DETERMINANTS OF ADOPTION OF INFORMATION SYSTEM BY COFFEE
SOCIEDTIES IN KIRINYAGA COUNTY, KENYA

BY

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DECLARATION
This research project report is my original work and has not been submitted to any other institution for the award of any degree certificate

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DEDICATION

I dedicate this research project report to my beloved parents, Gabriel Magondu and Lucy Magondu for teaching and creating in me a thirst for knowledge.
ACKNOWLEDGEMENT

I sincerely thank my supervisor Prof Gakuu and Madam Alice Nderi through their consistent and persistent guidance I have managed to complete my project successfully, to you I am greatly indebted. To Dr. Lilian Otieno am sincerely grateful, to you for every support you gave me during this project endeavor. To all the staff of Extra Mural Department I appreciate every kind of assistance I received from you. To my beloved family especially my friend Peter you have been a pillar for me throughout my studies through your moral, spiritual, and financial support I am very grateful to you.
# TABLE OF CONTENT

DECLARATION.......................................................................................................................... iii
DEDICATION............................................................................................................................. iv
ACKNOWLEDGEMENT............................................................................................................... v
LIST OF TABLES ....................................................................................................................... ix
LIST OF FIGURES .................................................................................................................... x
LIST OF ABBREVIATIONS AND ACRONYMS ....................................................................... xi
ABSTRACT .............................................................................................................................. xii

## CHAPTER ONE .................................................................................................................... 1
INTRODUCTION ....................................................................................................................... 1
1.1 Background of the study ................................................................................................. 1
1.2 Statement of the problem .............................................................................................. 2
1.3 Purpose of the study ...................................................................................................... 3
1.4 Research objectives ....................................................................................................... 3
1.5 Research Questions ........................................................................................................ 3
1.6 Significance of the study ............................................................................................... 4
1.7 Delimitations of the study ........................................................................................... 4
1.8 Limitation of the study .................................................................................................. 5
1.9 Assumption of the study ............................................................................................... 5
1.10 Definitions of Significant Terms .................................................................................. 5

## CHAPTER TWO .................................................................................................................... 7
LITERATURE REVIEW ............................................................................................................. 7
2.1 Introduction .................................................................................................................... 7
2.2 Information system and its adoption ............................................................................. 7
2.3 Roles of information system and adoption ................................................................. 9
2.4 Empirical review .......................................................................................................... 9
2.4.1 Information system adoption barriers ..................................................................... 10
2.5 Determinates of adoption of information systems ...................................................... 11
2.5.1 Availability of Infrastructures and adoption of information system ...................... 11
2.5.2 User perception and adoption of information system ............................................ 11
2.5.3 Competency in Information Technology and adoption of information system ....... 12
2.6 Theoretical framework

2.6.1 The Diffusion of Innovations Model

2.6.2 Theory of Reasoned Action

2.6.3 Theory of Planned Behavior

2.6.4 Technology Acceptance Model

2.7 Conceptual Frame work

2.7.1 The interpretation of the conceptual framework

2.8 Summary and research gap

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

3.2 Research Design

3.3 Target Population

3.4 Data Collection Instruments

3.5 Validity of the data collection Instruments

3.5.1 Reliability of the data collection Instruments

3.6 Data Collection Procedure

3.7 Ethical Considerations in Research Involving Human Participants

3.8 Operationalization of Variables

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

4.2 Response Return Rate of Questionnaires

4.3 Demographic Information of the Respondents

4.4 Availability of information system infrastructures.

4.5 Competency in Information System

4.7 User Perceptions

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

5.2 Summary of Findings
5.2.1 Availability of Information System Infrastructures ......................................................... 37
5.2.2 Competency in Information System .................................................................................. 38
5.2.3 User Perception ............................................................................................................... 38
5.3 Discussions of the Findings .................................................................................................. 39
5.3.1 Availability of information system infrastructures and adoption of information system... 39
5.3.2 Competency in information system .................................................................................. 39
5.3.3 User perception ............................................................................................................... 40
5.3.4 Information System adoption ......................................................................................... 40
5.4 Conclusions ....................................................................................................................... 40
5.5 Recommendations ............................................................................................................. 41
5.6 Suggestions for further Research ...................................................................................... 41
REFERENCES .......................................................................................................................... 42
APPENDICES ............................................................................................................................ 45
APPENDIX I: LETTER OF INTRODUCTION ........................................................................ 45
APPENDIX II: LIST OF COFFEE SOCIETIES ........................................................................ 46
APPENDIX III: QUESTIONNAIRE .......................................................................................... 47
## LIST OF TABLES

- Table 3.1 Operational Definitions of variables and measuring Indicators................................................. 22
- Table 4.1 Ages of the Respondents .................................................................................................................. 24
- Table 4.2 Gender of the Respondents ............................................................................................................... 25
- Table 4.3 Highest education qualifications of Respondents ............................................................................. 25
- Table 4.4 Working Duration ............................................................................................................................ 26
- Table 4.5 Number of employees .................................................................................................................... 26
- Table 4.6 No of computers .............................................................................................................................. 26
- Table 4.7 The Availability of finance to acquire computer hardware’s and software’s. ................................. 28
- Table 4.8 The Availability of computer hardware’s ........................................................................................ 28
- Table 4.9. The Availability of electricity ......................................................................................................... 29
- Table 4.10 the awareness of reliable software and hardware. ....................................................................... 29
- Table 4.11 Staff ICT literacy level determines the adoption of Information system ...................................... 30
- Table 4.12 Awareness of ICT opportunities .................................................................................................. 31
- Table 4.13 Special training for staffs .............................................................................................................. 31
- Table 4.14 Staff Compatibility ......................................................................................................................... 32
- Table 4.15 information system adoption reduces operation cost ................................................................. 33
- Table 4.16 Information System is user friendly ............................................................................................. 33
- Table 4.17 using information system may not be too complex ................................................................. 34
- Table 4.18 Adoption of information system reduces errors ......................................................................... 34
LIST OF FIGURES

Figure 1: Technology Acceptance Model..............................................................22
Figure 2: Conceptual Framework.........................................................................23
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICT</td>
<td>Information Communication Technology</td>
</tr>
<tr>
<td>IS</td>
<td>Information System</td>
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<tr>
<td>MIS</td>
<td>Management information system</td>
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<tr>
<td>I.T</td>
<td>Information Technology</td>
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<td>DOI</td>
<td>Diffusion on innovation</td>
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<td>TOE</td>
<td>Technology, organization, and environment</td>
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<td>ISNAR</td>
<td>International Service for National Agricultural Research</td>
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<td>GoK</td>
<td>Government of Kenya</td>
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<td>TRA</td>
<td>Theory of reasoned action</td>
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<td>TAM</td>
<td>Technology acceptance model</td>
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<td>LDC</td>
<td>Less Developing countries</td>
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<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
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ABSTRACT

An information system is the collection of technical and human resources that provide the storage, computing, distribution, and communication for the information required by all or some part of an enterprise. The role played by Information system in coffee sector cannot be over-emphasized. I.S has also been credited with the potential to integrate world economies thus demolishing the barriers created by time and distance. However despite its role in improving effectiveness and efficiency in service delivery, its adoption in most of the Coffee Societies has remained low and limited. This study sought to assess the determinates of adoption of I.S in coffee societies in Kirinyaga County with three objectives which were to evaluate the extent to which availability of information system infrastructures determine the adoption of Information System in coffee societies, Assess the extent to which competence in Information system determine the adoption of information system in Coffee societies, establish the extent to which user perception determines the adoption of information system by coffee societies.

The study used a total census of 15 coffee societies, where Questionnaires were used to collect primary data. The data was analyzed using Statistical Package for Social Sciences (SPSS) whereby Descriptive Statistics such as frequency distributions and percentages were tested. The findings were presented using frequency tables. The survey established Availability of ICT Infrastructure, User Perception and Competency in Information System as the major determinants of adoption of information system in coffee societies in Kirinyaga County.
CHAPTER ONE
INTRODUCTION

1.1 Background of the study

Information Systems started to evolve in early 1950s when computer business started to be practiced (Krogstie, 2012). Business transactions continued to expand and thus manual systems continued to bring some issues and the need for Record automation and introduction of management information system was realized.

In Kirinyaga County, information system was first adopted at Baragwi Coffee society in Kirinyaga East sub-county Kianyaga in 2010 Ministry of industrialization and enterprise development (2015)

Buckingham (1987) observed the gradual and rapid change in information system and the need for organization to start managing their data using a more friendly and efficient system.

An information system is the collection of technical and human resources that provide the storage, computing, distribution, and communication for the information required by all or some part of an enterprise. A special form of IS is a management information system (MIS), which provides information for managing an enterprise (Martinez Piña, 2011).

As Cited by Rocheleau (2006) Information system assembles, stores, processes, and delivers information relevant to an organization or to a society, in such a way that the information is accessible and useful to those who wish to use it, including managers, staff, clients and citizens.

An information system is a human activity (social) system, which may or may not involve the use of computer systems. Also, in addition to supporting decision-making, information systems help workers and managers to analyze complex problems, to develop new products and to integrate the various modules and departments.

