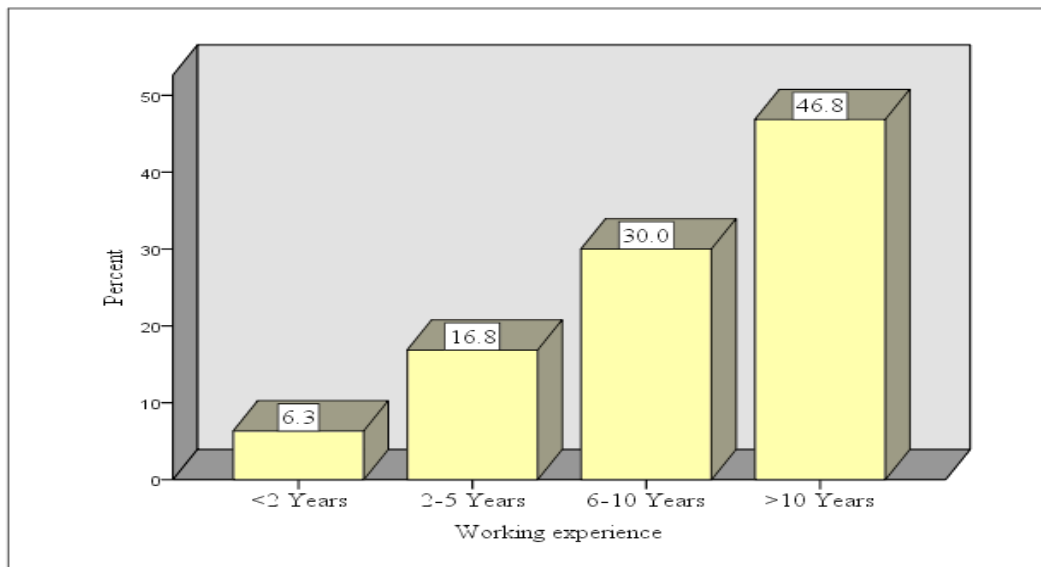
**Figure 4.3:** Distribution of Respondents Level of Education

#### 4.4.4 Respondents' Working Experience

The inclusion respondents working experience was informed by a previous study conducted by Sharma and Rai (2003) on Leadership Characteristics and ICT innovation adoption in organizations, and which found out that organizations with most workers on a shorter tenure had a higher adoption rate compared to those contracted on long term tenure. Consequently, it was necessary to examine and control for the influence of respondents work experience.

Work experience was measured across four categories. Respondents were required to indicate whether they have been working for less than 2 years; between 2 and 5 years; between 6 and 10 years; or above 10 years. Results presented in Figure 4.4 reveal that

most of the respondents (46.8%) have worked for over 10 years. Thirty percent (30%) have worked for 6 to 10 years. Only 6.3% have worked for less than 2 years. This implies that the sampled respondents had a high level of work experience which could influence efficiency in financial report. It was therefore necessary to control for the influence of employee work experience.



**Figure 4.4:** Distribution of Respondents Working Experience

#### **4.4.5 Distribution of respondents by professional Qualification**

A key demographic factor considered was respondent's professional qualification. Analysis of respondent's professional qualification was necessary since this could have a potential influence on efficiency in financial reporting. Respondents were required to indicate their professional qualification. Results presented in Table 4.4 reveal that most of the respondents (31.6%) had a certificate while a sizeable proportion (28.4%) had no professional qualification. These results suggest that respondents were not very professionally qualified, a fact which could have an influence on financial reporting

efficiency. There was therefore a need to control for the influence of respondents professional qualification.

**Table 4.4: Respondents Professional Qualification**

Professional Qualification	Frequency	Percent (%)
CPA	8	4.2
KATC	1	.5
ACCA	23	12.1
Accounting Diploma	37	19.5
ICT Diploma	7	3.7
Certificate	60	31.6
None	54	28.4
Total	190	100.0

Source: Survey Data (2014)

#### **4.5 Descriptive statistics of the study variables.**

Means and standard deviation for the independent and dependent variables were obtained. Besides, frequency distributions were also examined. The purpose was to provide a general picture of the prevailing levels of ICT adoption indicators and financial reporting efficiency in the study area.

##### **4.5.1 Information Systems (IS) Adoption**

Adoption of Information Systems was conceptualized to be measured via the three dimensions namely; frequency of computer use, preferred ICT platform, and Accounting Software used.

###### **4.5.1.1 Frequency of Computer Use**

Computer knowledge is the primary ground for adopting other computer packages and software. According to Granlund and Mouritsen (2003), most businesses have shifted

from recording their business transactions manually in preference of computers for quick and easy presentation of individual financial transaction. The frequency of use of computer in reporting was therefore considered a fundamental characteristic in ensuring financial reporting efficiency.

Respondents were asked to indicate the number of computers used within their respective organizations for reporting purposes. Results presented in Table 4.5 indicate that most organizations (47.4%) in the study area use 3 to 5 computers for reporting purposes. A good proportion of organizations (31.6%) use 6 to 8 computers. This is a relatively low computer usage which may have effect in efficiency.

