# READINESS TO ADOPT INFORMATION AND COMMUNICATION TECHNOLOGY ON ORGANIZATIONAL PERFORMANCE: THE CASE OF TEA FACTORIES IN EMBU, KENYA.

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A RESEARCH REPORT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF DEGREE IN MASTERS OF ARTS IN PROJECT PLANNING AND MANAGEMENT OF THE UNIVERSITY OF THE NAIROBI UNIVERSITY

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# **DECLARATION**

This project research is my original wor academic award.	rk and has not yet been presented to any university for
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# **DEDICATION**

I dedicate this research project to my family for their support and bearing with me during this Process. I will remain forever grateful.

#### ACKNOWLEDGEMENT

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# ABBREVIATIONS AND ACRONYMS

- OS -Operating system
- IT- Information Technology
- ICT Information and Communication Technology
- API Application Programing Interface
- CAM Computer Aided Manufacturing
- CRM Customer Relationship Management
- UNDP United Nation Development Programme
- KTDA Kenya Tea Development Agency
- IS –Information Systems

#### **ABSTRACT**

The aim of this study is to ascertain the influence of the adoption of Information Communication and Technology on the organizational performance the case of tea factories in Embu County. The study specifically seeks to identify the key variables in ICT as a group of elements which are hardware, software, communication and people. The study will also seek to establish the following objectives which are based on the adoption of communication platforms, software platforms, hardware platforms and people or user skills. The research questions will find out more on the objectives and will be based on how adoption communication platforms, software platforms, hardware platforms and people or user skills influence on the organizational performance. The study will adopt a cross sectional descriptive survey because it focuses at one point in time without manipulating the study environment. All members of the population will be surveyed because the numbers of managers who make decisions on policy implementation are relatively small. The study will rely on data collected from questionnaires structured to meet the objectives of the study. Responses from the questionnaires will be tabulated, coded and processed by the use of a computer statistical package for social science (SPSS)version 21 programmed to analyze the data. The study is significant as it will provide the management of the tea factories with information that they can leverage on to improve on the organizational performance of the tea factories, it will also be beneficial to the policy makers of these tea factories to make decisions that would change how operations are carried out .The study will be significant to enable tea factories consideration of adopting ICT to organizational performance.

#### **CHAPTER ONE**

#### INTRODUCTION

# 1.1 Background of the Study

Over the years, technology in business has been changing rapidly as the global environment becomes highly competitive and innovative. The use of Information Communication Technology (ICT) has become very vital to all organizations that intend to remain competitive in the market. According to Cravens (2000), the drivers of change in today's world include, deregulation, global excess capacity, global competition, changing customer expectations, ICT, demographic shifts and changing work and lifestyles. These changes have led organizations to embark on activities that will provide a source of competitive advantage and embrace the usage of ICT (Kevin, 2006). ICT is clearly considered as a key growth area in this century, specifically, in a dynamic business and highly competitive environment which requires utilizing advanced ICT solutions to improve efficiency and cost effectiveness, and to present high quality products and services to their customers (Allen and Morton, 2004). Recently, the term of ICT has expanded to include the role of ICT tools not just inside the company but outside the company, for instance, UNDP report, 2001, claimed that ICT is considered as a tool of marketing and contacting customers and looking for possible customers, as well as presenting ICT services is distinguished as a potential service for customers (Werthner, and Klein, 2005).

According to Gholami et al. (2008) ICT is also considered as a key enabler for globalization, Facilitating worldwide flows of information, capital, ideas, people and products. Some researchers such as (Christensen, 2000; Doganis, 2001; Werthner and Klein, 2005) have tried to combine the previous definition by considering ICT as a group of elements hardware, software, communication and people that should be working together in the process to present the benefits to the organization in the form of information, product or services and so on. Laudon and Laudon (2007) assert that ICT includes all the technology that facilitates the processing, transfer and exchange of information and communication services. It is considered as a subject of expertise that links information technology (computers and applications) and telecommunication networks (intranet and internet), that lets people and computers interrelate irrespective of physical location. Werthner and Klein (2005) conclude that the ICT term contains hardware, software, networks and people that should be integrated as a one unit by linking each one to the other in a clear

process to generate the information that helps the decision makers, producing product and services presenting, promotion, controlling and for achieving the organization's aims and goals. Information technology generates fundamental changes in the nature and application of technology in business (Gholami et al., 2008). Information Communication Technologies (ICT) can provide powerful strategic and tactical tools for organizations, which, if properly applied and used, could bring great advantages in promoting and strengthening their competitiveness. The proliferation of the Internet, as a main stream communication media and as an infrastructure for business transactions has generated a wide range of strategic implications for businesses in general (Li-Hua and Khalil, 2006). Here the independent variables that will be studied are; communication platforms, software platforms, hardware platforms and system administrator and user skills. The moderating variables to be looked at are; attitude and culture and the intervening variables are company strategic goals and government policy. The dependent variables are profitability, productivity, revenue generation, reliability, efficiency, effectiveness and return on investment.

#### 1.2 Statement of the Problem

Over the year's tea factories have accepted, adopted and in cooperated information communication and technology. ICT adoption in other tea factories globally has been so influential and beneficial and has grown and provided room for innovation. The tea industry has been investing heavily on technology so as to gain a competitive edge. Despite all this, there is still a long way to go for the tea factories in Embu County. There three factories in Embu county namely, Mungania, Kathangariri and Rukuriri tea factories, these factories are privately owned by the farmers but they are under the management of Kenya Tea Development Agency KTDA.

The major problems are delays in payment to business partners, growers and employees; lack of good access to the global markets is also a challenge for these factories. The tea factories in Embu county have not fully embraces the use of skilled personnel or users for their ICT solutions, also they have not fully adopted the use of the right hardware platform also the appropriate software platform be it bespoke or of the shelve software and finally the factories have not fully adopted the most appropriate communication platform. All these variables are influential in the organizational performance. Clearly there is an existing gap and it needs to be addressed. The research is all about revealing the gap in the tea factories in Embu county and

how if well addressed ICT can influence the organizational performance since the rapid growing and dynamic world of ICT offers new and exciting technologies that if their full potential is realized, the Probable paybacks of adopting and investing on ICT in a substantial way will go a long way in enabling the firms be competitive, access more markets, have their long term and short term goals and objectives achievable. The adoption of ICT will enable the firms also gauge and be in a position to measure and evaluate their organization performance.

# 1.3 Purpose of the study

The purpose of the study is to establish the influence of adoption of ICT on organizational in tea factories performance in Embu County. The research proposal work highlights the advantages or merit associated with information communication and technology on organizational performance

# 1.4 Objectives of the Study

This study was guided by the following objectives

- 1. To establish the influence of the adoption of communication platforms on the organizational performance of tea factories in Embu county.
- 2. To assess the influence of the adoption of software platform on the organizational performance of tea factories in Embu county.
- 3. To evaluate the influence of the adoption of hardware platform on the organizational performance of tea factories in Embu county.
- 4. To determine the influence of the adoption of the system administrator skills on the organizational performance of tea factories in Embu county.

# 1.5 Research Questions of the Study

The study sought to answer the following questions,

- 1. How does the adoption of communication platforms influence the organizational performance of tea factories in Embu County?
- 2. How does the adoption of software platforms influence the organizational performance of tea factories in Embu County?

- 3. To what extent does the adoption of software platforms influence the organizational performance of tea factories in Embu County?
- 4. In what ways does the adoption of the systems administrator's skills influence the organizational performance of tea factories in Embu County?