Three activities provide the information that organizations need. These activities are Input, Processing and Output. Input consists of acquisition of the raw data, which is transformed into more meaningful packets of Information by means of Processing. The processed information now flows to the users or activities also called as Output. The shortcomings are analyzed and the information is sent back to the appropriate members of the organization to help them evaluate and refine the input this is termed as feedback. Anderson (2006).
Kenya coffee has been grown for over a century now, since 1893 when it was first introduced in Kenya. The total area under coffee is estimated at 160,000 hectares, about one third of which is the plantation sector and the rests under small holder sector with an estimated 700,000 growers. The total annual production has been fluctuating widely due to climate as well as socio-economic factors. At the moment, production stands at about one million bags per year (Coffee board of Kenya 2009).

Kenya Demographic Survey (2003) shows that, the coffee industry of Kenya is noted for its cooperative system of production, processing, milling, marketing, and auction system. About 70% of Kenyan coffee is produced by small scale holders. It was estimated in 2012 that there were about 150,000 coffee and farmers in Kenya and other estimates are that six million Kenyans were employed directly or indirectly in the coffee industry. The major coffee-growing regions in Kenya are the high plateaus around Mt. Kenya, the Aberdare Range, Kisii, Nyanza, Bungoma, Nakuru, Kericho and to a smaller scale in Machakos and Taita hills in Eastern and coast provinces respectively.

This survey shows that primary coffee growing regions are those surrounding Mount Kenya which includes Kirinyaga, Murang’a, Nyeri, Embu.IS can help improve rural farmer income, by facilitating agricultural information dissemination as recognized by (Thysen2000) However, its adoption in the agricultural sector is slow, (Duces, 1985)argues that farmers are reluctant to adopt information technology to reduce investment costs.

1.2 Statement of the problem
This research sought to investigate the determinants of adoption of information system by coffee societies in Kirinyaga County, Kenya. It focused on availability of ICT Infrastructures, employee’s perception on adoption of information system and Competency in information system application which is the major concern toward the effective adoption.

In Kirinyaga county coffee is grown in the four sub-counties in the area which are Kirinyaga Central, Ndia, Gichugu, Mwea sub-county. Coffee board of Kenya (2014)

According to coffee board of Kenya (2014) Coffee was first planted in Kenya at Bura in Taita Hills in 1893 and thereafter, grown at Kibwezi, under irrigation in 1900, and at Kikuyu near Nairobi in 1904. At that time, there was no statutory control, in terms of crop husbandry, production, processing, grading and marketing. The marketing of coffee was handled by
individuals and through rudimentary institutions between 1900 and 1933. In the 1930's, following the Devonshire White Paper Report of 1923, the Colonial Government allowed controlled planting of coffee outside the European settled areas in Kisii and Meru in particular. In Kenya, coffee sector being a major contributor of Agriculture farming can greatly enhance its performance and decision making process by implementing information system to assist in the major activities in Coffee societies.

Coffee farmer delivers their produce to factories but they continue to suffer delayed cherry weighing and payment after sale of parchment due to inefficiency of the manual production systems. In most coffee factories the manual information system is slow and unreliable and thus delays generation of rate per kilo and update to member’s transactions. This study will attempt to establish the factors that influence the adoption of Information system in Coffee societies.

1.3 Purpose of the study
The purpose of this study was to establish the determinants of adoption of information system by coffee societies in Kirinyaga County, Kenya.

1.4 Research objectives
This study was guided by the following objectives
i. To evaluate the extent to which availability of information system infrastructures determine the adoption of Information System in coffee societies.
ii. Assess the extent to which competence in Information system determine the adoption of information system in Coffee societies
iii. To establish the extent to which user perception determines the adoption of information system by coffee societies.

1.5 Research Questions
This study was guided by the following research questions
i. How does availability of Information system Infrastructures determine adoption of Information System?
ii. To what extent does the level of competency in information system application determine its Adoption?
iii. To what extent does user perception determine the adoption of Information System?
1.6 Significance of the study
The findings of this study will add to the body of knowledge to scholars in the area of project management especially in the adoption of information system. The findings will give insight to most of the policy makers in coffee sector and give them knowledge on information system importance towards improvement and sustainability of coffee sector management which contribute significantly to the profit increase. The academicians, policy planners and researchers will also benefit by getting new areas of study and improvements.

Due to the importance in coffee sector in Kirinyaga County and as a source of lively hood to many and improving the economy, finding to this study will serve as important indicators as to Kenyan coffee society’s readiness to face challenges by adopting I.S, which could expedite the preparation of timely reports. These findings will assist all the managers and stake holders of coffee societies to indentify the factors which influence the adoption of information system. The findings can form the basis to attract and lobby with government and non government organizations taking up economic development activities into focus on areas that can address the identified hindrances.

This information will help the ministry of agriculture and the coffee board to come up with a policy to solve some of the factors which might be influencing the adoption of information system.

1.7 Delimitations of the study
This study was confined to the Coffee Societies secretaty managers, accountants and supervisors in Kirinyaga County, Kenya this enabled the researcher to scale down the cost and time spent while carrying out the study. The reason why the researcher was to put a lot of emphasis to secretary managers, accountants and supervisors was because they are the decision makers, strategy formulators, budget allocators and policy implementers in the society.

This study excluded the junior staffs, coffee farmers and others stakeholders though they might had an input in the study. The researcher focused on the main determinants adoption of information system which availability of information communication technology infrastructures, Competency in information system and user perception.
1.8 Limitation of the study
The questionnaires were administered in the normal working hours where the researcher expected some interference with the respondent’s office. This was addressed by leaving the questionnaires to the respondent and picking them after they have been filled. Although some of the questions were confidential and thus the fear of respondents failing to answer questions which otherwise would affect the final results.

1.9 Assumption of the study
The results of the study were interpreted in the light of the underlying assumptions; that the respondents were co-operative, the respondent gave genuine answers in the questionnaires and that all the questionnaires were filled and returned within reasonable stipulated time. There was adequate time to complete the study.

1.10 Definitions of Significant Terms

**Adoption of Information system**- This is the process where the coffee societies are able to implement and use the system.

**Coffee society**- This is an enterprise made up of several factories joined together to get mutual benefits of processing coffee.

**ICT Infrastructures**- ICT Infrastructure offers a range of technologies to assist organizations in running efficiently. These services are essential to the everyday mechanics of an organization and integral to effective service delivery. These include hardware, software, networking and implementation.

**User perception**- This is the attitude which employees and management of coffee societies will have toward the usage, ease of workload, error detections and acceptance of the system.

**Awareness**- Is the ability to perceive, to feel, or to be conscious of the information system and its requirements.

**Competence**- This is the measurable or observable Knowledge, Skill, ability and Behavior critical to successful Job performance.
Leadership- This is the ability to inspire confidence and support among the people who are needed to achieve organizational goals.

1.11 Organization of the Study

This study started with Chapter One which was the introduction of the study and introduced the background of the study, shows the objectives, and research questions. It also narrated the literature of the study and the conceptual framework in Chapter Two. The third chapter contained the research methodology which focused on research methods to be used in the study. Chapter Four presents data, analysis it and interprets tables. The study ends with chapter five showing summary of findings, discussions, conclusions, and recommendations.
CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction
The study was seeking to address the main aim of the research and to establish a sound literature base around which this study was built. In this chapter the review of the literature related to the purpose of the study is organized in accordance with the specific objective of the study. This review was taken in order to eliminate duplication of what has been done and provide a clear understanding of existing knowledge base in the problem area.

2.2 Information system and its adoption
Information System was defined as a system to convert data from internal and external sources into information, in an appropriate form, to managers at all levels in all functions to enable them to make timely and effective decisions for planning, directing and controlling the activities for which they are responsible (Lucey, 2004). Alternatively, Information System can be defined as a computer-based system that provides information and support for managerial decision making (Davis & Yen, 1999).

In simple terms, Information System represents a system used by managers to collect updated and comprehensive data in order to engage in informed and effective decision making. Management Information System is a much broader concept than just handling data in a way that Management Information System stands for data analysis in accordance with a range of important factors such as organizational culture, relevant policies and procedures and wider business environment.

Adoption of Management Information System principles in an appropriate manner is going to provide Company the advantages of engaging in informed planning and increasing the level of coordination between various departments of the company. Moreover, Management Information System can have a positive contribution on employee performance evaluation and improvement at Company and it can also serve as a valuable tool for identifying current position of the company in the marketplace and formulating growth strategies. Studies on the process of
information technology acquisition (Hanazawa, Miki & Horio, 2010) clearly show that these applications go through several evolutionary stages. During this evolution the priority in order to succeed doesn’t seem to be tied only to the acquisition process (choosing the right kind of technology, deciding the investment size, information technology suppliers management), but mainly to the paths of learning and organizational change. Experience suggests that these paths should be designed and carefully managed in order to allow the acquisition and effective use of I.T. applications by the users and the whole enterprise.

Starting from this general idea, several studies are being developed to offer prescriptions to effectively manage design and implementation processes and realizing the most of the ICT investment potential (Ravagnani, 2000).

Other studies (Marchand et al, 2000) focus their attention on information systems considered as tools to gather, classify, and distribute information crucial for the smooth working of the enterprise and for proper decision making. They also identify causes for success, or failure, of new communication technologies in the capability, or lack of, to effectively use information inside the organization, suggest a model to measure this capability and give prescriptions to management on possible strategies to follow in developing these abilities.