**Table 4.5 : Number of Computers used for Reporting Purposes**

Number	Frequency	Percent (%)
1-2	10	5.3
3-5	90	47.4
6-8	60	31.6
9-10	20	10.5
>10	10	5.3
Total	190	100.0

Source: Survey Data (2014)

#### **4.5.1.2 Preferred ICT Platform**

ICT Platform as defined by Hassall (2003) is an underlying computer system on which application programs can run and allow interconnection of different computer users. The researcher sought to find out the preferred ICT platform among sampled organizations in disseminating and receiving financial reports.

Respondents were asked to indicate the ICT platform used by the organization. Responses were elicited on a 5 point scale (a-website, b-internet, c-intranet, d-stand alone, e-e-mail). Results presented in Table 4.6 reveal that stand alone (37.9%) and intranet (29.5%) are the two most preferred ICT platforms among the sampled organizations. There is however some use of the internet (15.8%) and e-mail (15.8%).

**Table 4.6: ICT Platform Preference**

Platform	Frequency	Percent (%)
Website	2	1.1
Internet	30	15.8
Intranet	56	29.5
Stand alone	72	37.9
Email	30	15.8
Total	190	100.0

Source: Survey Data (2014)

The results tend to suggest that most reports made by organizations are internal for which case, the intranet and stand-alone platforms serve the intended purposes, but this doesn't allow for data sharing beyond the firm's boundaries. The bottom line however is that the results portray adoption of information systems in posting reports which in turn may translate into efficient reporting.

#### **4.5.1.3 Accounting Software Used**

Accounting software is an application software that records and processes accounting transactions within functional modules such as; accounts payable, accounts receivable, payroll, and trial balance (Futura, 2012). The study conceptualized that the type of



accounting software as an element of IS adoption may have a direct influence on financial reporting efficiency.

Respondents were asked to indicate the accounting software used within their organizations. Results presented in Table 4.7 reveal that while much software may be on offer, a majority of the organizations mostly use the Excel spreadsheet (42.1%). Of the main account related software, only Quick books (20%) and Pastel (10.5%) get some degree of usage among the organizations.

**Table 4.7 Accounting Software Used**

Software	Frequency	Percent(%)
Quick books	38	20.0
Tally	2	1.1
Sage	13	6.8
Sun	5	2.6
Pastel	20	10.5
Excel	80	42.1
Enterprise Resource Planning (ERP)	10	5.3
Material resource planning	10	5.3
E-Business	8	4.2
Votebook management system	3	1.6
Integrated Financial Management Information System(IFMIS)	1	.5
Total	190	100.0

Source: Survey Data (2014)

These results reveal that modern accounting software is being under-utilized in financial reporting. This may in essence have a negative effect on reporting efficiency.



### 4.5.2 E-Business

E-Business is defined as the application of information and communication technologies (ICT) in support of all the activities of business (Timers, 2000). Subsequently, when organizations go online, they have to decide which e-business models best suit their goals and the time taken to adopt such a model by the employees

In the analysis of the prevailing application of e-business practices, six items (secure business, online marketing, use of electronic data interchange, website, internet, and intranet) were used to measure e-business. Respondents were asked to indicate the extent to which the identified e-business practices were used in the enterprises. Responses were elicited on a five point scale (1- Very high extent, 2- High extent, 3- Moderate, 4- Low extent and 5- Very high extent). Results of the mean scores and standard deviations for the six items are shown in table 4.8 below.

**Table 4.8: Extent of Application of E-Business practices within Public Enterprises in Tana River County**

E-Business Practices	Mean	Std. Deviation
Intranet	4.29	1.153
Use electronic data interchange	3.49	1.428
Internet	3.49	1.316
Secure business transactions	3.11	1.276
Online marketing	2.72	1.222
Website	2.24	1.081

Source: Survey Data (2014)

Results show different levels of application of e-business practices among public enterprises in Tana River County. While there were high extents of using intranet (M=4.29, SD=1.153); Electronic data interchange (M=3.49, SD=1.428); Internet

( $M=3.49$ ,  $SD=1.316$ ); Secure business transactions ( $M=3.11$ ,  $SD=1.276$ ); and online marketing ( $M=2.72$ ,  $SD=1.222$ ) were used to a moderate extent within the enterprises. On the contrary, use of a website was on a low extent. These results imply that use of e-business as an ICT adoption is a concept that has yet to gain prominence in public enterprises in Tana River County.

### **4.5.3 Material Requirement Planning (MRP)**

Material Requirement Planning was measured using an eight item scale. A previous study conducted by Monk and Wagner (2006) concluded that the biggest challenge with MRP adoption is the integrity of the data. If there are any errors of data entered in the system then the output data will also be incorrect, thus this system requires a lot of user accuracy in understanding and interpreting of data. Respondents were asked to indicate the extent to which the selected indicators of MRP were practiced in their organizations. The responses to the items were elicited using a 5-point likert-scale (5- very high extent, 4- high extent, 3-moderate, 2- low extent, and 1-very low extent).

Results presented in Table 4.9 suggest that application of MRP indicators in organizations within the study area is practiced to low extent. Most of the mean response scores were approximately 2.00 with SD of approximately 1.2, which was coded to indicate low extent of application. In particular, the indicator that attracted some good measure of application was inventory management system which was used to a moderate extent ( $M=3.18$ ,  $SD=1.147$ ). On the contrary, the MRP indicator that is least used is bills of materials which was reported to be used but to a low extent ( $M=1.94$ ,  $SD=1.085$ ).