# 1.6 Significance of the Study

This study is anticipated to provide a basis for comprehensive evidence, on information and communication technology procurement and application in the tea factories

The study will established the existing gaps in the influence of the adoption of information and communication technology in the operations of the tea factories in achieving their statutory functions. The output of this study will hopefully serve as a blueprint for tea factories, information managers, board of directors, top level managers and stakeholders to chart the right course of action for the use of information and communication technology in furthering organizational performance through policy formulation and implementation.

# 1.7 Delimitation of the Study

The factors that will make this research successful are that the researcher works for Mungania Tea Factory in Embu County and has access to the factory. The collection of data will be easy since managers and members of staff are willing to give appropriate and relevant information.

#### 1.8 Limitations of the Study

The limitations of the study include the following, Lack of total response from some of the employees and the information given by the respondents will be assumed to be true. Solution is to ensure verification is done and reflects facts in future research.

#### 1.9 Assumptions of the study

Assumptions of the study include; that the sample represents the population and that data collection instruments has validity and will measure the desired constructs and also the study assumes that the respondents will be available to respond to the questionnaire correctly and truthfully.

# **Definitions of Significant Terms:**

**ICT:** the study, design, development, implementation, support or management of computer based systems particularly software applications and computer hardware.

**Performance:** The accomplishment of a give task measured against present known standards of accuracy, completeness, cost and speed.

**Hardware:** Computer hardware refers to the physical parts or components of a computer all of which are physical objects that can be touched

**Software:** are instructions that can be stored and run by hardware.

**Bespoke software:** is software that is specially developed for some specific organization or other user

**Off the shelf software:** of software packages developed for the mass market

**System administrator:** this is an expert whose role is to management computer, hardware, software and users

**Users:** these are users of computer applications or solutions

**Statistical Package for Social Sciences:** (SPSS) a software package applied in the analysis of data. It will provide frequencies and percentages to establish pertinent factors.

# 1.10 Summary

This chapter is divided into ten sections. Section one gives the background of the study while section two elaborates the statement of the problem. This is followed by section three giving the purpose of the study and section four summarizing the objectives of the study. Section five gives the research questions and section six discuss the significance of the study. The scope of the study is discussed in section seven while limitations and assumptions of the study are discussed in section eight and nine respectively. Definitions of significant terms are discussed on section ten.

#### **CHAPTER 2**

#### LITERATURE REVIEW

#### 2.1 Introduction

The chapter presents a review of the literature related to the study. Past studies are important as they guide the researcher on other studies done on the same. This chapter presents literature review on the role of ICT in an organization, literature based on the objectives, ICT as a strategy tool; areas of ICT usage in the organization, ICT revolutionized business processes and practices. This is presented in form of theoretical review, observation and later as conceptual framework.

# 2.2 ICT Influence on Organizations Performance

Following (Kleis et al. 2010) we theorize that the use of ICT contributes to firms' innovation activities through three main channels. The first channel goes through the management of knowledge used in the innovation process. This knowledge might be internally created or externally acquired. Information technology enables an efficient storage and a high accessibility of knowledge throughout an enterprise. Internal networks, e-mail systems, and electronic databases all facilitate the transfer of knowledge and the communication between innovation participants. This is particularly the case for external information, which is critical for successful innovation (Klevorick et al., 1995). Second, ICT enables a more efficient cooperation in innovation with external partners. The creation of new knowledge through collaboration with other firms has become more and more important in the last twenty years. Information technology facilitates the exchange of information with external partners that are located far away from the main firm. Third, ICT contributes directly to the innovation production in several

ways. (Kleis et al. 2010) identified three main stages of the innovation process, for which the application of ICT has proved to be useful. First, the stage of the generation of ideas for new products can benefit from information systems for instance Customer Relationship Management CRM that enable a firm to analyze customers and identify needs that can be covered by new products or significant modifications of existing products. Further, information technology enables the development of efficient design capabilities for new products. For example, technologies such as computer-aided design CAD and computer-aided manufacturing CAM help to digitize a new product's design and make it available throughout the innovation process. Finally, information technology helps integrate design and production systems, so that errors of information transfer and translation are reduced and, as a consequence, the efficiency of this last stage of the innovation process is increased. In summary, we expect a positive impact of ICT through these three channels on innovation performance. The relationship between human capital and innovation has been intensively investigated both theoretically and empirically already in the first generation models of endogenous growth (Romer, 1990; Aghion and Howitt, 1998; Barro, 1999). Besides being the "engine of innovation", human capital is also a key determinant of knowledge absorptive capacity that enables firms not only to generate new knowledge but also to understand and adopt external new technology (Vandenbussche et al., 2006).

#### 2.3 Software Platform on Organizational Performance

An operating system (OS), according to (Burgess 2001), is a mediating software between the user and the computer hardware whose main function is to handle the more technical operations that are happening in the machine. It is the one that executes the functionalities of the programs that a user has in his or her computer (Krane, 2005). It is basically the one responsible for bridging application programs to the hardware, thus making the machine readily usable. If not for the operating system, a computer is simply a piece of expensive furniture in your office. However, there is no precise definition of what really makes up an operating system and what exactly it is for according to (Rinard 1997). He said the purpose of the operating system changes as the needs of the people increases in complexity as well. According to him, the goals of the operating systems also varied depending on the "relative cost" of the user and of the hardware where it is installed. As he said, during the early days of computing, there was an "Expensive Hardware, Cheap People" trend – meaning to say machines during those times were very much expensive while people did not have sufficient income to buy these expensive machines. This

made the purchasing of computers so hard. Thus the goal of the OS back then was to maximize the use of the computer. However the trend today is "Cheap Hardware, Expensive People" meaning to say purchasing of machines becomes relatively easy. The goal eventually became to make the computer much easier to be used for the growing number of users. It can be derived from this analysis that the *sociability* or usability of the OSs has changed from being exclusive to the hardcore programmers to being as broad as even children who wish to use the computer can easily understand how it works.

The structure of OSs has also developed as manufacturers restructure their products to make room for more middleware (Rinard, 1997). A middleware is like "glue" software that connects an application to other applications in the system (Middleware.org, 2008). A Java Application Programming Interface (API) for example, according to Rinard, is changing the way how operating systems are structured. He said instead of having a "set of system calls" and develop commands unique to its own, OSs are slowly adapting to the need of accommodating a middleware like Java Despite this diversity among operating software's, an OS has basically three major components. According to (Burgess 2001), it contains a technical layer of software whose main responsibility is to drive the hardware components in the system. Second, it has a file system that organizes the files and programs of the system in a logical manner. Third, an OS has a basic *command language* which allows the user to execute programs and manipulate files. (Brown 2000) states that an OS has four basic functions. He said it has to "initialize the hardware of the computer system, provide basic routines for device control, provide for the management, scheduling and interaction of tasks, and maintain system integrity and handle errors." These are basically the four main tasks that an operating system must fulfill. Operating systems are classified according to how many tasks it can perform at a time and how many users can access or use the system at a certain time (Burgess, 2001). According to him, they are classified whether they are single-user or multi-user and single-task or multi-task. Multi-user OSs has to be multitasking OSs, too, he added. These two categories are the most basic categories of computer operating systems.