Our work starts from considering the Information System as a toolset to manage information. Then we point out the fact that adopting it inside the enterprise impacts the organizational action in a fundamental way, orienting in a specific way choices around the basic coordination of roles, responsibilities and people ((Leon, 2008)). Integrated Information Systems impact, in fact, on the way we use to produce and interchange information around activities to be fulfilled, and also on ways and timing of their fulfillment.

They seem to represent one of the possible solutions to the issue of the set up and feedback in the social structuring process (Fligstein & McAdam, 2012) This implies, on one side, the organizational transformation potential of these tools (introducing them is a compelling opportunity to rethink and rationalize practices crystallized in the organization over time), on the other side the significant risk of refusal or corruption by impacted people inside the organization. These actors, in fact, can alter implementation timing and sometimes even the direction of the I.T. project.
These days, information System (IS) is universally regarded as an essential tool in enhancing the competitiveness of the economy of a country. It is commonly accepted today that IS has significant effects on the productivity of firms. These effects will only be fully realized if, and when, IS are widely spread and used. It is crucial, therefore, to understand the determinants of IS adoption and the theoretical models that have arisen addressing IS adoption.

There are not many reviews of literature about the comparison of IS adoption models at the individual level, and to the best of our knowledge there are a smaller number at the firm level. The two models reviewed are: diffusion on innovation (DOI) (Rogers 1995); and the technology, organization, and environment (TOE) framework (Tornatzky and Fleischer 1990). The International Service for National Agricultural Research (ISNAR) indicated that ICT contributes to improve agricultural research by enabling sharing and exchange of research data and information electronically and at a global level and in managing agricultural research for greater efficiency and effectiveness. Improved agricultural research contributes to rapidly improve agricultural development and, in turn, this progress benefits the farmer.

2.3 Roles of information system and adoption

In order to carry out these functions, the system must have a number of components according to Davis (1995) such components are: hardware, software, data, people and procedures. A longer list is provided by Turban, McLean and Wetherbe (1996), who quote hardware, software, databases, people, procedures, purposes, networks and social context. So as to underline this idea, it must be remembered that the concept of IS or MIS (Management Information Systems) was born before computers were, although computers have lead to a widening of this concept. Besides, it would be a mistake to describe IS from a merely informatics point of view, for it would mean disregarding its organizational and human dimension. In short, an IS cannot be effectively used and understood if these latter factors are ignored.

2.4 Empirical review

This section aimed at reviewing and presenting research done by others. It intended to show evidence of what other researchers have done in the area of information system and ICT adoption which formed the basis of this study. By reviewing work done by others the researcher was able to identify the research gaps and identify what has not been explicitly researched.
2.4.1 Information system adoption barriers

Diffusion of innovation (DOI) (Rogers, 1995). In the DOI theory, the adoption of innovation is modeled as a process of information gathering and uncertainty reduction with a view to evaluate the technology (Rogers, 1995). The individual’s decision on whether to use the technology is based on perceptions of the technology such as relative advantage, compatibility, complexity, trainability and observability, Agarwal and Prasad (1998) report that there are three main factors that are most supported by empirical studies. These are namely relative advantage, compatibility and complexity. However, these studies tend to apply to the adoption of technology regarding information systems for performing job roles and as such may not be as valid when applied to consumers. That is, the identified antecedents of technology usage may be different for a consumer adopting technology to receive a service and an employee who is using the technology to perform their work responsibilities.

Extension of existing theory to technology, Technology Acceptance Model (TAM)(Davis, 1989). Applying the Theory of Reasoned Action (TRA), Davis (1989) developed the TAM and showed that beliefs influence attitudes about information technology, which lead to intentions and subsequently behaviors of actual technology usage. Davis (1989) asserted that perceived usefulness in respect to enhancing job performance and perceived ease of use of the technology characterized the beliefs that lead to system usage.

(Trompenaars & Coebergh, 2014) demonstrated that functional quality how the service is provided to the customer dominated when the consumer did not have the technical knowledge to make technical evaluations. However, while the concepts of technical and functional quality are easy to understand, it is less simple to test them through empirical means since consumers find it difficult to separate how the service is being delivered (functional) from what is delivered (technical). This is of special importance in the present research as consumers may find it difficult to evaluate the service quality because of their unfamiliarity with an electronic delivery method.
2.5 Determinates of adoption of information systems

This sections gave an overview on the empirical specification of the variables which reflect the various factors determining the adoption of information system in coffee societies.

2.5.1 Availability of Infrastructures and adoption of information system

(Barnett, Rudd & Ward, 2005) defined ICT infrastructure as the enabling foundation of shared information technology capabilities upon which business depends. They viewed ICT infrastructure as the shared portion of the ICT architecture. (Ward, 2005) defines ICT infrastructure as the technological foundation of computer, communications, data and basic systems. He views ICT infrastructure as the technology framework that guides the organization in satisfying business and management needs. (Rudd 2005) refers to ICT infrastructure as the set of IT resources that make feasible both innovations and the continuous improvement of IT systems.

Developments in ICT Technological Infrastructure have drastically influenced the competitive business environment as proved by the emergence and strengthening of the global economy, and the transformation of industrial economies to knowledge-and-information-based service economies (Kotecha, 2010) This has in turn encouraged most organizations especially in the developed countries to use computer-based information systems in order to remain competitive. According to Government of Kenya ICT policy (2005), inadequate ICT infrastructure has hampered provision of efficient and affordable ICT services in the country.

There is therefore need to put more emphasis on provision of support infrastructure, such as, energy and roads, supporting software development, Promotion of local manufacture and assembly of ICT equipment and accessories, and Provision of incentives for the provision of ICT infrastructure. Telecommunication infrastructure is a major issue that stands as an impediment to access of information, most people are not able to access digital information due to lack of the necessary infrastructure (GoK, 2007).

2.5.2 User perception and adoption of information system

Why are some users able to exhibit greater acceptance of information systems? How user acceptance is affected by system characteristics, perceived usefulness, perceived ease of use and attitude toward usage? According to the theory of reasoned action (TRA) from psychology
(Rossmann, 2009), external stimuli influence a person’s attitude toward a behavior indirectly by influencing his or her salient beliefs about the consequences of performing the behavior. The technology acceptance model (TAM), developed by Davis based on TRA, offers a promising theoretical base for examining the factors contributing to IT acceptance in natural settings.

The proposed TAM (Davis, 1993). Briefly, a prospective user’s overall attitude toward using a given system is hypothesized to be a major determinant of whether or not a person actually uses it. Attitude toward using, in turn, is a function of two beliefs: perceived usefulness and perceived ease of use. Ease of use has a causal effect on perceived usefulness. Overall perceived system characteristics directly influence perceived usefulness and perceived ease of use.

Within the proposed TAM, attitude toward using the system is defined as “the degree of evaluative affect that an individual associates with using the target system in his/her job.” Two specific beliefs, perceived usefulness and perceived ease of use, have been identified as important user acceptance criteria by previous research (Davis, 2003). In summary, attitude theory from psychology provides a rationale for the flow of causality from system characteristics through perceptions to attitude and finally to user acceptance.

2.5.3 Competency in Information Technology and adoption of information system

The last two decades has seen major developments in computer hardware and software and increasing demand to integrate computers into coffee sector. It is now very vital for every nation to modernize its system on the basis of Information system as globalization and transformation to information society call for new literacy, (Unesco, 2002). Competency in Information system is initialized on attaining the awareness of the importance of viewing I.S in coffee sector as computer based cognitive tools rather than a vehicle for knowledge transmission.

Issues of globalization and knowledge economy heavily rely on competent human capital with requisite capacity and expertise to enhance technology integration in social systems. I.S competency enables one to usefully use computer cognitive tools and appropriate pedagogical strategies in computing, communication and internet applications (Pea, 1985).

Proper Training is crucial for competency to be achieved. Cherrington (1995) describes training as the process that enables employees to acquire new knowledge, learn new skills, and perform behaviors in a new way. It refers to the acquisition of specific skills and knowledge. The author
further concedes that training programs attempt to teach trainees how to perform particular activities or a specific job. Training is a learning experience in that it seeks a relatively permanent change in an individual that will improve his/her ability to perform on the job (De Cenzo & Robbins 1994).

Staff training especially training geared towards establishes technological Competencies do not occur automatically or overnight, so a series of targeted interventions must be made. These may include workshops, training sessions, peer reviews and joint planning and implementation, as well as experts’ visits and involvements. They should be designed according to the needs of the organization. (Hamelink 1994).

2.6 Theoretical framework
This section examined the theories that relate to and are pertinent to adoption of information system in Coffee Societies. It looked at the models and approaches of adoption of information system.

2.6.1 The Diffusion of Innovations Model
The diffusion of innovations model (DIM) is concerned with how innovations, defined as ideas or practices that are perceived as new, are spread (Rogers, 2003). Diffusion is the process through which an innovation spreads via communication channels over time among the members of a social system. This is a social sciences definition of diffusion, one that is not to be confused with the thermodynamic definition of diffusion.

Diffusion occurs in complex systems where networks connecting system members are overlapping, multiple, and complex. Diffusion occurs most often in heterogeneous zones, i.e., transitional spaces where sufficient differentiation among network members comes to obtain. Such heterogeneous network connections, which comprise the innovation-diffusion system, occur among innovators and other engaged members of target populations who, in Rogers’s original formulation, are called “cosmopolites.” Cosmopolites are locally networked system members with heterogeneous weak ties to outside systems.