**Table 4.9: Extent of MRP practices among Public Enterprises in Tana River County**

MRP Indicators	Mean	Std. Deviation
Inventory management system	3.18	1.147
Inventory management	2.83	1.457
Material needs	2.53	1.352
MRPII systems	2.46	1.189
Supplir lead times	2.37	1.289
Master production schedules	2.36	1.325
Production cycle times	2.25	1.229
Bills of materials	1.94	1.085

Source: Survey Data (2014)

The above results can be explained by the fact that majority of public enterprises under study are service providers and not manufacturing outfits where MRP is mostly suitable. However most firms maintain inventory of some nature, hence the high mean of 3.18.

#### **4.5.4 Enterprise Resource Planning (ERP)**

Enterprise Resource Planning was conceptualized as an independent variable owing to its versatility in integrating varied organizational systems and facilitating error-free transactions and production (Shaul. L & Tauber, 2013). A total of nine items were used to measure the level of ERP among sampled enterprises.

Respondents were asked to indicate the extent to which ERP practices are applied within the enterprise. Results presented in Table 4.10 indicate the mean response scores on most ERP practices were approximately 4.00, a score which was coded to imply a high extent. Consequently, ERP practices are applied to a high extent within the enterprises. In particular, respondents indicated high extents in personnel and payroll (M=4.46, SD=0.852); General ledger (M=4.41, SD=1.008); Account payables (M=4.37,

SD=1.099); Banking and cash management (M=4.31, SD=1.124); Account receivable (M=4.24, SD=1.205); and Fixed Asset management (M=4.22, SD=1.188). These results indicate that most enterprises use personnel and payroll system followed by General ledger, accounts payables, Banking and cash management and accounts receivables in that order, which in turn enhance financial reporting efficiency.

These results indicate that Enterprise Resource Planning (ERP) is the single most preferred system among the study organization, hence has most influence on financial reporting efficiency.

**Table 4.10: Extent of ERP practices among Public Enterprises in Tana River County**

ERP Practices	Mean	Std. Deviation
Personnel and payroll	4.46	.852
General ledger	4.41	1.008
Account payables	4.37	1.099
Banking and cash management	4.31	1.124
Account receivables	4.24	1.205
Fixed asset management	4.22	1.188
Inventory control	3.62	1.202
Batch control	3.01	1.228
Accounting document control	2.98	1.287

Source: Survey Data (2014)

#### 4.5.5 Financial Reporting Efficiency

Financial Reporting Efficiency was conceptualized as the depended variable in the current study. The idea of including financial reporting efficiency was informed by

findings from previous studies (Poon et al., 2003). In a study on Internet Financial Reporting, these researchers found that financial reporting issues such as information integrity, associated with traditional paper reporting are equally relevant when companies use their accounting software systems for reporting.

Three items were used to measure financial reporting efficiency. These items were analyzed using means and standard deviations. Responses were elicited on a 5 point scale whereby respondents were asked to indicate the extent to which the three items were applied within the enterprises. Results presented in Table 4.11 below reveal that financial reporting dissemination (M=4.08, SD=1.349) and Adequate financial information integration (M=3.82, SD=1.341) are applied to a high extent within the public enterprises in the County. Accounting information trustworthiness (M=3.47, SD=1.189) was reported to be applied to a moderate extent

**Table 4.11: Extent to which Financial Reporting Efficiency is achieved within Public Enterprises in Tana River County**

	Mean	Std. Deviation
Financial reporting dissemination	4.08	1.349
Adequate financial information integration	3.82	1.341
Accounting information trustworthiness	3.47	1.189

Source: Survey Data (2014)

The implication of these results is that there is some measure of financial reporting efficiency being achieved by public enterprises in Tana River County. This may be attributed to adoption of ICT practices in financial reporting. It was therefore necessary to test the formulated hypotheses to establish whether or not adoption of ICT has an effect on the observed efficiency in financial reporting.

## 4.6 Hypotheses testing

Four hypotheses were formulated for the present study. Step-wise multiple regression analysis was used to test the hypotheses. Stepwise multiple-regression was used so as to control for the influence of some key demographic characteristics. Background characteristics were entered in the first step followed with the ICT adoption indicators.

Results of the model summary presented in Table 4.12 revealed that the four background characteristics (Years of working experience, Gender, Level of education, and Age) accounted for 17.3% of the variance in financial reporting efficiency (R square change was 0.173). When the ICT indicators were entered, the combined influence of these indicators and background characteristics accounted for 96.7% of the variance in financial reporting efficiency (Adjusted R squared was 0.967). Controlling for background characteristics, the four ICT adoption indicators were found to account for 79.5% of the variance in financial reporting efficiency (R squared change was 0.795

**Table 4.12: Regression Model Summary<sup>c</sup>**

Model	Change Statistics									
	R	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. Change	F	Durbin Watson
1	.416 <sup>a</sup>	.173	.154	1.12349	.173	9.022	4	17	.000	
2	.984 <sup>b</sup>	.969	.967	.22051	.795	1074.27	4	16	.000	1.696

a. Predictors: (Constant), Years of working experience, Gender, Level of education, Age

b. Predictors: (Constant), Years of working experience, Gender, Level of education, Age, IS, E-Business, MRP,ERP

c. Dependent Variable: Financial Reporting Efficiency





#### **4.6.1 Testing the effect of IS adoption on financial reporting efficiency**

The first objective of the current study sought to establish the effect of IS adoption on financial reporting. Research Hypothesis **H<sub>01</sub>** postulated a lack of influence of adoption of IS on financial reporting efficiency. Results of the stepwise multiple-regression coefficients presented in table 4.13 below show that, initially all the background characteristics were significant predictors of financial reporting efficiency. After they were controlled for, the standardized coefficient for IS was highly significant ( $B=0.202$ ,  $p<0.01$ ). The hypothesis that adoption of IS has no effect on financial reporting efficiency was therefore rejected.