# 2.4 Communication Platform on Organizational Performance

The emergence of the Internet in the mid-1990s as well as the development of Intranets and Extranets forced organizations to refocus their strategy on technological innovations in order to

enhance their competitiveness. Companies and organizations identified the Internet as a major opportunity to tackle distribution costs and to reengineer the structure of the industry. The recent ICT developments have enormous implications for the operation, structure and strategy of organizations. According to (Evans and Wurster 2007) the competitiveness of future economies will, to a great extent, depend both on the development and application of these technologies. The proliferation of the World Wide Web forced most organizations to rethink the way they do business and how they can reengineer their business processes. As businesses can interact more efficiently, competent businesses became digital and networked, facing a whole range of fresh opportunities and challenges (Dennis, 2007). (Bocij et al., 2003) points out that the e-Commerce revolution is evident on a global basis, although the level of success often depends on a wide range of local factors. (Porter 2001) illustrates that ultimately technology can totally transform the way an entire business is done. ICT contribute towards efficiency, productivity and competitiveness improvements of both inter-organizational and intra-organizational systems. The relationship between ICT and competitive advantage and performance is still unclear. Although there is an indirect and complex casual relationship between ICT and profitability, it is difficult to be quantified and generalized (Austin and Darby, 2003). According to (Bocij et al. 2003) technology has already revolutionised a wide range of functions including business functions, external environment monitoring, communicating with partners and with consumers at large. Clear strategic goals and commitment are prerequisites for the development of an appropriate e-Commerce strategy and the development of web sites and other technological solutions. The emergent mobile technologies and mobile commerce are expected to change drastically a number of industries and to force organisations to reconsider their strategic management (Evans and Wurster, 2007).

#### 2.5 Administrative and Technical Support Influence on the Organization Performance

When faculty outline the support issues that would motivate them to teach online, the support issue most noted is that of administrative recognition and encouragement for online efforts. (Lee 2001) indicates that when faculty members feel institutional support, their levels of motivation and dedication are increased. Faculty indicates that this support can be demonstrated with credit towards tenure and promotion (Betts, 1998; Bonk, 2001; Rockwell, et al, 1999; Schifter, 2000). (Jones & Moller 2002) also agree with this type of incentive but caution that those determining tenure and promotion "may never have taught distance education courses, and therefore are ill-

equipped to properly assign merit and worth to efforts of a faculty member who may have redesigned a course to be delivered via the Internet" Another type of administrative support is monetary incentives. In (Schifter's 2002) study, faculty 60 years old and over indicated more concern over monetary factors than did faculty of any other age category. Faculty, both current participants and non-participants, and administrators indicate that monetary support, either in the form of stipends, continuing education or overload pay, or increased salaries would motivate faculty to teach online (Betts, 1998; Jones & Moller, 2002; Rockwell, et al, 1999; Schifter, 2000; Schifter, 2002). Technological support is also a major motivator for faculty interested in teaching online. Faculty note the importance of the institution in providing training in how to effectively teach online (Bonk, 2001) and to respect the decisions of faculty in deciding what are the most appropriate subjects or courses to teach via the medium. In addition, instructional design and development support is essential for faculty who do not have the time to develop and maintain online courses (Bonk, 2001; Dooley & Murphrey, 2000). The majority of factors that are barriers to teaching online are found in the areas of administrative and technical support. One deterrent noted repeatedly was the issue of faculty workload (Berge, 1998; Betts, 1998; Schifter, 2000; O'Quinn & Corry, 2002). According to Bonk (2001), 62% of faculty respondents indicated that "the main obstacle to using the web in teaching was the preparation time required" Time is considered to be an administrative issue because of the institution's ability to offer release time for development and maintenance of online courses. (Betts' 1998) study, the deans that were surveyed also indicated that the lack of release time would be an inhibitor for faculty participation in online teaching. Faculty feel that time spent on course development alone takes away from time that could be devoted to research (Rockwell, et al, 1999). A second administrative deterrent is the lack of recognition for teaching via distance education. Time devoted to teaching or developing online courses is not as highly regarded as is time spent on research or even on time spent teaching "traditional" face-to-face courses. Thus the lack of recognition from the administration and peers in the form of credit towards tenure and promotion is another large barrier to online faculty participation (Betts, 1998; Lee, 2001; Rockwell, et al, 1999; Wilson, 1998). Faculty also sees the lack of grants for materials, software expenses, design and development of courses as another barrier (Betts, 1998; Bonk, 2001; Chizmar & Williams, 2001; Dooley & Murphrey, 2000; Schifter, 2000). Another barrier that is monetarily related is the lack of merit pay or financial stipends for faculty who develop or teach online courses

(Berge, 1998; Dooley & Murphrey, 2000; Schifter, 2000; O'Quinn & Corry, 2002). Of all of the barriers cited by faculty and administrators, the one mentioned most frequently is the lack of technical support (Berge, 1998; Betts, 1998; Bonk, 2001; Chizmar & Williams, 2001; Jones & Moller, 2002; Lee, 2001; Rockwell, et al, 1999; Schifter, 2000; Wilson, 1998). This includes concerns about the lack of systems reliability and access to the online courseware as well as inadequate infrastructure, hardware, and software. Faculty is concerned about developing effective technology skills and mention lack of training as another deterrent to teaching online. In addition, there is a lack of knowledge regarding where to go for technical support while teaching in an online environment. Faculties worry about depending on developers and programmers and are also concerned about security issues.

#### 2.6 Theoretical Framework

Today, information systems are universally regarded as an essential tool in enhancing the competitiveness of an organization. There is consensus that ICT has significant effects on the productivity of firms. These effects will only be realized if, and when, ICT are widely spread and used. It is essential to understand the determinants of ICT adoption. Consequently it is necessary to know the theoretical models. This review will fill this gap. In this study, these theories for adoption will be reviewed at the organizational level used in information systems literature and discuss two prominent models: diffusion on innovation (DOI) theory, and the technology, organization, and environment (TOE) framework. The DOI found that individual characteristics, internal characteristics of organizational structure, and external characteristics of the organization are important antecedents to organizational innovativeness.

The TOE framework identifies three aspects of an enterprise's context that influence the process by which it adopts and implements a technological innovation: technological context, organizational context, and environmental context, Were made a thorough analysis of the TOE framework, analysing the studies that used only this theory and the studies that combine the TOE framework with other theories such as: DOI, institutional theory, and the Iacovou, Benbasat, and Dexter model. The institutional theory helps us to understand the factors that influence the adoption of interorganizational systems (IOSs); it postulates that mimetic, coercive, and normative institutional pressures existing in an institutionalized environment may influence the organization's predisposition toward an IT-based interorganizational system. The Iacovou,

Benbasat, and Dexter model, analyses IOSs characteristics that influence firms to adopt IT innovations. It is based on three contexts: perceived benefits, organizational readiness, and external pressure. The analysis of these models takes into account the empirical literature, and the difference between independent and dependent variables. The paper also makes recommendations for future research. Extensive review of the literature on Information and Communication Technology (ICT) adoption indicates that there are several studies at the individual level. In addition there are many theories and models used for ICT adoption at the individual level such as Technology Acceptance Model (TAM) (Davis et al., 1989), Theory of Planned Behavior (TPB) (Ajzen, 1985; Ajzen, 1991), TAM 2 (Venkatesh and Davis, 2000), Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003). However, there are fewer studies at the organizational level. This study aims to fill this gap. For the purposes of the study, I will focus only in theories and models at the organizational level. In this part of the study, I will systematically review the information systems literature for adoption models at the organizational level. The main focus will be on prominent models such as, Technology-Organization-Environment (TOE) framework, Diffusion of Innovation (DOI) Theory and Institutional Theory. Tornatzky and Fleischer (1990) developed a framework for organizational adoption based on Contingency Theory of Organizations. The former theory postulates that an effective organization should have a structure which is consistent with its environmental needs (Lawrence and Lorsch, 1967). The effectiveness of an organization is based upon its fitness towards both internal and external factors such as environment, organization size, and organization strategy (Donaldson, 2001). Therefore, decision makers should take in to account environmental, organizational and technological factors to make a decision. In this framework, three key determinants were identified that affect organizational adoption: technology, organization, and environment framework was named as "TOE" framework and used successfully in the study of adoption within organizations. Its main focus is on how technology characteristics themselves can influence the adoption process. The organizational context describes the characteristics of an organization. Common organization characteristics include firm size, degree of centralization, formalization, complexity of its managerial structure, the quality of its human resources, and the amount of little resources available internally.