The first important diffusion studies were conducted some sixty years ago by rural sociologists who investigated the adoption of hybrid seed corn among Iowa farmers. In the ensuing decades,
A diffusion study has spread to public health, communication, marketing, political science, and most other behavioral and social science disciplines. To date, more than 5,200 diffusion studies have been published (Rogers, 2003). Diffusion investigations have typically focused on the order in which relatively cosmopolitan and heterogeneous individuals, organizations, or other units in a networked system adopt an innovation in a synchronous manner.

2.6.2 Theory of Reasoned Action
Theory of Reasoned Action by Fishbein and Ajzen (1975) explains an individual’s behavior based on his or her behavioral intention, which is influenced by his/her attitude toward the behavior and perception of the subjective norms regarding the behavior. TRA has been used in IS adoption and use research as a fundamental theoretical framework, and it also has been combined with other theories and models.

Both attitude and subjective norm were found to be important determinants of peoples’ intentions to adopt and use ICTs. Attitude was found to have a significant influence on the intention to adopt and continue to use ICT.

Regarding the subjective norm, previous studies found that subjective norm influences not only the behavioral intention (Davis, 2000), but also other constructs including satisfaction.

2.6.3 Theory of Planned Behavior
Similar to TRA, Theory of Planned Behavior is a well established social psychology theory that also states that specific salient beliefs influence behavioral intentions and subsequent behavior (Ajzen, 1991). Compared to TRA, TPB added another construct, Perceived Behavioral Control (PBC), which can be defined as “one’s perceptions of his/her ability to act out a given behavior easily” (Ajzen, 1991). Many studies in IS adoption and use research have used TPB as their theoretical framework (Yen, 2007).

Similar to studies using TRA, these studies also found significant relationships between attitude, subjective norm, perceived behavioral control and behavioral intention. PBC as an additional construct in TPB shed light on the importance of the perceived difficulty of the behavior and the person’s perceived ability to act out the behavior. A good number of studies found that PBC directly influences the technology adoption intention. (Ajzen, 1991).
2.6.4 Technology Acceptance Model

The Technology Acceptance Model (TAM) is a theoretical model that explains how users come to accept/adopt and use a technology. Original TAM was proposed by Davis in 1989. The model suggests that when a user is presented with a new technology, a number of factors influence their decision regarding how and when they will use it. This includes its perceived usefulness and its perceived ease of use. However, the TAM does not account for the influence and personal control factors on behavior.

Other factors such as economic factors, outside influences from suppliers, customers and competitors are also not considered by the TAM (van Akkeren 2003). This model adopts well established causal chain of beliefs, attitude, intention, actual behavior, which was developed from the theory of reasoned action by social psychologists. In Davis’s study, two important constructs are identified; perceived usefulness and perceived ease of use. The perceived usefulness (PU) is defined as “the degree to which an individual believes that using a particular system technology would enhance his performance (Davis, 2002). The perceived ease of use (PEU) is defined as “the degree to which an individual believes that using a particular system would be free of physical and mental efforts”. These perceptions predict attitudes toward the system/technology adoption. Then the attitude develops the intentions to use and the intentions cause actual system usage. In many recent studies regarding technology, TAM is adopted extensively.

TAM was adopted and showed that it contributes to the prediction of individual usage of technology (Fishbein and Ajzen, 1989). TAM assumes that perceived usefulness (“the degree to which a person believes that using a particular system would enhance his or her performance” and perceived ease of use (“the degree to which a person believes that using a particular system would be free of effort” with the influence of pre-existing external variables being the primary determinants for adoption of a new technology. Perceived ease of use has a direct effect on perceived usefulness and both determine the consumer's attitude toward use, which leads to behavioral intention to use the system and actual use of the system (Davis et al, 2002).
To overcome the limitations of the TAM, the TRA was introduced which is a more general theory than the TAM. The TRA model includes four general concepts namely: behavioral attitudes; subjective norms; intention to use; and actual use. The TPB is an extension of the TRA and deals with conditions where the individual has no control of their behavior. The domestication approach focuses on the process in which technology becomes an integral part of our everyday habits. Conceptual context distinctions are applied to new phenomena. Three important distinctions include work and leisure context; end-users that belong or do not belong to a demographic group; and the private and the public. These views are dominated by sociologist researchers and are often characterized by demographic variables such as age and gender. (O’Brien, J. A. 2000).

Figure 1: Technology Acceptance Model
(Source: Cloete and Courtney, 2002)
2.7 Conceptual Frame work

Given theoretical frame work and objective of the study availability of ICT infrastructures, perception, and competency in Information System Application as the independent variables while adoption of information systems the dependent variable and leadership as intervening variable as shown below.

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Intervening Variable</th>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of ICT Infrastructure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Availability of Finance to acquire computer hardware’s and software’s</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Availability of Computer hardware’s</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Availability of electricity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>User Perception</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Perceived ease of use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- IS User friendliness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Attitude toward its application</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Cost of installation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competency in Information System</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Staff ICT literacy level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Awareness of ICT opportunities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Special Training for Staffs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Staff compatibility</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Leadership

Adoption of Information system

- Decision Making
- Utilization of resources
- Regulation of Use

Figure 2 Conceptual Framework
2.7.1 The interpretation of the conceptual framework

In the conceptual framework, availability of ICT Infrastructures highly influences the adoption of information system in organizations such as coffee societies. User perception on adoption of information system is very critical to the success of its adoption; this may determine the worthiness of its implementation. Competency in information system application is initialized on attaining the awareness of the importance of viewing information system in coffee societies as a tool to assist in decision making; these are all the Independent Variables.

According to conceptual framework, successful adoption of information system highly depends on availability of ICT infrastructures, user perception and competency in information system. If coffee societies achieve these variables, the adoption and implementation rate of information system would be very high.

Intervening Variable even though these independence variables influence the adoption of information system, Leadership in coffee sector may have effects on Information System Adoption. Leadership is the ability to inspire confidence and support among the people who are needed to achieve organizational goals (Cole, G 2003).

2.8 Summary and research gap

The review has showed a high adoption of information system in other sectors of economy in developed nations. The reverse is true in the developing nations such as Kenya, where adoption rate in coffee sector is slow, despite the importance that accrue as a result of information system implementation in coffee societies, its adoption remains limited in most coffee societies in Kenya.

There is absence of information about the nature of infrastructure available and its use in leveraging adoption of information system in coffee societies. Moreover, no study has been done to establish the factors influencing the adoption of information system in Kirinyaga County Coffee societies. This poses a knowledge gap which this study sought to fill.
CHAPTER THREE
RESEARCH METHODOLOGY.

3.1 Introduction
This chapter focused on the research methods used in the study. The chapter covered the following sections; research design, target population, data collection procedures, instrumentation, and data processing and analysis.

3.2 Research Design
This adopted a descriptive survey design incorporating both qualitative and quantitative research approaches. The descriptive survey design was adopted because it described the state of affairs as it exists at present, (Kothari, 2004). The study applied that design to investigate the current situation on the determinants of the adoption of information system in coffee societies, Survey approach was adopted because the study population is scattered since the coffee societies are located away from each other. The findings of the study will be used as an input in decision making process in coffee societies from other counties.

3.3 Target Population
(Bless and HigsonSmith 1995) stated that a population is a set of elements that the research focuses upon and to which the results obtained by testing the sample should be generalized. The population of the study was Coffee management staffs involved in ICT adoption. The target population included all the secretary managers, supervisors and Accountants of the 15 coffee societies as at January 2015. (Coffee Board of Kenya 2015)

This study was conducted a census of all the 15 secretary managers, 15 supervisors and 15 accountants of coffee societies in Kirinyaga County, making a total of 45 respondents. The reasons for choosing census was, it provided a true measure of the population (no sampling error), benchmark data may be obtained for future studies and a detailed information about coffee societies within the Kirinyaga county is more likely to be available.
3.4 Data Collection Instruments
The study used primary data. This was collected using questionnaires as the principal data collection instrument. This was administered to all respondents in their respective Societies. The questionnaire contained both open and close ended questions. The researcher visited each and every society at a time and administer Questionnaires to the respondents. The questionnaire were used because it allowed the collection of large amounts of data from the target population within a short period of time (Mugenda and Mugenda, 2003).

3.5 Validity of the data collection Instruments
Validity refers to the degree to which evidence and theory support the interpretation of test scores entailed by use of tests. The validity of instrument is the extent to which it does measure what it is supposed to measure. According to (Mugenda and Mugenda2003), Validity is the accuracy and meaningfulness of inferences, which are based on the research results. It is the degree to which results obtained from the analysis of the data actually represent the variables of the study. The research instrument was validated in terms of content and face validity. The content related technique measured the degree to which the questions items reflected the specific areas covered.

3.5.1 Reliability of the data collection Instruments
Reliability is the ability of a research instrument to consistently measure characteristics of interest over time. It is the degree to which a research instrument yields consistent results or data after repeated trials. If I administered a test to a subject twice and gets the same score on the second administration as the first test, then there is reliability of the instrument (Mugenda and Mugenda, 2003). Reliability is concerned with consistency, dependability or stability of a test (Delport.C.S.L. 2002) the study will measure the reliability of the questionnaire to determine its consistency in testing what they are intended to measure. The test re-test technique was used to estimate the reliability of the instruments. This involved administering the same test twice to the same group of respondents who have been identified for this purpose.