The implication of these results is that adoption of Information Systems has a positive influence on financial reporting efficiency. The standardized coefficient  $B=0.202$  reveals that an increase of 1% in adoption of IS has the potential to increase efficiency in financial reporting by 20.2%. Consequently, adoption of IS in public enterprises in Tana River County could be responsible for the observed efficiency in financial reporting.

**Table 4.13: Multiple Regression Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	6.320	.439		14.390	.000		
Age	-.191	.086	-.160	-2.230	.027	.929	1.076
Gender	-.568	.170	-.232	-3.343	.001	.994	1.006
Level of education	-.181	.063	-.204	-2.885	.004	.964	1.038
Years of working experience	-.205	.093	-.155	-2.194	.030	.969	1.032
2 (Constant)	.449	.152		2.950	.004		
Age	-.027	.017	-.022	-1.538	.126	.887	1.128
Gender	.010	.035	.004	.290	.772	.886	1.129
Level of education	-.003	.013	-.003	-.230	.818	.898	1.114
Years of working experience	.006	.019	.005	.338	.736	.904	1.106
IS	.183	.019	.202	2.915	.003	.873	1.145
MRP	.222	.053	.222	4.211	.000	.994	1.006
ERP	.752	.062	.691	17.042	.000	.964	1.038
E-Business	.117	.099	.106	1.180	.240	.929	1.076

a. Dependent Variable: Financial Reporting Efficiency

Source: Survey Data (2014)

#### **4.6.2 Testing the Effect of E-Business on Financial Reporting Efficiency in Public Enterprises in Tana River County**

Research objective four sought to explore the effects of e-business on financial reporting efficiency among public enterprises within Tana River County. Research hypothesis **H<sub>04</sub>** postulated a lack of significant effect of e-business on financial reporting efficiency. Results of the standardized coefficient revealed that e-business is not a significant predictor of efficiency in financial reporting ( $B=0.106$ ,  $p>0.05$ ). The hypothesis that e-business has no effect on efficiency in financial reporting was therefore supported.

The implication of these results is that despite including e-business under the indicators of ICT adoption, it however may not be utilized to predict efficiency in financial reporting.

#### **4.6.3 Testing the effect of MRP on Financial Reporting Efficiency in Public Enterprises in Tana River County.**

The second objective of the study focused on examining the effect of MRP on financial reporting efficiency in Public enterprises. In this regard, research hypothesis **H<sub>02</sub>** posited that MRP has no effect on efficiency in financial reporting. Results in Table 4.13 revealed that MRP was a positive and highly significant predictor of financial reporting efficiency in public enterprises in Tana River County ( $B= 0.222$ ,  $p<0.01$ ). This implies that a 1% increase in MRP was likely to result in an increase of 22.2% in financial reporting efficiency.

The implication of these results is that utilization of MRP practices as an element of ICT by public enterprises in Tana River County is having a positive impact on efficiency in financial reporting.

#### **4.6.4 Testing the Effect of ERP Usage on Financial Reporting Efficiency in Public Enterprises in Tana River County**

In objective three, the researcher sought to analyze the effect of ERP usage on financial reporting efficiency in public enterprises in Tana River County. Consequently, Research hypothesis **H<sub>03</sub>** posited that ERP usage does not have a significant effect on financial reporting efficiency in public enterprises in Tana River County. Results of the standardized coefficient presented in Table 4.13 revealed that ERP usage was a positive and highly significant predictor of efficiency in financial reporting ( $B=0.691$ ,  $p<0.01$ ). The implication is that an increase of 1 percent in ERP usage was likely to result in a 69.1% increase in financial reporting efficiency. Furthermore, the very large t-value of 17.042 clearly demonstrates that of the indicators of ICT analyzed, usage of ERP practices is the most important in raising the level of financial reporting efficiency.

### **4.7 Study Model**

The study therefore established that financial reporting efficiency is a function of adoption of IS, MRP practices, ERP usage and to a minor level, e-business. The researcher therefore suggested the following standardized multiple regression model for prediction of financial reporting efficiency in public enterprises in Tana River County.

$$\mathbf{FRE = 0.202IS + 0.106E-Business+ 0.222MRP + 0.691ERP}$$

## **4.8 Challenges Facing ICT adoption in Financial Reporting**

The fifth and final objective sought to determine challenges facing ICT adoption in financial reporting. Respondents were asked to list major challenges faced by their respective enterprises in the use of ICT in financial reporting. Responses were examined for prominent, recurrent themes across and within respondents.

According to results presented in Table 4.14 below, 9 key challenges were listed. A large proportion of respondents (21.1%) identified inability of the system to support large volumes of data as the major challenge. Other prominent challenges identified by respondents were loss of data due to power interruptions (15.8%) and loss of traditional skills (14.7%).