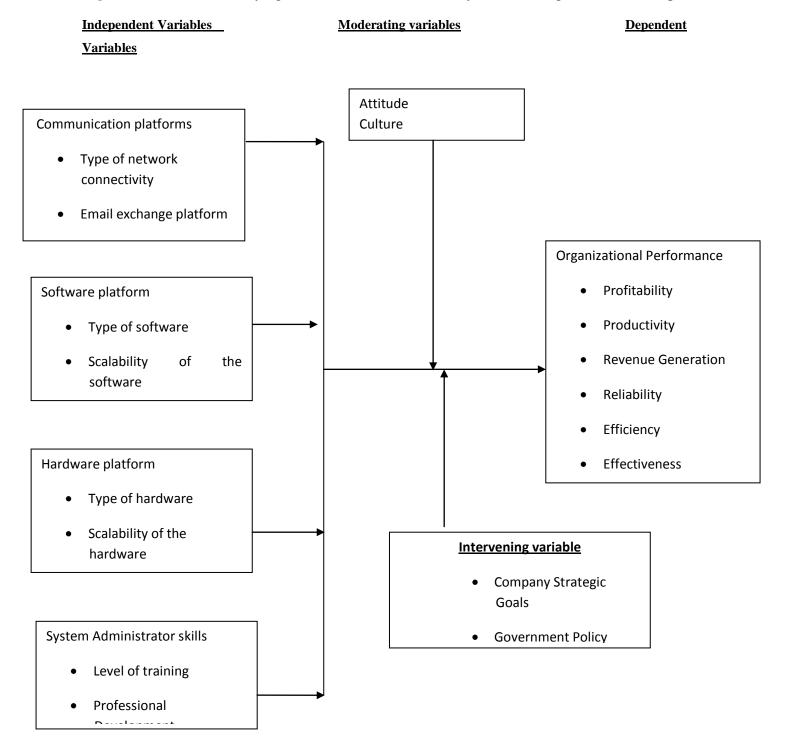
The external environmental context is the arena in which an organization conducts its business.

This includes the industry, competitors, regulations, and relationships with the government. These are factors external to an organization that present constraints and opportunities for technological innovations (DePietro et al., 1990).TOE framework is utilized by several studies to explain various IT adoptions such as e-commerce, e-business, Enterprise Resource Planning, Electronic Data Interchange, open systems, Knowledge Management Systems among others.TOE framework can be combined with other theories to better explain IT adoption. Diffusion of Innovation (DOI) theory is one of the main theories that are combined with TOE framework. Thong (1999) develops an integrated model combining TOE framework with DOI theory. The model specifies contextual variables such as decision-maker characteristics, IS characteristics, organizational characteristics, and environmental characteristics as primary determinants of IS adoption in small businesses. Moreover, Zhu et al. (2006) and Wang et al. (2010) combined DOI theory with the TOE framework to better understand IT adoption decisions. Institutional theory is another theory that is combined with TOE framework to explain IT adoption within different domains.

According to the institutional theory, in order to make organizational decisions social and cultural factors should also be taken in to account. In order to survive, organizations must conform to the rules and belief systems prevailing in the environment (Scott, 2004). The institutional theory adds to the environmental context of the TOE framework external pressures including pressure from competitors and trading partners (Oliveira and Martins, 2011). Gibbs and Kraemer (2004) and Soares-Aguiar and Palma-Dos-Reis (2008) are examples of the studies that combined Institutional Theory with TOE framework. Li (2008) combines TOE framework with DOI and Institutional Theory in order to explain organizational adoption of e-procurement. Iacovou et al. (1995) develop a new model for EDI adoption in the small organizations that is based on three factors; perceived benefits, organizational readiness, and external pressure. The external pressure in the model includes two variables; competitive pressure and trading partner power. Oliveira and Martins (2010) use this model with the TOE framework to explain adoption of e-business.

# 2.7 Conceptual framework

**Figure 1 is** a model identifying the variables under this study and outlining their relationships.



# 2.7.1 Discussion of Conceptual Framework

Figure 1: clearly shows the relationship between the dependent and independent variables. The adoption of ICT is the independent variable and the organizational performance

# 2.8 Summary

This chapter is has six sections, The literature review looks at the various works done earier by other scholars and researchers, section two has literature on the influence of ICT on the organizational performance, the work done on software platforms on the organizational performance, the communication platform on the organizational performance, the administrative and technical support on the organizational performance.

The theoretical framework is also discussed in detail and also the conceptual framework

#### CHAPTER THREE

#### RESEARCH METHODOLOGY

#### 3.1 Introduction

This chapter presents the methodology that will be used to carry out the study. It further describes the research design, type and source of data, research instruments that will be used to collect data. It also describes the target population and the data analysis method.

#### 3.2 Research Design

The design that will be adopted is cross sectional descriptive survey because it focuses at one point in time. All the concerned members of the population will be surveyed in a census, because the number of managers who make decisions on policy implementation is relatively small. This is a method of collecting information by interviewing or administering questionnaires to a sample of individuals (Orodho 2005). Cooper and Schindler (2010) describe a survey as a measurement process used to collect information during a highly structured interview. Zikmund (2003) says surveys provide quick, inexpensive, efficient and accurate means of accessing information about the population. The greatest strength of a survey is its versatility; all abstract information can be gathered by questioning others. This means that researchers will record information about their subjects without manipulating the study environment.

#### 3.3 Target Population

Orodho (2005) defines target population as the set of elements that the researcher focuses upon and to which the results obtained by testing the sample should be generalized. The target population will be comprised of ICT professionals, accounts, and members of management, technical staff and administration staff. The target population will be from tea factories in Embu County namely Mungania, Kathangariri and Rukuriri. This will be made up of approximately 58 participants who will be included in the sample.

# 3.4 Sampling Procedure

All the three factories in Embu County will be sampled for this study, the sample population will be provided with questionnaires to fill.

**Table 3.1 Sample Frame** 

	ICT	Accounts	Management	Technical	Administration
Kathangariri	1	2	3	6	6
Mungania	1	2	3	8	6
Rukuriri	1	2	3	8	6

#### 3.5 Methods of Data Collection

Data and information will be collected by use of questionnaires; the questionnaires will be administered to the sample population.

# 3.5.1Questionnaires

A questionnaire is recommended because it is a tool that offers considerable advantage in its administration, since the respondents remain anonymous, information that is more truthful is likely to be collected (Borg and Gall 1983). Gay (1992) observes that questionnaires gives respondents freedom to express their views opinions and make suggestions. (Borg and Gall 1983) emphasize that the open ended type of questions give informants freedom of response while the closed ended type of questions facilitate consistency in certain kind of data across the informants. The questionnaire will be divided into five sections. Section A will contain background information of the respondent, section B will contain details on the influence of ICT on organizational performance, section C will contain the extent of ICT adoption readiness, section D will contain the challenges of ICT adoption readiness and finally section E will contain ICT adoption readiness indicators.