3.5.2 Data Collection Procedure
I obtained a Permit from the cooperative offices in Kirinyaga as well as introductory letter from the university to help carry out a field study in the selected Societies. I made copies of the questionnaires based on the sample size. These were then administered to the sampled
respondents through drop and pick method. To achieve high response rate the researcher made a pre-arrangements with the prospective respondents through booking of appointment especially the society. I assured the respondents that strict confidentiality will be maintained when dealing with their responses. This encouraged them to be honest.

3.6 Data Analysis Techniques

Both quantitative and qualitative approaches were used for data analysis. Quantitative data from the questionnaire was coded and entered into the computer for computation of descriptive statistics. The Statistical Package for Social Sciences (SPSS version 11.5) was used to run descriptive statistics such as frequency and percentages so as to present the quantitative data in form of tables based on the major research questions. The qualitative data generated from open ended questions was categorized in themes in accordance with research objectives and reported in narrative form along with quantitative presentation. The qualitative data was used to reinforce the quantitative data.

3.7 Ethical Considerations in Research Involving Human Participants

I explained to the respondents about the research and that the study was for academic purposes only. It was made clear that the participation was voluntary and that the respondents was free to decline or withdraw any time during the research period. Respondents was not coerce into participating in the study. The participants was informed consent to make the choice to participate or not. They were guaranteed that their privacy will be protected by strict standard of anonymity.

3.8 Operationalization of Variables

This is an explanation on how the variables are relating to each other. Each variable is given indicators and their measurements tabulated as well as the scale and tools of analysis. This is a summarized way to show how the variables were operated in this study.
### Table 3.1 Operational Definitions of variables and measuring Indicators

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Variables Independent</th>
<th>Indicators</th>
<th>Measurement</th>
<th>Measurement Scale</th>
<th>Tools of Analysis</th>
<th>Specific Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Availability of ICT Infrastructure</td>
<td>Availability of Finance to acquire computer hardware’s and software’s</td>
<td>Cost Of procurement</td>
<td>Ordinal</td>
<td>Descriptive</td>
<td>Frequency</td>
</tr>
<tr>
<td></td>
<td>Availability of ICT Infrastructure</td>
<td>Availability of Computer hardware’s</td>
<td>Easy access</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Availability of ICT Infrastructure</td>
<td>Availability of electricity</td>
<td>Training and Capacity building</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Availability of ICT Infrastructure</td>
<td>Awareness of reliable software and hardware vender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To evaluate the extent to which availability of information Communication infrastructures influence the adoption of Information System in coffee societies.</td>
<td>Perception</td>
<td>-I.S Reduction of operational cost</td>
<td>-Frequency</td>
<td>Ordinal</td>
<td>Descriptive</td>
<td>Frequency</td>
</tr>
<tr>
<td></td>
<td>Perception</td>
<td>-I.S User friendliness</td>
<td>-Quality of work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Perception</td>
<td>-Attitude toward its application</td>
<td>-Timeliness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Perception</td>
<td>-I.S reduction of errors</td>
<td>-Efficiency</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
To establish the extent to which user perception influences the adoption of information system by coffee societies.

| Competency in Information System | - Staff ICT literacy level  
- Awareness of ICT opportunities  
- Special Training for Staffs  
- Staff compatibility | - Quantity of reports  
- Quality of reports  
- Accuracy  
- Timeliness | Nominal | Descriptive | Frequency |

To determine how coffee Society leadership influences the adoption of information system.

| Moderating variable Leadership | Decision | - Accuracy | Nominal | Descriptive | Frequency |
CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction
This chapter presents the analysis, presentation and interpretations of the data collected from 15 societies in Kirinyaga county, Kenya on the determinants of adoption of information system by coffee societies. The analysis was done through descriptive statistics and findings of the study presented in form of tables. The finding of this study was interpreted in terms of frequencies.

4.2 Response Return Rate of Questionnaires
The questionnaires were distributed to the respondents by hand delivery and were returned through the same media. A total of 41 respondents out of 45 filled the questionnaires representing a response rate of 91.1% of the target population; these were 1 secretary managers, 1 supervisor and 1 Accountants of the 15 coffee societies. Rapport building, guaranteeing confidentiality, explaining the significance of the study to the respondents was done to maximize the response rate. The questionnaires were administered, filled anonymously, and collected immediately to ensure maximum return rate.

4.3 Demographic Information of the Respondents
Information on the age, gender, highest education qualification, duration of time the respondent has worked and total number employee was analyzed.

Table 4.1 Ages of the Respondents
Table 4.1 represent the ages of respondent in the study

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-29</td>
<td>7</td>
<td>17.1</td>
</tr>
<tr>
<td>30-39</td>
<td>10</td>
<td>24.4</td>
</tr>
<tr>
<td>40-50</td>
<td>14</td>
<td>34.1</td>
</tr>
<tr>
<td>&gt;50</td>
<td>10</td>
<td>24.4</td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Of all the respondents in Table 4.1, 17.1% respondents had age between 20-29, 24.4% had age between 30-39, 34.1% had between 40-50 and 24.4% had age above 50 Years. This indicates that the societies had more workers with the age between 40-50 years and this is a clear indication that the age group between 20-29 years which believed to have IS knowledge were the lowest with 17.1%

**Table 4.2 Gender of the Respondents**

Table 4.2 represents the gender of respondents which was either Male or Female

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>23</td>
<td>56.1</td>
</tr>
<tr>
<td>Female</td>
<td>18</td>
<td>43.9</td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Of all the respondents in Table 4.2, 56.1% were males while 43.9% were females. This is clear indication that there is a gender balance in staff distribution at Kirinyaga County coffee societies with male being the majority.

**Table 4.3 Highest education qualifications of Respondents**

Table 4.3 represents information about the highest education qualifications of respondents in study.

<table>
<thead>
<tr>
<th>Education</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary</td>
<td>16</td>
<td>39.0</td>
</tr>
<tr>
<td>certificate</td>
<td>10</td>
<td>24.4</td>
</tr>
<tr>
<td>Diploma</td>
<td>13</td>
<td>31.7</td>
</tr>
<tr>
<td>Undergraduate Degree</td>
<td>1</td>
<td>2.4</td>
</tr>
<tr>
<td>Postgraduate Degree</td>
<td>1</td>
<td>2.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>41</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The education level of most of the respondents in Table 4.3 ranged from a majority having achieved secondary education at 39.0% while the those with certificate having 24.4%, those with
Diploma having 31.7% minority had undergraduate degree with 2.4% and post graduate degree at entry 2.4%. This is a good indicator that majority had the lowest academic qualification.

**Table 4.4 Working Duration**

Table 4.4 represents information on the duration the respondents worked within coffee societies in Kirinyaga county.

<table>
<thead>
<tr>
<th>Working Duration</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;3 Years</td>
<td>10</td>
<td>24.4</td>
</tr>
<tr>
<td>3-6 Years</td>
<td>8</td>
<td>19.5</td>
</tr>
<tr>
<td>7-10 Years</td>
<td>5</td>
<td>12.2</td>
</tr>
<tr>
<td>11-14 Years</td>
<td>4</td>
<td>9.8</td>
</tr>
<tr>
<td>&gt;14 Years</td>
<td>14</td>
<td>34.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>41</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

The study revealed that the majority of the respondents in Table 4.4, worked for a period of greater than 14 years with 34.1%, 24.4% had worked at period of less than 3, 19.5% worked for a period of 3-6 years, while 12.2% for a period between 7-10 years, while 9.8% worked for a period of 11-14 years.

**Table 4.5 Number of employees**

Table 4.5 represents information on the total number of employees working in the coffee societies in Kirinyaga.

<table>
<thead>
<tr>
<th>Number of Employees</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;20</td>
<td>13</td>
<td>31.7</td>
</tr>
<tr>
<td>21-30</td>
<td>13</td>
<td>31.7</td>
</tr>
<tr>
<td>31-40</td>
<td>1</td>
<td>2.4</td>
</tr>
<tr>
<td>&gt;50</td>
<td>14</td>
<td>34.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>41</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>
The study showed in table 4.5 that the majority of societies has more than 50 employees with 34.1% according to the respondents, with 31.7% having less than 20 and 21-30 employees, the lowest had 2.4% with 31-40 employees.

4.4 Availability of information system infrastructures.
The extent to which the availability of information system infrastructures as a determinant of adoption of Information System in coffee societies was one of the objective of this study, this was measured in terms of Availability of Finance to acquire computer hardware’s and software’s, Availability of Computer hardware’s and the Availability of electricity.

Table 4.6 No of computers
Table 4.6 represents information on the no of computers each coffee society had at the time of the study

<table>
<thead>
<tr>
<th>Number of Computers</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>3</td>
<td>7.3</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>4.9</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>7.3</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>9.8</td>
</tr>
<tr>
<td>&gt;4</td>
<td>29</td>
<td>70.7</td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.6 was investigating about the number of computers a coffee society have, the majority of societies had computers above four with 70.7% with 7.3% having no computers, 4.9% having one computer, 7.3% having two computers while 9.8% having 3 computers.