Other minor challenges identified include: high costs (11.1%); training needs (9.0%); job losses (7.9%); and inability to fully and comprehend results (5.3%).

**Table 4.14: Challenges Facing ICT Adoption in Financial Reporting Efficiency Among Public Enterprises in Tana River County.**

Challenge	Frequency	Percentage
Extra training needs	17	8.9
High cost of purchase, installation and upgrading of equipment and software	21	11.1
Inability of the system to support large volume of data	40	21.1
Inability to fully comprehend and interpret the results	10	5.3
Job losses	15	7.9
Lack of perceived usefulness	14	7.4
Loss of data due to power interruptions	30	15.8
Loss of traditional skills	28	14.7
Lost work time due to irrelevant surfing	15	7.9
Total	190	100.0

Source: Survey Data (2014)

## **4. 9 Discussion of Findings**

This section provides a discussion of the findings in line with the objectives and existing literature focusing on ICT adoption and financial reporting efficiency.

### **4.9.1 IS adoption and financial reporting efficiency**

The first objective of this study sort to establish the effect of IS adoption on financial reporting efficiency. Adoption of Information Systems was conceptualized to be measured via the three dimensions namely; frequency of computer use, preferred ICT platform, and Accounting Software used. Results reveal that majority of public enterprises in Tana River County have adopted IS activities though to a low extent, considering the low frequency of computer usage. Further the study revealed that most of

them have not embraced use of website as they depend on stand-alone and intranets as their main ICT platforms. On preferred accounting software results indicate that public enterprises under-utilize modern accounting software for financial reporting, as most of them depend on Excel spreadsheet for financial reporting. These results reveal that the enterprises adopt IS. The multiple regression analysis further revealed that IS adoption has significant effect on financial efficiency. The finding that IS adoption is a significant predictor of financial reporting is consistent with the finding by Kajogbola, (2004) who concluded that adopting IS in financial reporting significantly influenced more effective use of time and accurate calculation of data and faster communication of financial results to the stakeholders in Nigerian economy. It also supports findings by Banda (2012) which revealed that adoption of IS resulted in to increased staff productivity, reduced transaction costs and rapid growth. It however contradicts results of Peterson et al, (1996), which concluded that IS had no significant effect on accounting systems

The findings in the present study therefore add to existing literature with regards to the Effect of Information System on Finance Reporting efficiency. By finding out that excel software was the most preferred on stand-alone computers, that website was the least preferred platform; the study makes an important contribution concerning significance of IS adoption in financial reporting efficiency

#### **4.9.2 E-Business and Financial reporting efficiency**

The second objective of the study sort to explore effect of E-Business on financial reporting efficiency. Results reveal that public enterprises in Tana River County use e-business to a low extent. Further results of the un-standardized coefficient revealed that e-business is not a significant predictor of efficiency in financial reporting hence has no



effect on financial reporting efficiency. These findings contradict those of Mansell, (2001) which concluded that e- business has significant effect on financial reporting efficiency and also those by Amit&Zott, (2001); Krovi (2001) and Sing &Kundu (2002) which concluded that E-Business gives organizations competitive advantage and enables productivity-enhancing practices. The main reason for this disparity may be explained by the fact that public enterprises are majorly hosted by their mother ministries' websites.

#### **4.9.3 MRP and financial reporting efficiency**

Research objective three of the current study sought to examine the effect of MRP on financial reporting efficiency. Results indicate that public enterprises in Tana River practice MRP though to a moderate extent. Using multiple regression, the study found out that MRP significantly affect financial reporting efficiency, even though application of MRP indicators among the studied organizations was practiced at a low extent which poses great concerns. This may however be due to the fact that most of the enterprises within the study area are service providers as opposed to manufacturing, where MRP is mostly used. The finding that MRP is a significant predictor of financial reporting is consistent with the findings of Moustakis V. (2000) who concluded that MRP has significant effect on financial performance of Innoregio project

#### **4.9.4: ERP and financial reporting efficiency**

Objective four of the study sort to analyze effect of ERP on financial reporting efficiency. Results reveal that public enterprises in Tana River use ERP to a high extent. The multiple regression analysis further revealed that ERP significantly affect financial reporting efficiency. Furthermore, the very large t-value clearly demonstrates that of the

indicators of ICT analyzed, usage of ERP practices is the most important in raising the level of financial reporting efficiency.

The finding that ERP is a very significant predictor of financial reporting is consistent support findings by Hunton, Lippincott, &Reck, (2003) who concluded that ERP has significant effect on financial reporting efficiency. They however conflict with findings of Sale (2005) who concluded that ERP has no significant effect of on financial reporting of Texas Instruments, Inc.

These findings add to existing literature with regards to the effect of ERP on Finance Reportingsfficiency. By finding out that ERP is the single most preferred system among the study enterprises; the study makes an important contribution concerning the significant effect of ERP has on financial reporting efficiency

#### **4.9.5: Challenges Facing ICT adoption in Financial Reporting**

Objective five and the last one, sort to determine the challenges facing ICT adoption in financial reporting. Results indicate that public enterprises in Tana River are faced with inability of the system to support large volumes of data as the major challenge followed by loss of data due to power interruptions and loss of traditional skills. These results are in agreement with findings of Preston (1993) which concluded that accounting data is at risk in a new untested system. They also confirm conclusions of by Becta report (2003) which identified lack of system capacity and stable source of power as barriers to ICT adoption.