#### 3.6 Validity and Reliability

Patoon (2002) argues that validity and reliability are two factors which a researcher should be concerned about while designing results and judging the quality of the study.

#### 3.6.1 Validity of the Instruments

According to Borg and Gall (1989) validity is the degree to which a test measures what it purports to measure. Kombo and Tomp (2006) define reliability as a measure of how constant the results from a test are. In this research a pre-testing study will be carried out by administering the questionnaire to a few respondents in order to ensure that they are carefully developed, tested

and debugged before they are administered on a large scale in order to validate the instrument. To ensure validity a sample of five respondents will be involved in the pre testing study. A careful analysis of the pre –test questionnaire will be done and sections which need revising will be replaced.

# 3.6.2 Reliability of the Instruments

Reliability is a measure of the degree to which a research instrument yields consistent results on data after repeated trials (Mugenda and Mugenda 1999). A reliable instrument is one that produces consistent results when used more than once to collect data from the sample randomly drown from the same population. For the reliability of the instrument to be used my supervisor for the project will be in a position to check for its reliability.

# 3.7 Methods of Data Analysis

After collecting data from the respondents, the researcher will scrutinize the instruments for completeness, accuracy and uniformity using the Statistical Package for Social Sciences SPSS. The method of qualitative analysis will be done on the question with numerical analysis. According to Borg and Gall (1989), SPSS is the commonly used set of computer programmed for managing, analyzing and displaying data. The results of the study will be presented in summary using frequency tables, graphs and charts to enhance clarity.

To establish the	Independent	Presence of	Signal strength	Ordinal	Questionnaire	Descriptive
influence of the	<u>Variable</u>	communication	available			

adoption of communication platforms on the organizational performance of tea factories in Embu county	Communication Platform	devices Availability of communication coverage	Communication efficiency			
To assess the influence of the adoption of software platform on the organizational performance of tea factories in Embu county	Independent Variable Software platform	Type of software used either bespoke or off the shelf software	Functions of the software	Ordinal	Questionnaire	Descriptive
To evaluate the influence of the adoption of hardware platform on the organizational performance of tea factories in Embu county	Independent Variable Hardware Platform	Cost of hardware used, and warranty issues	Functions of the hardware	Ordinal	Questionnaire	Descriptive
To determine the influence of the adoption of the system administrator skills on the organizational performance of tea factories in Embu county	Independent Variable System administrator skills	Level of education, experience and expertise	Competence of the system administrator	Ordinal	Questionnaire	Descriptive

# 3.8 Operational definition of Variables

# Table 3.2 Operationalization of variable

Objective	Variable	Indicator(s)	Measurement	Scale	Data	Data
					Collecting	Analysis
					Method	

# 3.9 Ethical Issues

In the whole process of the research, the researcher will maintain utmost confidentiality about the respondents view and inputs. The researcher will ensure that all respondents will be given free will to participate and contribute voluntarily to the study. In addition the researcher will ensure that all necessary authorities will be consulted and permission granted.

# 3.10 Summary

This chapter presents a description of the study design, target population, sampling methods and procedures, description of the research instruments and generation of the data for the current study.

# CHAPTER FOUR DATA ANALYSIS, PRESENTATION AND INTERPRETATION

#### 4.1 Introduction

This chapter is presented in four sections. The first section looks at the response rate of the respondents. The second section is on the influence of ICT on organizational performance of the tea factory, the third section shows the ways in which ICT has improved efficiency in the department. The four section deals with the ICT adoption readiness indicators.

# **4.2 Response Rate**

Out of 58 questionnaires which had been administered to the interviewees, 58 of them were returned for analysis. This translates to 100 percent return rate of the respondents. Overall the Response rate can be considered to have been very high as shown in Table 4.1;

**Table 4.1: Response Rate** 

Response Rate	Frequency	Percent	
Issued	58	100	
Returned	58	100	
Not returned	0	0	

# 4.2.1 Distribution of respondents by age

Because of differences in the peoples' age groups, the study sought to find out age brackets of the respondents so as to know which age bracket are the majority. This is for general information and is not a direct objective of the study. The results are shown in the Table 4.2:

Table 4.2: Distribution of the respondents by age

Age	Frequency	Percent	
Below 20 years	0	0	
21 - 30 years	4	6.9	
31 - 40 years	18	31.2	
41 - 50 years	21	36.2	
Above 50 years	15	25.7	
Total	58	100	

From the Table 4.2, majority of the respondents who participated in the study represented by (36.2%) are aged between 41-50 years and 31-40 years (31.2%). The table further reveals the rest are aged 21-30 years (6.9%). This could imply that majority of employees and concerned stakeholders in the tea factories industry in Embu county are middle aged probably reason being they tend to retain their employees or employ experienced staff from other sectors.

# **4.2.2** Distribution of the respondent by education level

The study sought to find out the education level of the respondent. This is for general Information and is not a direct objective of the study. The results are shown in Table 4.3;

Table 4.3: Distribution of the respondent by education level

<b>Education Level</b>	Frequency	Percentage
Diploma level Undergraduate Postgraduate	20 31 2	43.2 53.4 3.4
Total	58	100

Figure 4.3 shows that more than half of the respondents (53.4%) have attained undergraduate level of education, 43.2% have attained diploma level of education and the minority (3.4%) have attained postgraduate level of education. The findings depict that the tea factories

employ learned professionals who have attained tertiary level of education.

#### 4.2.3 Duration of service

The study sought to find out if how many years the respondents have worked for their respective factories. This is for general information and is not a direct objective of the study. The results are shown in Table 4.4.

**Table 4.4: Duration of service** 

Years of service	Frequency	Percentage	
Less than 1 year	0	0	
1-3 years	5	8.7	
4-7 years	13	22.4	
8-11 years	30	51.7	
Over 11 years	10	17.2	
Total	58	100	

Table 4.4 shows that half of the respondents (51.7%) have been with the airline for 8-11 years. The table further reveals that (22.4%) have been with the company for 4-7 years, (0%) for less, than 1 year and (17.2%) for over 11 years. The findings could give an implication that the tea factories in Embu County retains its employees and are probably good employers.

# 4.2.4 Distribution of the respondents by department/sections

The study further sought to find out the respondent's career orientation. This question was asked to understand the distribution of the careers of the respondents. The question was asked to show the extent of the use of ICT across departments. The results are presented in Table 4.5;

Table 4.5 Distribution of the respondents by department/sections

Department	Frequency	Percentage	
ICT	3	5.3	
Accounts	6	10.3	
Management	9	15.5	
Technical	22	37.9	
Administration	18	31.0	
Total	58	100	

Table 4.5 shows that 37.9% of the respondents work on the technical department while ICT occupies the least of 5.3%, other departments are management, administration and accounts they occupy 15.5%, 31% and 10.3% respectively.

#### 4.3 Influence of ICT on the organizational performance of tea factories in Embu County

All the respondents (100.0%) agreed that the adoption of information communication and technology in tea factories will most certainly improve the organizational performance.

# 4.3.1 Ways in which ICT has improved efficiency in the department

The researcher sought to find ways in which ICT has improved efficiency in the respondent's department. The responses given included: there is great productivity and efficiency; faster processing of growers registrations; immediate distribution of info throughout the company; by sharing of data between different departments; processing of bulk amounts of data; greater customer satisfaction; most of the company's operations have been automated which has led to easy accessibility of information; use of mobile and portable ICT devices means that staff can access information at any time they require it and not just during office hours; efficient communication technology based security products; monitoring of other departments processes is enhanced; it has enforced checks and balances across the different sections in the department in terms of well defined workflows thus enhancing accountability and efficiency in carrying out the day to day tasks at the department; accuracy, speed and volume of work done; improved process management.