Table 4.7 Sufficient of fund
Table 4.7 represents information on whether coffee societies had sufficient fund for adoption of information system

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very sufficient</td>
<td>2</td>
</tr>
</tbody>
</table>

27
Sufficient  15  36.6
Insufficient  22  53.7
Very Insufficient  1  2.4
I don’t Know  1  2.4

Total  41  100.0

The study showed in table 4.7 that the majority of respondents said that there were insufficient fund form ICT implementation with a 53.7%, followed by 36.6% who said that there is sufficient fund, 4.9% of the respondents argued that the funds were very sufficient with 2.4% arguing that there were very insufficient and 2.4% said that they don’t know.

**Table 4.8 the availability of finance to acquire computer hardware’s and software’s.**

Table 4.8 analyzed the information about whether the respondent strongly agreed, agreed, neutral, disagreed and strongly disagreed the availability of finance to acquire computer hardware’s and software’s determines the adoption of information system in coffee societies.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>16</td>
<td>39.0</td>
</tr>
<tr>
<td>Agree</td>
<td>11</td>
<td>26.8</td>
</tr>
<tr>
<td>Neutral</td>
<td>7</td>
<td>17.1</td>
</tr>
<tr>
<td>Disagree</td>
<td>4</td>
<td>9.8</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>3</td>
<td>7.3</td>
</tr>
</tbody>
</table>

**Total** 41  100.0

In table 4.8, 39.0% respondents strongly agreed that availability of finance to acquire computer hardware determined that adoption of information system with 26.8% agreeing, 17.1% saying its neutral and 9.8% disagreeing while 7.3% strongly disagreed. This indicates that when finance is in adequate coffee societies will adopt that information system.
Table 4.9 The Availability of computer hardware’s

Table 4.9 represent the information about whether the respondent strongly agreed, agreed, neutral, disagreed and strongly disagreed the availability computer hardware’s and software’s determines the adoption of information system in coffee societies.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>13</td>
<td>31.7</td>
</tr>
<tr>
<td>Agree</td>
<td>20</td>
<td>48.8</td>
</tr>
<tr>
<td>Neutral</td>
<td>4</td>
<td>9.8</td>
</tr>
<tr>
<td>Disagree</td>
<td>1</td>
<td>2.4</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>3</td>
<td>7.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>41</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

In Table 4.9, about 48% of the respondents in this study confirmed and agreed that the availability of computer hardware’s determines the adoption of Information System, while 31.7% strongly agreeing, 9.8% responded with neutral, 2.4% disagreed and 7.3% strongly disagreed. This is a clear indication according to the survey that when computer hardware and software are available coffee societies will adopt information system.

Table 4.10 The Availability of electricity

Table 4.10 represent the information about whether the respondent strongly agreed, agreed, neutral, disagreed and strongly disagreed the availability of electricity determines the adoption of information system in coffee societies.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>22</td>
<td>53.7</td>
</tr>
<tr>
<td>Agree</td>
<td>11</td>
<td>26.8</td>
</tr>
<tr>
<td>Neutral</td>
<td>4</td>
<td>9.8</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
<td>4.9</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>2</td>
<td>4.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>41</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>
In Table 4.10, about 53.7% of the respondents in this study confirmed and strongly agreed that the availability of electricity determines the adoption of Information System, while 26.8% agreed, 9.8% responded with neutral, with 4.4% disagreed and strongly disagreed respectively. This is a clear indication according to the survey electricity availability determines adoption of information system.

**Table 4.11 the awareness of reliable software and hardware.**

Table 4.11 represent the information about whether the respondent strongly agreed, agreed, neutral, disagreed and strongly disagreed the awareness of reliable software and hardware determines the adoption of information system in coffee societies.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>18</td>
<td>43.9</td>
</tr>
<tr>
<td>Agree</td>
<td>14</td>
<td>34.1</td>
</tr>
<tr>
<td>Neutral</td>
<td>6</td>
<td>14.6</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
<td>4.9</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>1</td>
<td>2.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>41</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Table 4.11, was investigating whether the awareness of reliable software and hardware can determines the adoption of Information System. According to the respondents about 43.9% of the respondents in this study confirmed and strongly agreed that the awareness of available hardware and software can determines the adoption of Information System, while 34.1% agreed, 14.6% responded with neutral, with 4.9% disagreed and 2.4% strongly disagreed. This is a clear indication according to the survey awareness of reliable software and hardware highly determines adoption of information system.

**4.5 Competency in Information System**

The second objective was to assess the extent to which competence in Information system determines the adoption of information system in Coffee societies, the indicators which were being investigated included Staff ICT literacy level , Awareness of ICT opportunities , Special Training for Staffs and Staff compatibility.
Table 4.12 Staff ICT literacy level determines the adoption of Information system

Table 4.12 represent the information about whether the respondent strongly agreed, agreed, neutral, disagreed and strongly disagreed the Staff ICT literacy level determines the adoption of Information system.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>13</td>
<td>31.7</td>
</tr>
<tr>
<td>Agree</td>
<td>18</td>
<td>43.9</td>
</tr>
<tr>
<td>Neutral</td>
<td>3</td>
<td>7.3</td>
</tr>
<tr>
<td>Disagree</td>
<td>5</td>
<td>12.2</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>2</td>
<td>4.9</td>
</tr>
</tbody>
</table>

Total 41 100.0

Table 4.12, was investigating whether the staff ICT literacy level would determines the adoption of Information System. According to the respondents about 43.9% of the respondents in this study confirmed and agreed the staff training could determines the adoption of Information System, while 31.7% strongly agreed, 7.3% responded with neutral, 12.2% disagreed and 4.9% strongly disagreed. This is a clear indication according to the survey the staff ICT literacy level highly determines adoption of information system.

Table 4.13 Awareness of ICT opportunities

Table 4.13 represent the information about whether the respondent strongly agreed, agreed, neutral, disagreed and strongly disagreed the awareness of ICT opportunities determines the adoption of Information system.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>11</td>
<td>26.8</td>
</tr>
<tr>
<td>Agree</td>
<td>20</td>
<td>48.8</td>
</tr>
<tr>
<td>Neutral</td>
<td>6</td>
<td>14.6</td>
</tr>
<tr>
<td>Disagree</td>
<td>3</td>
<td>7.3</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>1</td>
<td>2.4</td>
</tr>
</tbody>
</table>
According to the table 4.13 it was investigating whether the awareness of ICT opportunities can determine the adoption of information system, majority of respondents agreed with 48.8% and 26.8% strongly agree, 14.6% respondents said its neutral will 7.3% disagreed and 2.4% strongly disagreed. It’s clear that awareness of ict opportunities can determine the adoption of information system.

Table 4.14 Special training for staffs

Table 4.14 represent the information about whether the respondent strongly agreed, agreed, neutral, disagreed and strongly disagreed special training for staffs determines the adoption of Information system.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>15</td>
</tr>
<tr>
<td>Agree</td>
<td>13</td>
</tr>
<tr>
<td>Neutral</td>
<td>8</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
</tr>
</tbody>
</table>

Table 4.14 was investigation whether special training for staffs can determine the adoption of information system, the study revealed that 36.6% strongly agreed while 31.7% agreed 19.5% said its neutral while 4.9% disagreed and 7.3% strongly disagreed. According to coffee societies respondents it’s true that special training for staffs determines the adoption of Information system.

Table 4.15 Staff Compatibility

Table 4.12 represent the information about whether the respondent strongly agreed, agreed, neutral, disagreed and strongly disagreed staff compatibility determines the adoption of Information system.
<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>9</td>
</tr>
<tr>
<td>Agree</td>
<td>12</td>
</tr>
<tr>
<td>Neutral</td>
<td>7</td>
</tr>
<tr>
<td>Disagree</td>
<td>10</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>41</strong></td>
</tr>
</tbody>
</table>

The study according to table 4.15 revealed that 22.0% strongly agreed while 29.3% agreed that staff compatibility determines the adoption of information system, 17.1% argued its neutral while 24.4% disagreed and 7.3% strongly disagreed this clearly indicated that staff compatibility is one of the determiner of information system adoption.

**4.7 User Perceptions**

The third objective was to establish the extent to which user perception determine the adoption of information system by coffee societies, with indictors such as Perceived ease of use, I.S User friendliness, Attitude toward its application and Cost of installation.

The questions were to measure the extent to which the respondents strongly agreed, agree, Neutral, disagree and strongly disagreed.
Table 4.16 information system adoption reduces operation cost.

Table 4.16 represent the information about whether the respondent strongly agreed, agreed, neutral, disagreed and strongly disagreed on the perception that information system adoption reduces operation cost.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>25</td>
</tr>
<tr>
<td>Agree</td>
<td>14</td>
</tr>
<tr>
<td>Neutral</td>
<td>1</td>
</tr>
<tr>
<td>Disagree</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>41</strong></td>
</tr>
</tbody>
</table>

The study showed in Table 4.16 61.0% of the total respondents strongly agreed while 34.1% agreed 2.4% responded as neutral and they disagreed respectively. However according to table 4.15 it’s clear that majority perceives the adoption of information system reduces errors.