These findings add to existing literature with regards to the challenges facing ICT adoption in Finance Reporting. By finding out that inability of systems to hold large data

is the most feared challenge among the study enterprises; the study makes an important contribution concerning challenges facing ICT adoption in financial reporting

## CHAPTER FIVE

### FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

#### **5.1 Introduction**

The purpose of this study was to assess the effect of ICT adoption on financial reporting efficiency in public enterprises of Tana River County. To this end, the study analyzed perceptions of accountants and auditors on topical areas of ICT adoption and financial reporting efficiency. In this chapter, the results of the study are summarized and conclusions drawn.

#### **5.2 Summary of the Findings**

The summary of findings focuses on the following sub-headings that formed the study objectives:

##### **5.2.1 Effect of IS adoption on financial reporting efficiency**

Research objective one, sought to establish the effect of IS adoption on financial reporting efficiency. Using descriptive statistics, the study found out that majority of public enterprises in Tana River County used between one and five computers on stand-alone and intranets ICT platforms using Excel and Quick books for financial reporting. Further using multiple regression the study established that IS adoption is a significant predictor of financial reporting efficiency, hence the hypothesis that IS has no significant effect of financial reporting efficiency was rejected.

### **5.2.2 Effect of e-business on financial reporting efficiency**

Research objective two of the study, sort to explore effect of E-Business on financial reporting efficiency. Using descriptive statistics, results reveal that public enterprises in Tana River County use Intranet, electronic data interchange and Internet, but not websites. Further using multiple regression the study established that e-business is not a significant predictor of financial reporting efficiency, hence the hypothesis that e-business has no significant effect of financial reporting efficiency was upheld.

### **5.2.3 Effect of MRP practices on financial reporting**

Research objective three, sort to examine the effect of MRP on financial reporting efficiency. Using descriptive statistics, the study established that inventory management system is applied in public enterprises of Tana River County to a moderate extent with the rest of the dimensions indicating low application. Further, using multiple regression, the study results revealed that MRP has significant effect on financial reporting efficiency.

### **5.2.4 Effect of ERP usage on financial reporting**

Objective four of the study, sort to analyze effect of ERP on financial reporting efficiency. Using descriptive statistics, the study found out that public enterprises in Tana River mainly use a number of ERP components including Personnel and payroll. General ledger, Account payables, Banking and cash management, Account receivables and Fixed asset management. Further, using multiple regression the study established that ERP has significant effect on financial reporting efficiency and that among the four variables, it was the most important predictor.

### **5.2.5 Challenges Facing ICT adoption in Financial Reporting**

Objective five sort to determine the challenges facing ICT adoption in financial reporting in public enterprises of Tana River County. Using descriptive statistics, the study found out that most enterprises are faced with a host of ICT adoption challenges lead by inability of the system to support large volumes of data followed by loss of data due to power interruptions and loss of traditional accounting skills. These findings indicate that the challenges may influence financial reporting efficiency

### **5.3 Conclusions**

In view of the findings summarized above, the following conclusions are drawn.

1. Public enterprises use very few stand-alone computers for financial reporting using M/S Excel and Quick books. Further IS adoption has significant effect on financial reporting efficiency.
2. The extent of Intranet, electronic data interchange and internet, is high in public enterprises in Tana River County but there is little use of websites. Further e-business has no significantly affect financial reporting efficiency.
3. Extent of MRP application is low despite moderate application of inventory management system. Further, MRP has significant effect on financial reporting efficiency.
4. The Extent of application of ERP components like Personnel and payroll, General ledger, Account payables, Banking and cash management, Account Receivables and Fixed asset

management is high. Further, ERP significantly affects financial reporting efficiency.

5. Major challenges facing ICT adoption in public enterprises in Tana River is inability of the system to support large volumes of data followed by loss of data due to power interruptions and loss of traditional skills.

## **5.4 Recommendations**

In view of the conclusion made above, the following recommendations are made

### **5.4.1 Recommendations for theory and practice**

- a. Public Enterprises through their respective finance and ICT managers, should consider increasing the number of computers used for financial reporting in order to enhance efficiency in financial reporting. Specifically the following areas should have at-the-source data capture;- sales, stores and stock, purchasing and ordering, cash and cash management, fixed assets, capital and investments. Besides,they should expand their ICT platforms to include e-mail, internetand importantly website. It is further recommended that finance managers adopt use of modern accounting softwareswhich easily integrates with other systems and allows easy dissemination and accessibility of data and information among users.

- b. The Government through respective ministries, should allow Public Enterprises to host their own websites in order to allow sharing of financial information beyond the organizations' borders and enhance e-business for more efficient financial reporting
- c. The Government, through the directorate of public enterprises should enhance use MRP application especially MRPII which has integration features even more than ERP in order to improve on financial reporting efficiency. Even though most enterprises under study were service providers, MRPII fits in both manufacturing as well as non-manufacturing.
- d. Public Enterprises should embrace ERP more in order to improve on financial reporting efficiency especially in Inventory Control, Batch control and Accounting document control where the usage is low.
- e. Public Enterprises through their finance and ICT managers should ensure that the system can adequately accommodate their data before procuring them. A new system should be tested with three times the current financial data capacity to ensure it can accommodate growth of organization in terms of data load. They should also ensure that there is sufficient power backup and surge; and that adequate awareness training is conducted prior



to implementation. There should also be sufficient budget the system implementation.