The findings further revealed ICT has improved efficiency through; improved lead times in service delivery improved communication flow access to real time information; giving real time information thus helping in on time performance; they can now manipulate a cost related excel worksheet, save and resend wherever they are, without having to look for a laptop or using a modem for that matter; effective use of the business process digitally automation of process; reporting is incidences can be tracked and customer service measured easily; reduced communication costs; data accuracy through the use of industry standard communication platforms and using applications that validate against business rules; enables the flow of information within the organization; harness efficiencies such that more tasks can be done with fewer people; business modeling and simulations to see how a factor may impact a business; use

of a website and related website technologies has assisted in increasing sales, reducing fraud cases, getting to know what our customers are saying about us and we in turn changing; paperless environment reduces costs robust systems to support operations; remote access redundancy; and it has allowed for information to be shared across departments and stations which is required for decision making and other operations to be efficient.

The study sought to find out what company ICT device the respondents have in their disposal to enable them to perform their duties. This is a direct theme of the objectives of the study as it shows accessibility to the key aspects of the study.

The results are shown in Table 4.6:

Table 4.6: Company ICT device(s) at disposal to enable performance of duties

Devices	Frequency	Percentage
PDA	36	20.4
Desktop PC	90	49.3
Laptop	9	5.1
Server	12	6.6
Tablets	18	9.3
Smart phones	18	9.3
Total	183	100

Table 4.6 shows that majority of the respondents (49.3%) have company desktop PC at their disposal to enable them to perform their duties. It further reveals (5.1%) have company laptops, servers (6.6%) and (9.3%) have tablets and smart phones the PDA take (49.3%)

These devices are at their disposal to enable them to perform their duties. The findings give an implication that company ICT devices are useful in executing duties.

The study sought to find out from the respondents if as an individual, the provision of the items below has affected their performance at the workplace. This question is a direct subtheme of the study as it shows the relationship between accessing the different aspects shown and the performance of the tea factories. The results are shown in Table 4.7:

Table 4.7: Effect of the ICT aspects on performance at the workplace

Item	Yes	No	Maybe
PDA	100	0.0	0.0
Desktop PC	99.0	1.0	0.0
Laptop	98.0	2.0	0.0
Servers	100	0.0	0.0
Smart phones	99.0	1.0	0.0
Tablets	99.0	1.0	0.0

Table 4.7 shows that almost all the respondents agreed to the provision of servers (100.0%), PDA (100%), laptops (98.0%) and desktop PC tablets and smart phones (99.0%). The findings yet again affirm that company ICT devices are important in executing duties and thus in organizational performance.

The study sought to find out the level of agreement on the perceived performance indicators when using ICT services This is a direct subtheme of the study as it provides information on which are the perceived indicators of performance of the tea factories. The findings are revealed in Table 4.8:

**Table 4.8: Perceived performance Indicators** 

	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
Additional growers	36.0	62.0	2.0	0.0	0.0
Revenue generation	10.0	50.0	5.0	25.0	10.0
Reliability	80.0	10.0	8.0	2.0	0.0
Efficiency	38.0	60.0	2.0	0.0	0.0
Return on investment	10.0	50.0	2.0	28.0	10.0
Effectiveness	80.0	10.0	2.0	8.0	0.0
Profitability	20.0	70.0	10.0	0.0	0.0

Table 4.8 reveals majority of the respondents strongly agreed to reliability (80.0%), effectiveness (80.0%), additional growers (36.0%), and revenue generation (10.0%), and efficiency (38.0%), return on investment (10.0%),(10.0%) of the respondents strongly disagree on return on investments and (10.0%) strongly disagree on revenue generation. Table 4.9 shows the extent of ICT adoption readiness in the tea factories.

**Table 4.9: Extent of ICT adoption readiness** 

	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
Working attitude	39.0	47.0	4.0	0.0	8.0
skills of the staff	10.0	50.0	5.0	25.0	10.0
Budgetary allocation	80.0	10.0	8.0	2.0	0.0
Competing priorities	38.0	60.0	2.0	0.0	0.0
Strong project champion	52.0	39.0	4.0	0.0	9.0
Change management approach	80.0	10.0	2.0	8.0	0.0
Enhanced effective communication	30.0	52.0	13.0	0.0	4.0

In Table 4.9 the researcher found out that a strong majority agreed on the extent of ICT adoption readiness, for instance 60.0% agreed on competing priorities, working attitude took (47.0%)

Table 4.10. Significant events in the past years

Event	Yes	No
Management change	100.0	0.0
Layoffs	100.0	0.0
Other ICT projects	100.0	0.0
Financial crisis	100.0	0.0
System failures	100.0	0.0

The researcher found out that many significant events had happened in the recent few years and it was a clear indicator that the tea factories were preparing for automization of their processes and thus ready or getting ready for ICT.

Table 4.11.: Challenges of ICT adoption readiness

	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
Existing systems work better	39.0	47.0	4.0	0.0	8.0
didn't see the value	10.0	50.0	5.0	25.0	10.0
ICT solutions available not fit for us	80.0	10.0	8.0	2.0	0.0
Experiences of others raised a red flag	38.0	60.0	2.0	0.0	0.0
Organization had other priorities	52.0	39.0	4.0	0.0	9.0
We were not ready	80.0	10.0	2.0	8.0	0.0
Budget was not approved	30.0	52.0	13.0	0.0	4.0
High Costs involved with ICT adoption	80.0	10.0	2.0	8.0	0.0
Complex organization structure	80.0	10.0	2.0	8.0	0.0
Complex business process	80.0	10.0	2.0	8.0	0.0

Table 4.11 here the researcher sought to find out the challenges faced in ICT adoption readiness, in tea factories in Embu county. A keen interest was paid in the high cost involved, budget approval; level of readiness among others. This finding represented a clear indication that the stakeholder and key decision makers in the industry require a tailored made training on the key benefits of ICT adoption

Table 4.12 shows the cross tabulation of the independent variable with the dependent variables

	Organizational Performance						
	Profitability	Productivity	Revenue generation	Reliability	Effectiveness	Efficiency	ROI
Readiness to Adopt ICT							
Strongly Agree	24%	38%	28%	33%	36%	39%	30%
Agree	36%	26%	36%	43%	40%	27%	46%
Neutral	18 %	26%	17%	14%	14%	20%	14%
Disagree	12%	10%	10%	8%	10%	10%	8%
Strongly disagree	10%	0%	9%	2%	0%	4%	2%
Total	58 100%	58 100%	58 100%	58 100%	58 100%	58 100%	58 100%

# 4.3.2 Correlation analysis

Spearman's Rank Correlation Coefficient. The formula used to calculate this coefficient is:  $r=1-(6\sum d^2)\,/\,n(n^2-1)\, Table.... \ illustrates \ the \ correlation \ analysis \ using \ spearmans \ correlation \ analysis.$ 

Table 4.13 shows the correlation analysis

Respondents	Organizational Performance Indicators	Rank	Position	d	$d^2$
21	Strongly Agree	1	1	0	0
23	Agree	2	2	0	0
5	Neutral	4	3	-1	1
8	Disagree	3	4	1	1
1	Strongly Disagree	5	5	0	0

$$r = 1 - (6 \Sigma d^{2}) / n(n^{2} - 1)$$

$$r = 1 - (6*2) / 5(25-1)$$

$$r = 1 - (12) / 5 (24)$$

$$r = 1 - 12 / 120$$

$$r = 1 - 0.1$$

r = 0.9

#### 4.3.3 Correlation analysis interpretation

When interpreting the Spearman Rank Correlation Coefficient, it is enough to say that: for values of r of 0.9 to 1, the correlation is very strong, for values between 0.7 and 0.9, correlation is strong and for values between 0.5 and 0.7, correlation is moderate.