Table 4.17 Information System is user friendly

Table 4.17 represent the information about whether the respondent strongly agreed, agreed, neutral, disagreed and strongly disagreed on the perception that information system is user friendly.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>15</td>
</tr>
<tr>
<td>Agree</td>
<td>20</td>
</tr>
<tr>
<td>Neutral</td>
<td>3</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>41</strong></td>
</tr>
</tbody>
</table>
Table 4.17 Studied whether respondents perceives information system as user friendly, 36.6% and 48.8% strongly agreed and agreed with 7.3% responding as neutral while 4.9% disagreed and 2.4% strongly disagreed. This study revealed that, majority of respondents from coffee societies perceives that information system is user friendly and this can determines its adoption.

Table 4.18 using information system may not be too complex

Table 4.18 represent the information about whether the respondent strongly agreed, agreed, neutral, disagreed and strongly disagreed on the perception that using information system may not be too complex

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>7</td>
</tr>
<tr>
<td>Agree</td>
<td>21</td>
</tr>
<tr>
<td>Neutral</td>
<td>7</td>
</tr>
<tr>
<td>Disagree</td>
<td>3</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
</tr>
</tbody>
</table>

In Table 4.18, 17.1% of the respondents strongly agreed while 51.2% agreed that using information systems may not be too complex 17.1% responded in neutral while 7.3% disagreed and strongly disagreed respectively. This revealed that majority of respondents perceives that using information system may not be too complex and this might determine its adoption.

Table 4.19 Adoption of information system reduces errors

Table 4.19 represent the information about whether the respondent strongly agreed, agreed, neutral, disagreed and strongly disagreed on the perception that information system adoption reduces errors

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>10</td>
</tr>
<tr>
<td>Agree</td>
<td>15</td>
</tr>
<tr>
<td>Neutral</td>
<td>9</td>
</tr>
</tbody>
</table>

35
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Disagree</td>
<td>6</td>
<td>14.6</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>1</td>
<td>2.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>41</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

In table 4.19 24.4% strongly agreed that adoption of information reduces errors while 36.6% agreed with 22.0% responding as neutral, 14.6% disagreed and 2.4% strongly disagreed. It is revealed that most of the respondents perceive that adoption of information system reduces errors and this is one of its adoption determinants.
CHAPTER FIVE
SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS, AND
RECOMMENDATIONS

5.1 Introduction
This chapter gives summary of the research findings as analyzed in the previous chapter four. It all shows the conclusions as per the research questions and also the researcher's discussions and recommendations. It also indicated the areas for further research

5.2 Summary of Findings
This research was based on the topic: determinates of adoption of information system by coffee societies in Kirinyaga County, Kenya. The findings are summarized in respect to each research objective.

5.2.1 Availability of Information System Infrastructures
The first objective was to evaluate the extent to which availability of information system infrastructures determine the adoption of Information System in coffee societies. The study signifies that availability of information system infrastructures is an important determinant of information system adoption. On the first indicator which was whether the availability of finance to acquire computer hardware's and software's determines the adoption of information system, it was revealed from the respondents that 39.0% and 26.8% strongly agreed and agreed accordingly that this is one of the determinant which may influence adoption. According to the second indicator whether the availability of computer hardware's and software's determines the adoption of information system 31.7% strongly agreed and 48.8% agreed, this reveals that when computer hardware's and software are available coffee societies are likely to adopt the information system.

According to the third indicator which was investigating whether the availability of electricity determines the adoption of I.S it's clear that 53.7% strongly agreed while 26.8% agreed the availability of electricity is a major determinant of adoption of information system.

The question on whether the awareness of reliable software and hardware can determine the adoption of information system was administered to the respondents and 43.9% strongly agreed while 34.1% agreed that when the coffee societies are aware of reliable software and hardware’s this can be a determinants of the adoption. So its clearly investaged the adoption of information system will be determined by the availability of information system infrastructures.
5.2.2 Competency in Information System
Competency in information systems was concluded as one of the major determinants of information’s system adoption this study considered the following to investigate the competency in information system: Staff ICT literacy level, Awareness of ICT opportunities, Special Training for Staffs and Staff compatibility.

The findings revealed that staff ICT literacy level is one the major indicator of competency in information system following the question whether staff ICT level determines the adoption of information system, 31.7% strongly agreed while 43.9% agreed this indicates that when staffs are ICT literate it will determine the adoption.

Awareness of ICT opportunities was also investigated with 26.8% strongly agreed and 48.8% agreed that this can determine I.S adoption.

The findings on whether special training for staffs determines the adoption of information system indicates clearly with response of 36.6% strongly agreed and 31.7% agreed it as major determinants of I.S adoption.

The study also revealed the staff compatibility as one of the determinants this was concluded by 22.0% strongly agrees and 29.3% agrees it as another major determinant of information system adoption.

5.2.3 User Perception
User’s perception was considered in terms of how the respondents Perceived whether information system adoption would reduce operation cost, whether it is user friendliness, Attitude toward its application and Cost of installation. According to the respondent it’s clear that user perception determines that adoption of information system.

This was revealed by the following, whether information system adoption reduces operational cost majority of respondents with 61.0% strongly agreed and 34.1% agreed, the indicator on whether information system is user friendly was supported by 36.6% strongly agreed and 48.8% agreed.

The findings also revealed that using information system may not be too complex this was strongly agreed by 17.1% and agreed by 51.2% this indicates the perception of user toward ease of use the system.

The other user perception was whether adoption of information system will reduce error in the society as was strongly agreed with 24.4% and 36.6% agreed.

This implies that user perception was a major determinant of adoption of information system in coffee societies in Kirinyaga County, Kenya.
5.3 Discussions of the Findings
The objectives of the study were discussed to find out whether they were met by the findings of the study. The study looked at the ways that, availability of information system infrastructures, competence in Information system, user perception determine the adoption of Information System in coffee societies.

5.3.1 Availability of information system infrastructures and adoption of information system
The findings revealed that the availability of information system infrastructures is one of the major determinants of information system adoptions, with a total of 65.8% strongly agrees and agreed the availability of finance to acquire the hardware and software determines, while a total of 80.5% strongly agrees and agreed the availability of hardware and software the same number of respondents also respondent that electricity determines the adoption. Further a total 78% strongly agrees and agreed that the awareness of available software and hardware determines the adoption. The evidence is consistent with earlier finding by Barnett, Rudd & Ward, (2005) who discussed information system infrastructure as the enabling foundation of shared information technology capabilities upon which business depends, also Rudd (2005) referred to information system infrastructure as the set of IT resources that make feasible both innovations and the continuous improvement of IT systems.

5.3.2 Competency in information system
It is also revealed that competency in information system determines the adoption of information system. The finding of the research determined that 75.6% of the total respondents strongly agreed and agreed the Staff ICT level is a determinants while a total of 75.6 % strongly agreed and agrees that awareness of ICT opportunities is also a determinant of adoption, while a total of 68.3% also strongly agreed and agreed that special training for the staff is a major determinant, further a total of 51.3% strongly agreed and agrees that staff compatibility is also a major determinant of adoption of information system in coffee societies. These finding confirms earlier findings by Unesco, (2002) which argues that Competency in Information system is initialized on attaining the awareness of the importance of viewing I.S in coffee sector as computer based cognitive tools rather than a vehicle for knowledge transmission, also Cherrington (1995) describes training as the process that enables employees to acquire new knowledge, learn new skills, and perform behaviors in a new way. This was proven by the fact that the respondents agreed that the staff training, ICT literacy level, awareness of ICT opportunities and staff compatibility as a way of attaining competency in information system determines the adoption of information system in coffee societies in Kirinyaga County, Kenya.
5.3.3 User perception

The findings revealed that respondents perceived information system adoption reduces operational cost with a total of 95.1% strongly agrees and agreed, its user friendly with a total of 85.4% strongly agrees and agreed, may not be complex to use with a total of 68.3% strongly agreed and agrees, a total of 61% respondents strongly agrees and agreed that the adoption will reduce errors in the societies. This was proven by Davis, (1993) who proposed technology acceptance model (TAM) which urged that prospective user’s overall attitude toward using a given system is hypothesized to be a major determinant of whether or not a person actually uses it. Attitude toward using, in turn, is a function of two beliefs: perceived usefulness and perceived ease of use. Ease of use has a causal effect on perceived usefulness. Overall perceived system characteristics directly influence perceived usefulness and perceived ease of use.

5.3.4 Information System adoption

Finding from the study indicated that most coffee societies had computers but where not using Information system and thus computers were only used to undertake office operations.

This confirms earlier study by Agarwal and Prasad (1998) who cited that the individual’s decision on whether to use the technology is based on perceptions of the technology such as relative advantage, compatibility, complexity, trainability and observability.

5.4 Conclusions

This section provides the conclusion of the study in relation with the objectives.

The findings of this study concludes that coffee societies considers the availability of information system infrastructures as the determining factor towards the adoption of information system, this is because the study revealed that the availability of finance to acquire computer hardware’s and software’s, availability of computer hardware’s, availability of electricity and awareness of reliable software and hardware were noted as the main consideration for the availabilities of Information system Infrastructures which is one of the major determinants of adoption of Information system by coffee societies in Kirinyaga County, Kenya.

The findings of this study concludes that competence in information system in coffee societies is also a major determinants of adoption of information system, this is concluded by the fact that staff ICT literacy level, awareness of ICT opportunities, special training for staffs and staff compatibility were the main consideration of competence in information system as the determinants of information system adoption.
The findings of this study shows that the respondents are aware of the benefits associated with adopting information system and therefore will be willing to adopt the systems, but they perceived that information system adoption reduces operational cost, its user friendly, I.S activities may not be too complex and adopting information system will reduce errors in the society.