#### **5.4.2 Recommendations for future research**

- i. Given the volatile and dynamic nature of this study, future studies should be conducted at intervals and/or under a theory so that findings can be generalized and the knowledge derived used to predict future as well as current status of technology development.
- ii. The context of the current study is such that the findings could be low on external validity. In order to improve on external validity in terms of generalization of the study findings, it is recommended that similar studies be replicated in other organizations across the public and private sectors in the remaining 46 counties in order to get a more representative data of the whole country.

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**APPENDIX A: LETTER OF INTRODUCTION**

EVANS O. ACHAR  
P. O. BOX 71,  
**GARSEN**  
CELL: 0722690780  
September 3<sup>rd</sup> 2014

**To whom it may concern**

Dear Sir/Madam,

**REF: RESEARCH QUESTIONNAIRE**

My name is Evans O. Achar, I am a student at Rongo University College, School of Business and Human Resource Development, seeking to conduct a research in the effect of ICT adoption in financial reporting efficiency in public enterprises in Tana River County. This is in partial fulfillment of the requirement for the award of Master of Business Management degree.

The purpose of writing this letter is therefore to request you to kindly fill the attached questionnaire which is purely for academic purposes. The information supplied will be treated with utmost confidentiality.

Please do not write your name on the questionnaire. In case of any clarification kindly use my above cell number to call me.

I will appreciate your prompt cooperation on this matter.

**E. O. ACHAR**  
**RESEARCH STUDENT**

## APPENDIX B - QUESTIONNAIRE

### EFFECT OF ICT ADOPTION ON FINANCIAL REPORTING EFFICIENCY IN PUBLIC ENTERPRISES IN TANA RIVER COUNTY

#### Instructions:

You are kindly requested to answer this questionnaire as honestly as possible by ticking

(✓) in the spaces provided. The information you give will be treated with maximum confidentiality

#### Part I – Demographic Data

1. Please indicate your gender:

Male [ ] Female [ ]

2. Please indicate your age:

20-30 yrs [ ] 31-40 yrs [ ] 41-50 yrs [ ]

51-60yrs [ ] Over 60 yrs [ ]

3. Please indicate your level of education:

Primary [ ] Secondary [ ]

Certificate [ ] Diploma [ ]

Bachelor's Degree [ ] Post Graduate Diploma [ ]

Master Degree [ ] PhD [ ]

4. Please indicate the number of years you have worked in your current position

Less than 2 years [ ] Between 2 and 5 years [ ]

Between 5 and 10 years [ ] Over 10 years [ ]

5. Please indicate the status of your employment:

Permanent [ ] Temporary [ ] Contract [ ]

6. Please indicate your of profession:

CPA [ ] ACCA [ ]

KATC [ ] Diploma in accountancy [ ]

Certificate [ ] Diploma in ICT [ ]

None above [ ]

## **Part II – Objective questions**

### **Section I: IS adoption in financial reporting efficiency**

1. By placing a tick in the appropriate box, please indicate the number of computers used in organization for financial reporting
  - a) 1-2 computers                b) 3-5 computers                c) 5-8 computers  
                                d) 9-10 computers        e) Over 10 computers
  
2. By placing a tick in the appropriate box, please indicate which of the following ICT platform is used in your organization
  - a) Website     b) Internet                        c) Intranet                                d)  
    Standalone                e) E-mail
  
3. Please indicate which accounting software is used for financial reporting in your organization
  - a. ....
  - b. ....
  - c. ....
  - d. ....
  - e. ....
  - f. ....

### **Section II: Effect of MRP on financial reporting efficiency**

By placing a tick in the appropriate box, please indicate the extent to which use of the following aspects of MRP affect financial reporting efficiency

	Very high extent 5	High extent 4	Moderate extent 3	Low extent 2	Very low extent 1
Inventory management					
MRPII systems					
Master production schedule					
Bill of materials					
Production cycle times					
Supplier lead times					
Material needs					
Inventory management system					

### **Section III: Effect of ERP on financial reporting efficiency**

By placing a tick in the appropriate box, please indicate the extent to which of the following aspects of ERP affects financial reporting efficiency

	Very high extent	High extent	Moderate extent	Low extent	Very low extent
	5	4	3	2	1
Accounting documents control					
Batch control					
Inventory Control					
Personnel & Payroll					
Sales and Purchases					
Investment Management					
Banking and cash management					
General ledger					
Account payables					
Account receivables					
Fixed assets management					

### **Section IV: Effect of E-Business on financial reporting efficiency**

By placing a tick in the appropriate box, please indicate the extent to which the following aspects of E-Business improves efficiency in financial reporting

	Very high extent	High extent	Moderate extent	Low extent	Very low extent
	5	4	3	2	1
Secure business transactions					
Online marketing					
Use electronic data interchange					
Website					
Internet					
Intranet					

### **Section V: Financial reporting efficiency**

By placing a tick in the appropriate box, please indicate the extent to which the following aspects of financial reporting efficiency are present in your organization

	Very high extent	High extent	Moderate extent	Low extent	Very low extent
	5	4	3	2	1
Adequate financial information integration					
Efficient financial reporting					

dissemination  
Accounting information  
trustworthiness

**Section VI: Challenges which ICT poses to Financial reporting**

In your opinion what are the major challenges faced in financial reporting due to ICT adoption.