#### 4.6 ICT adoption readiness indicators

The researcher found out that, tea factories were willing and able to adopt ICT projects and programs for their organizational performance. These adoption readiness indicators were clearly brought to light by the fact that there was a budget allocation for ICT imitative and also the administration and management of the tea factories were willing to approve the budget so as to kick off the ICT projects. The factories were all in favors of training its staff and other concerned stakeholders on matters concerned with ICT.

#### 4.7 Summary

The study sought to find out suggestions/recommendations on the influence of information and communication technology on organizational performance. The responses given include: make use of ICT systems put in place; various products must be presented to this industry meaning that ICT security must not be compromised at all cost the organization should adopt new technology and solutions as they emerge, and not look at information and communication technology as a cost but an investment which in the long run will contribute to increase in the efficiency of the different departments. Organization should embrace ICT have a competitive edge and customers are satisfied with the service.

**CHAPTER FIVE** 

# SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Introduction

The basic purpose of this chapter is to give the summary, conclusions and recommendation of the study. This was based on the research findings that is presented and discussed in the previous chapters.

#### 5.2 Summary of findings

This study aimed at assessing of the readiness to adopt information communication and technology on the organizational performance, the case of tea factories in Embu.

The task included; to establish the influence of adoption of communication platforms on the organizational performance, to assess the influence of the adoption of software platform on the organizational performance, also to evaluate the influence the adoption of hardware platform on the organizational performance and also to determine the, influence of the adoption of the systems administrator skills on the organizational performance.

The researcher reviewed previous studies with a view to establish academic gaps which the present study sought to bridge. This was done through library and internet research. The procedure included: reading, evaluating the methodology employed in terms of design choice, target population, sample and sampling procedure data collection instruments that is suitability, validity and reliability, data collection procedures, data analysis, findings and recommendations. The study benefited so much from the literature review for it guided the present study by pointing to areas that need to be investigated.

The study employed quantitative research as the main approach to guide the study. The target population included 58 staff and stake holders of the three tea factories in Embu. The research instrument used in data collection was a questionnaire from the respondents. To ensure validity of the instruments, expert opinion was sought. Data analysis was started immediately after the field work and the results tabulated in tables.

#### 5.3 Discussions

This section comprises of discussion based on the specific research objectives of the study. The findings revealed that majority of the respondents were aged between 41-50 years who have attained university's undergraduate level of education. The findings further reveal that half of the respondents who participated in the study have worked in the factories for 8-11 years. These findings clearly shows that the tea factories have employees that are professionals, skilled and experienced.

The research found out that according to the distribution of the respondents that many worked in the technical department and these were the people concerned with mainly use of ICT software, hardware, communication platform and ICT administrators. The study agrees with the statement that utilization of ICT tools has an important influence on the organization and all of its elements including people, culture, structure, process and tasks (Leavitt and Pondy, 1964). The study findings reveal that majority of the respondents gave the following as ways in which ICT has improved efficiency in their department: there is great productivity and efficiency; faster processing of growers and customer requests; immediate dissemination of information throughout the company; sharing of data between different departments; processing of bulk amounts of data; greater customer satisfaction; most of the company's operations have been automated which has led to easy accessibility of information; use of mobile devices means that staff can access information at any time they require it and not just during office hours; efficient communication technology based security products; monitoring of other departments processes is enhanced; it has enforced checks and balances across the different sections in the department in terms of well-defined workflows thus enhancing accountability and efficiency in carrying out the day to day tasks at the department; accuracy, speed and volume of work done; improved process management.

Marchand *et al* (2004) recommended four dimensions for describing ICT practices: operational support, business process support, manages support and innovation support. The findings further revealed that ICT has improved efficiency in the following ways; improved lead times in service delivery improved communication flow access to real time information; giving real time information thus helping in on time performance; they can now manipulate a cost related excel worksheet, they can save and resend documents wherever they are, without having to look for a laptop and modem or a cyber for that matter; effective use of the business process digitally

automation of process; reporting is incidences can be tracked and customer service measured easily; reduced communication costs; data accuracy through the use of industry standard communication platforms and using applications that confirm to business rules; enables the flow of information within the organization; harnessing efficiencies such that more tasks can be done with fewer people; business modeling and simulations to see how a factor may impact a business; use of a website and related website technologies has assisted in increasing sales, reduced fraud cases, getting to know what our customers are saying about us and we in turn changing; paperless environment reduces costs robust systems to support operations; remote access redundancy; and it has allowed for information to be shared across departments and stations which is required for decision making and other operations to be efficient.

The findings further show that majority of the respondents have company mobile phones, computer applications, company laptops, desktops and with a small proportion having tablets to aid them to perform their duties. The findings also reveal that the provision of company mobile phones and communication networks has affected staff performance at the workplace.

The findings further reveal that majority of the respondents agreed to; diversification into new markets, additional functions, positive cash flows, increased number of growers, low employee turnover and large number of employees.

The study findings depict majority of the respondents agreed to ease of using applications, website with full information needed, feeling safe when using ICT, accuracy of the information provided, convenience, prompt response to customer enquiries, time efficient and help in making informed choice as factors that have led to use of ICT in the tea factories.

#### **5.4 Conclusions of the Study**

On the basis of the above findings, the following conclusions were made for readiness to adopt Information communication and technology on the organizational performance of tea factories in Embu county.

The study found that, the use of ICT services which the tea factories have adopted in a large extent has improved its performance. Some of the ways in which ICT has improved efficiency in the departments include; increased productivity and efficiency; faster processing of growers and other stakeholders hence greater customer satisfaction; immediate dissemination of information

throughout the company; faster sharing of data between different departments; processing of enormous amounts of data; easy accessibility of information at any time; enforced checks and balances across the different sections in the department in terms of well-defined workflows thus enhancing accountability and efficiency in carrying out the day to day tasks at the departments; accuracy, speed and volume of work done; improved process management; improved lead times in service delivery; improved communication flow access to real time information; reduced communication costs; data accuracy through the use of industry standard communication platforms and using applications that validate against business rules; use of a website and related website technologies has assisted in increasing sales, reduced fraud cases and paperless environment reduces costs robust systems to support operations.

The study found that majority of the employees of the three tea factories has company mobile phones, computer applications, company laptops, desktops and a small proportion have tablets to aid them in performing their duties. The findings affirmed that the provision of company mobile phones and communication networks affects staff performance at the workplace.

The study asserts that; diversification into new markets, additional business partners, positive cash flows, increased number of growers, increased number of products, customer loyalty, low employee turnover, large number of employees and large number of assets owned are perceived indicators of how well the tea factories in Embu are performing.

The study affirms; ease of using applications, website with full information needed, feeling safe when using ICT, accuracy of the information provided, convenience, prompt response to customer enquiries, time efficient and help in making informed choice to be factors that have led to use of ICT in the tea factories.

The study further found that: slow speed of user adoption, systems failure while enquiring, there IT skills competence gaps among its staff, system taking long to respond, cost of the systems, management not committed, information available not clear, and fraud cases are perceived challenges faced while using ICT services in the tea factories in Embu.

#### **5.5 Recommendations**

On the basis of the above conclusions, the following recommendations were made for the readiness to adopt information communication and technology on the organizational performance, the case of tea factories in Embu.