5.5 Recommendations

Given the finding this study recommends.

1) The findings of this study suggested that Coffee societies should consider the availabilities of finance and information system infrastructures when adopting information system to support the adoption process

2) This research suggests that Coffee societies should formulate a staff training programs to improve the competency in information system, such as a special training for staffs.

3) Policy makers and managements should consider adopting an information system that will reduce operational cost, user friendly, easy to use and a system that will reduce errors in the society.

5.6 Suggestions for further Research

1) The findings of this study was limited to determinants of adoption of information system by coffee societies; however it recommends further research in the challenges facing the already adopted information systems.

2) The findings of this study revealed information regarding the availability of I.S infrastructures, competency in information system and user perception, the role of leadership in adoption of information system should also be investigated.
REFERENCES


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Duces, B. (1985). The role of information in the adoption of agricultural innovations.


Government of Kenya (2007), National information and communications technology


Pallister J. (2002). *Beyond the intention-behavior mythology: An integrated model of recycling*. Marketing Theory 2


Xie, A. (2000). *The Internet Could also Give a Boost to Growth in Emerging*


44
APPENDICES

APPENDIX I: LETTER OF INTRODUCTION

Job M Magondu
P.o box 804
Kerugoya
Tel: 0720943002

Dear respondent

Re: Academic Research

My name is Job M Magondu a student of university of Nairobi, pursuing a degree of Master of Arts, in project planning and management. I am conducting an academic research to investigate the factors influencing the adoption of information system in coffee societies in Kirinyaga county.

I kindly request you to provide me with information relating to availability of ICT infrastructures, user perception and competency in use of information system.

The information you give will be confidential and will only be used for the purpose of my academic research.

Thank you in advance

Yours faithfully

L50/71068/2014

Job Miano Magondu- Student
### APPENDIX II: LIST OF COFFEE SOCIETIES

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of Coffee society</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Inoi Coffee society</td>
</tr>
<tr>
<td>2</td>
<td>Mutira Coffee society</td>
</tr>
<tr>
<td>3</td>
<td>Rwama Coffee society</td>
</tr>
<tr>
<td>4</td>
<td>Rung’eto Coffee society</td>
</tr>
<tr>
<td>5</td>
<td>Kabare Coffee society</td>
</tr>
<tr>
<td>6</td>
<td>Karithathi Coffee society</td>
</tr>
<tr>
<td>7</td>
<td>Mirichi Coffee society</td>
</tr>
<tr>
<td>8</td>
<td>Thirikwa Coffee society</td>
</tr>
<tr>
<td>9</td>
<td>Kanjuu Coffee society</td>
</tr>
<tr>
<td>10</td>
<td>Ngiriambu Coffee society</td>
</tr>
<tr>
<td>11</td>
<td>Baragwi Coffee society</td>
</tr>
<tr>
<td>12</td>
<td>Urumandi Coffee society</td>
</tr>
<tr>
<td>13</td>
<td>Kibirigwi Coffee society</td>
</tr>
<tr>
<td>14</td>
<td>Mwerua Coffee society</td>
</tr>
<tr>
<td>15</td>
<td>Ngiriambu Coffee society</td>
</tr>
</tbody>
</table>

APPENDIX III: QUESTIONNAIRE

The Information provided in this questionnaire will be used solely for academic purposes and will be treated with confidentiality.

INSTRUCTIONS: - Please answer these questions to the best of your Knowledge. Write your response in spaces provided

SECTION ONE: DEMOGRAPHIC INFORMATION
1. Name of the Society.................................................................................................................. (Optional)
2. Your age category
   1) Below 20 years
   2) 20-29 years
   3) 30-39 years
   4) 40-50 years
   5) Above 50 years
3. Your gender? 1) Male 2) Female
4. Your highest education qualifications attained?
   1) Secondary level
   2) Certificate level
   3) Diploma level
   4) Undergraduate degree
   5) Postgraduate degree
5. How long have you worked in this Society?
   1) Below 3 years 2) 3 - 6 years 3) 7 – 10 years 4) 11-14 years 5) over 14 years
6. What is the total number of Employees in this Society?
   1) Less than 20 2) 21 – 30 3) 31 – 40 4) 41 – 50 5) More than 50

SECTION TWO –DETERMINANTS OF ADOPTION OF INFORMATION SYSTEM IN COFFEE SOCIETIES.

A. AVAILABILITY OF ICT INFRASTRUCTURES
8. In your opinion, does this Society have sufficient funds for ICT implementation to support coffee activities?
9. How many computers does this Society have?
1) None  2) 1  3) 2  4) 3  5) above 4

10. How many computers are connected to the internet for employees use in this Society?
1) None  2) Below 10  3) 11 - 20  4) 21 – 30  5) All

11. How many computers for employees use do you have in every office?
1) Below 10  2) 11 – 20  3) 21 - 30  4) 31 – 40  5) More than 40

12. How would you rate the pace of IS Adoption for societies activities in this Society?
1) Very high  2) High  3) Slow  4) Very slow  5) Not able to rate

12. Is your societies and its affiliated coffee factories connected to the power grid?
1. Yes  2. No

13. Name and give numbers of other computer related accessories that your societies have.

14. Are your offices and that of your factories well secured for safe custody of valuable information system infrastructure equipment’s.?
1. Yes  2. No

15. Indicate the extent to which you agree or disagree with the following statements as related to availability of ICT infrastructures and adoption of Information system by coffee societies.
(1=Strongly, 2=Agree, 3=Neutral,, = Disagree, 5=Strongly Disagree )

<table>
<thead>
<tr>
<th>Statements</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### A
The Availability of finance to acquire computer hardware’s and software’s determines the adoption of Information System.

### B
The Availability of computer hardware’s determines the adoption of Information System.

### C
The Availability of electricity determines the adoption of Information System.

### D
The awareness of reliable software and hardware can determines the adoption of Information System.

#### 16. Which is the criteria for placing IS infrastructure for society activities in this Society?(please tick all applicable)

- 1) Adequate security  [ ]
- 2) Electricity supply  [ ]
- 3) ICT literate workers  [ ]
- 4) Society Management support  [ ]
- 5) Others (specify) ........................................

#### 17. How reliable is electrical power source for society activities support in this Society?

1) Very reliable  [ ]
2) Reliable  [ ]
3) unreliable  [ ]
4) Very unreliable  [ ]
5) no power source at all  [ ]

#### B. USERS’ PERCEPTION

#### 18. To what extent would you agree or disagree with the following as related to user perception as a determinants of adoption of IS in Coffee society (Tick as follows)

1=Strongly agree, 2=Agree, 3=Neutral, 4=Disagree, 5=Strongly disagree.

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
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<td>A Information system adoption reduces operational cost</td>
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<td>B Information system is user friendly</td>
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<td>C Using IS activities in Society may not be too complex</td>
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<td>Adoption of IS will reduce errors in the society.</td>
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19. How many Employees from this Society have attended an e-learning workshop/conference?
1) Less than 3  2) 4 – 6  3) 7 -10  4) More than 10  5) None

C. COMPETENCY IN INFORMATION SYSTEM

20. Do you have IS-literacy related training for Employees in this Society?
1) Yes  2) No

21. If yes in 20 above, how would you rate ICT-literacy related training for workers in this Society as regards effectiveness of computer-assisted instruction?
1) Very effective  2) Effective  3) Ineffective  4) Very ineffective  5) Not able to rate

22. How easy/complex is use of computer applications in Society transactions?
1) Very easy  2) Easy  3) Complex  4) Very complex  5) Not applicable

23. How often do you have Special training for staffs?
1) Less than once per year  2) After every one year  3) None  4) Not sure

24. Are the following society activities computer aided in this Society?
   a) Automated Processing of Payment  Yes  No
   b) Automated production of financial statement  Yes  No
   c) Automated handling of parchment and sales analysis  Yes  No
   d) Automated at the point of receiving coffee at Society  Yes  No
   e) Others specify.................................................................

25. How reliable are computers as regards storage and retrieval of Society information in this Society?
1) Very reliable  2) Reliable  3) Unreliable  4) Very unreliable  5) Not applicable

26. How appropriate is use of e-mail as a means of communication for society purposes in this Society?
1) Very appropriate  2) Appropriate  3) Inappropriate  4) Very inappropriate  5) Not applicable

27. How many qualified information technology personnel’s workers does the Society have?
   a) 1  b) 2  c) 3  d) 4  e) others............................................
28. To what extent would you agree or disagree with the following as related to competency in Information system as a determinants of adoption of IS in Coffee society (Tick as follows) 1=Strongly agree, 2=Agree, 3=Neutral, 4=Disagree, 5=Strongly disagree.

1 2 3 4 5

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<td>B  Awareness of ICT opportunities determines the adoption of Information system</td>
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<td>D  Staff compatibility determines the adoption of Information system</td>
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**OTHER DETERMINANTS OF ADOPTION OF INFORMATION SYSTEM IN COFFEE SOCIETIES.**

29. How does leaders/Management in this coffee society influences the adoption of information system?

________________________________________________________________________

30. What recommendation would you make that would enhance fast Information system adoption and utilization for society delivery and other purposes in this society?

________________________________________________________________________

________________________________________________________________________

...Thank you for participating in this survey....