- a. ....  
.....
- b. ....  
.....
- c. ....  
.....
- d. ....  
.....
- e. ....  
.....
- f. ....  
.....

Thank you for your cooperation!



## APPENDIX C: AUTHORITY TO CONDUCT RESEARCH



(A Constituent College of Moi University)

### SCHOOL OF BUSINESS & HUMAN RESOURCE DEVELOPMENT

Email: [dean-business@ruc.ac.ke](mailto:dean-business@ruc.ac.ke)

Website: [www.ruc.ac.ke](http://www.ruc.ac.ke)

RUC/SBHR/DATA/001

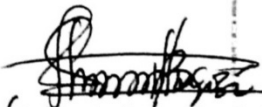
02/09/2014

### TO WHOM IT MAY CONCERN

This is to inform you that **OJWANDO EVANS ACHAR REG/NO. MBM/1005/12** is a bonafide student of Rongo University College pursuing Master of Business Management (final year). He is conducting research on "*Effects of ICT adoption on financial reporting efficiency in Kenya, A case study of Public enterprises in Tana River County*".

Any assistance accorded to him in the process of data collection is highly appreciated.

Thank you.

  
 f Dr. Ambrose Kemboi  
 Dean SBHR  
 02/09/2014

RONGO UNIVERSITY COLLEGE  
 THE DEAN

02 SEP 2014

SCHOOL OF BUSINESS, HUMAN RESOURCE  
 DEVELOPMENT  
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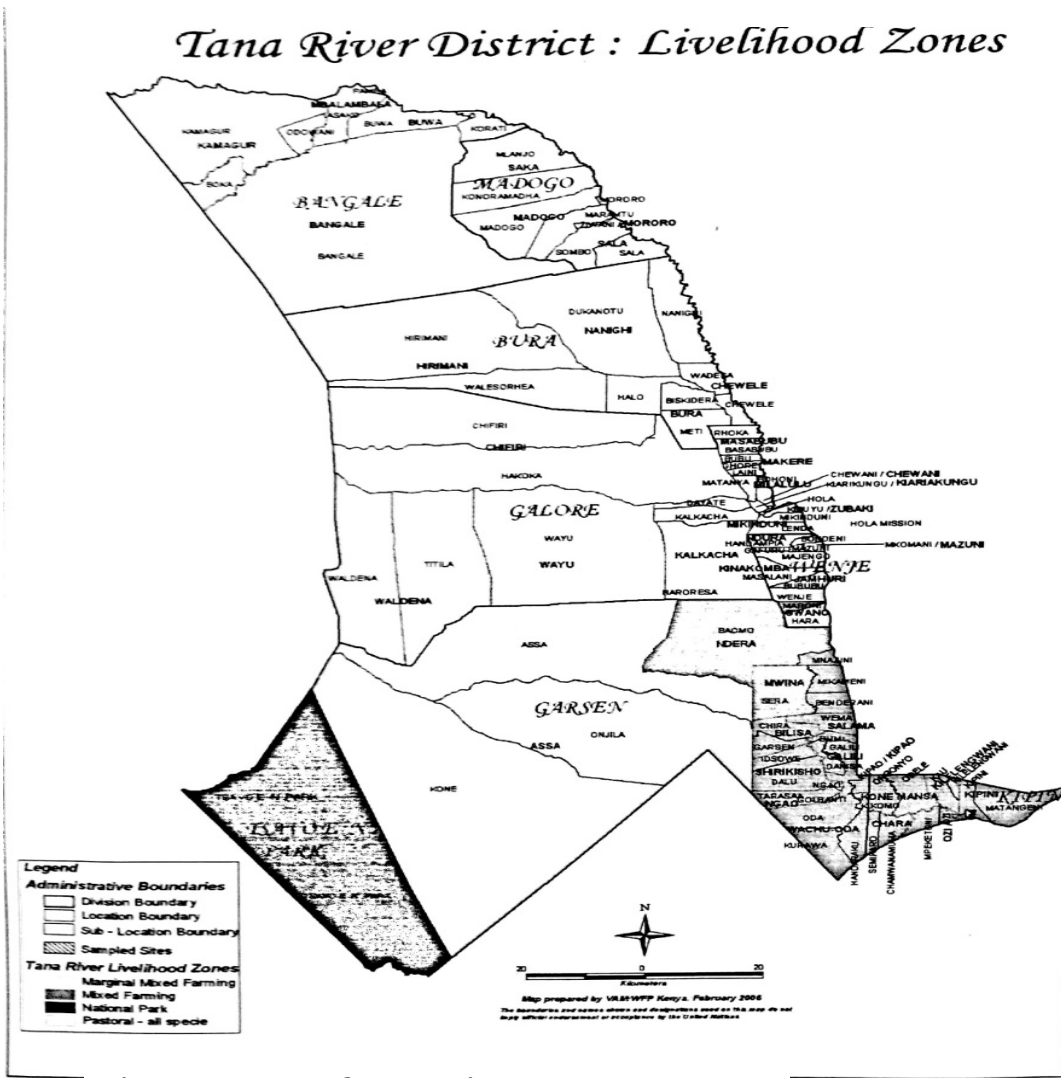


Fig. 5.1: Map of Tana River County

Source: Tana River County Archive