From the findings the study recommends that; the tea factories should make use of ICT systems that have been put in place; various products must be presented to this industry meaning that ICT security must not be compromised at all cost, products to curb fraud and fraudulent claims should be put in place and always safe guard all the processes from the tea factories should adopt new technologies and solutions as they emerge, and not look at information and communication technology as a cost, but an investment which in the long run will contribute to increase in the efficiency of the different departments of the factories.

From the findings the study also recommends that factories should; embrace ICT thus having competitive edge and customer satisfaction; change management should be handled for employees using computers; have more self-service enabled services to improve customer service; automate all critical processes to achieve efficiency, reliability and control in the organization; build in house capacity to handle IT systems policies and procedures that attempt to retain IT staff; backup plans as well as alternative options are a good fallback as well as looking to keep some human aspects for interaction to be relevant; management should develop an ICT strategic plan.

#### 5.6 Areas for further research

This study sought to assess of the readiness to adopt information communication and technology on the organizational performance, the case of tea factories in Embu attempting to bridge the gap in knowledge that existed. Although the study attained these, it mainly focused on the tea factories in Embu .

There is need to replicate the study using many other tea factories so as to find out the if there are any other factors influencing influence of information and communication technology on the performance of the tea factories.

The there is need to conduct a similar study which will attempt to find out if the use of ICT in Organizational performance.

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**APPENDICES** 

APPENDIX I: TRANSMITTAL LETTER

Michael Kibuthu

P.O Box 2734

Nyeri

Dear Respondent,

**RE: DATA COLLECTION** 

I am a student at the University of Nairobi. I am currently doing a research study to fulfill the

requirements of the Award of Master of Project Planning and Management on the influence of

adoption of information technology and communication on the organizational performance: the

case of tea factories in Embu, Kenya. You have been selected to participate in this study and I

would highly appreciate if you assisted me by responding to all questions in the attached

questionnaire as completely, correctly and honestly as possible. Your response will be treated

with utmost confidentiality and will be used only for research purposes of this study only. Thank

you in advance for your co-operation.

Yours faithfully,

Michael Kibuthu

L50/71938/2011

Researcher

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#### **APPENDIX II: Structured Questionnaire**

**Instructions:** Please respond to the following questions and where applicable, mark the relevant Box with a tick  $(\sqrt{})$ .

**Confidentiality:** The responses you provide will be strictly confidential. No reference will be Made to any individual(s) in the report of the study.

# READINESS TO ADOPT INFORMATION AND COMMUNICATION TECHNOLOGY IN ORGANIZATIONAL PERFORMANCE

SECTION A: BACKGROUND INFORMATION
1. In which of the following age brackets do you belong?
[] Below 20 years [] 21-30 years [] 31-40 years [] 41-50 years [] above 50 years
2. What is your education level (indicate the highest level?)
[ ] Certificate [ ] Diploma [ ] Undergraduate [ ] Post Graduate [ ] Other
3. How many years have you worked with the company?
[] Less than 1 year [] 1-3 years [] 4-7 years [] 8-11 years [] Over 11 years
4. What is your career orientation?
[ ] Accounts [ ] Administration [ ] Business Management [ ] IT Professional [ ] Technical [ ]
Other
5. Kindly indicate your department
SECTION B: INFLUENCE OF ICT ON ORGANIZATIONAL PERFORMANCE
6. In your opinion has the adoption and use of ICT services improved the performance of your
organization? Yes [ ] No [ ]
7. If yes in Q6 kindly indicate ways how ICT has improved efficiency in your department

8. In your own opinion, has the provision of the ICT company hardware devices enhanced your Performance at the workplace?

Yes [ ] No [ ]
9. Which company ICT hardware devices(s) do you have to enable work in your department?
PDA [ ] Desktop PC [ ] Laptop [ ] Tablet [ ] Servers [ ] Smart Phone [ ]
10. As an individual has the provision of these ICT company devices in Q9 enhanced your
performance at the work place?

	Yes	No	Maybe
PDA			
Desktop PC			
Laptop			
Servers			
Smart Phone			
Tablet			

11. The following are perceived performance indicators while using ICT Services, on a scale of one to five, where; 5= strongly agree, 4 = Agree, 3 =Neutral, 2 =Disagree and 1=strongly disagree, please indicate your level of agreement to the challenges below. (Please tick appropriately)

	Strongly	Agree	Neutral	Disagree	Strongly
	agree				disagree
	5	4	3	2	1
Additional growers					
Revenue generation					
Reliability					
Effectiveness					
Return on investment					
Efficiency					

#### SECTION C: EXTENT OF ICT ADOPTION READINESS

12. Suppose you were to adopt an ICT system, what would you need to change in your organization in order to succeed?

on a scale of one to five, where; 5= strongly agree, 4 = Agree, 3 = Neutral, 2 = Disagree and 1=strongly disagree. (Please tick appropriately)

	Strongly agree	Agree	Neutral	Disagree	Strongly
	5	4	3	2	disagree 1
The working attitude					
The skills of the staff					
The budgetary allocations					
Competing priorities					
Identify a strong project champion					
Change management approach					
Enhance effective communication					
Other					

13. Has your organization had the following significant events in the past few years? (Please tick appropriately)

	Yes	No
Management change		
Layoffs		
Other ICT projects		
Financial Crisis		
System Failures		

#### SECTION D: CHALLENGES OF ICT ADOPTION READINESS

14. For what reason or reasons, has your organization not implemented an ICT system before?

on a scale of one to five, where; 5= strongly agree, 4 = Agree, 3 = Neutral, 2 = Disagree and 1=strongly disagree. (Please tick appropriately).

	Strongly	Agree	Neutral	Disagree	Strongly disagree
	agree				1
	5	4	3	2	
Existing system works better					
Didn't see the value					
ICT solutions available not fit for us					
Experience of others raised red flag					
Organization had other priorities					
We were not ready					
The Board Members did not approve the					
budget					
High Costs involved with ICT adoption					
Complex organization structure					
Complex business processes					I

15. Do you believe that the adoption of Information Communication and Technology will influence positively on the organizational performance?

on a scale of one to five, where; 5= strongly agree, 4 = Agree, 3 = Neutral, 2 = Disagree and 1=strongly disagree. (Please tick appropriately).

	Strongly	Agree	Neutral	Disagree	Strongly
	agree				disagree
	5	4	3	2	1
Positive Influence on Organizational					
Performance					

### SECTION E: ICT ADOPTION READINESS INDICATORS

15. I	s the	e a cle	ear business o	case for	r the initiative?	? Yes [	]	No [ ]
16. A	Are the	ere con	npeting initiat	es alrea	ady going on th	at may resu	ılt in comp	lains from the policy
n	nakers	s who r	nay already be	e overst	tretched financi	ally?		
Y	es [	]	No	[ ]				
17. D	oes t	he orga	nization have	a full f	funding for the	ICT project	?	
Y	zes	Γ	1					No [ ]

#### THANK YOU FOR YOUR TIME AND COOPERATION

# APPENDIX III Budget

ITEM	DETAILS	COST	TOTAL
Proposal writing	Printing services	1200	1200
	Flash Disk	1800	1800
	Internet	2500	2500
	Travelling	4000	4000
	Photo copy	3500	3500
Sub Total		Ksh 13,000	Ksh 13,000

Action	Problem	Proposal	Proposal	Data	Report Writing/Final
Time	Identification	Writing	Presentation	Collection	Defence
				and Analysis	
T					
January					
2014					
February					
2014					
March					
2014					
April/May					
2014					
T					
June					
2014					

**APPENDIX IV Time Frame**