



St. Mary's ቅድስት ማርያም
University ዩኒቨርሲቲ
committed to excellence

**ST.MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDY
MBA-PROGRAM**

**ASSESSMENT OF INFORMATION AND COMMUNICATION TECHNOLOGY
INFLUENCE ON STAFFS IN AWASH BANK**

BY: Samson Bekele

June 2017

Addis Ababa, Ethiopia

**ASSESSMENT OF INFORMATION AND COMMUNICATION
TECHNOLOGY INFLUENCE ON STAFFS IN AWASH BANK**

Samson Bekele

Advisor: Zemenu Aynadis (Asst. Prof)

**A RESEARCH PROJECT SUBMITTED TO ST. MARY'S
UNIVERSITY SCHOOL OF GRADUATE STUDIES
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
AWARD OF DEGREE OF MASTER OF ARTS IN PROJECT
MANAGEMENT**

**Addis Ababa, Ethiopia
June, 2017**

ST. MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDIES
MASTER OF BUSINESS ADMINISTRATION

ASSESSMENT OF INFORMATION AND COMMUNICATION
TECHNOLOGY INFLUENCE ON STAFFS IN AWASH BANK

By: Samson Bekele

Approved by Board of Examiners:

_____ Dean, School of Business	_____ Signature	_____ Date
_____ Advisor	_____ Signature	_____ Date
_____ Internal Examiner	_____ Signature	_____ Date
_____ External Examiner	_____ Signature	_____ Date

STATEMENT OF CERTIFICATION

This is to certify that **Samson Bekele** has carried out his research work on the topic entitled Assessment of Information and Communication Technology influence on staffs in Awash Bank is his original work and is suitable for submission for the Award of Masters Degree in Project Management.

Advisor: Zemenu Aynadis (Asst. Prof)
June, 2017

DECLARATION

I, Samson Bekele declare that the thesis titled “Assessment of Information and communication Technology influence on in Awash Bank” is my own work, presented to the St. Mary’s University, in partial fulfillment of the requirements for MBA in Project Management and it never been submitted for the award of any Degree or diploma to any Institutions.

Signature: _____

Table of Contents

Table of Contents	i
Acknowledgements	iii
ACRONYMS/ABREVIATIONS	iv
LIST OF TABLES	v
FIGURE.....	vi
ABSTRACT	vii
CHAPTER ONE.....	1
1. INTRODUCTION.....	1
1.1 Background of the study	1
1.2 Organizational Background of Awash Bank	4
1.3 Statement of the problem.....	6
1.4 Research Questions	7
1.5 Objectives of the Study.....	7
1.5.1 General Objective:	7
1.5.2 Specific Objectives:	8
1.6 Operational Definition of Key Terms.....	8
1.7 Significance of the Study.....	9
1.8 Scope of the Study.....	9
1.9 Limitation of the Study.....	10
CHAPTER TWO	11
2.LITERATURE REVIEW	11
2.1Theoretical Review.....	11
2.1.1 Information and communication Technology Definition and concepts	11
2.1.2 Evolution of ICT on the banking sector.....	12
2.1.3 Overview of Ethiopian Banking system	13
2.1.4 The Influence of ICT on staff performance	14
2.1.5 Information and communication technology influence on the banking sector	16
2.1.6 The Contribution of information and communication.....	16
2.1.7 Advantage of Information and communication technology	18
2.1.8 Disadvantage of Information and communication technology	19
2.1.9 The Role of Information and Communication Technology in.....	19
the banking sector.....	19
2.1.11 Challenges of information and communication Technology	22

2.1.12 E-Banking Products/ Services	23
2.2 Empirical Review	24
2.3 Conceptual Framework.....	27
CHAPTER THREE	28
3. RESEARCH DESIGN AND METHODOLOGY	28
3.1 Research Design.....	28
3.2 Population and sampling Techniques	28
3.3 Source and Tools/ Instruments of Data collection	30
3.4 Procedure of Data collection.....	32
3.5 Validity and Reliability.....	32
3.6 Method of Data Analysis	33
CHAPTER FOUR.....	35
4.DATA ANALYSIS AND INTERPRETATION	35
4.1 Introduction.....	35
4.2 Demographic Characteristics	35
4.3 Presentation of variables	37
4.3.1 Influence of ICT on staff Performance at Awash Bank S.C.....	37
4.3.2 Contributions of using Information and communication technology at Awash Bank ..	40
4.3.3 Major problems (internal problems) recognized in using ICT.....	42
4.3.4 Practical Challenges (external challenges) observed in using	43
CHAPTER FIVE	45
5. SUMMARY, CONCLUSION AND RECOMMENDATION.....	45
5.1 Summary of Major Findings.....	45
5.2 Conclusion	46
5.3 Recommendation.....	47
Reference	49
Appendix 2	54
Appendix3	56

Acknowledgements

First of all, I would like to extend my deepest thanks to my adviser Zemenu Aynadis (Asst. Prof) for his advice, encouragement and professional support to accomplish this research work by giving constructive comments from its beginning to its finish.

In addition, it is also my pleasure to say thank you to both employees and managers of the bank that support me by providing required data on time to make the research successful.

Above all, I would like to thank GOD for giving me the strength and patience to accomplish this work.

ACRONYMS/ABBREVIATIONS

MIS	Management Information System
S.C	Share Company
AIB	Awash International Bank
MIS	Management Information System

LIST OF TABLES

Table 3.1 Sample selection	30
Table 3.2 Reliability coefficient for items in each variable.....	33
Table 4.1.A. Respondents according to gender, age and education level.....	36
Table 4.1.B. Respondents profile according to work experience and position.....	36
Table 4.2. Perception of employees on the influence of ICT on staff performance.....	38
Table 4.3.Views of operational and higher management officials on the advantages of using IC40	
Table 4.4. Disadvantages of using ICT.....	41
Table 4.5. Perception of the management and supervisors on internal Problems of using ICT....	42
Table 4.6. Views of management and supervisors on the external Challenges of using ICT.....	43

FIGURE

Figure 2.1 Influence of ICT On staff performance.....27

ABSTRACT

The increasing competitive pressure resulting from technological development, globalization, changing customer demand has led to survival challenges of many banks in Ethiopia and demanded for improvement in quality of customer service and speed to enhance profitability, staff performance and cost reduction. Although many employees are using more of information communication technology as part of their jobs, there are studies that examine the general impact of Information and Communication Technology on organization performance but not on the staffs performance as a single unit. Specifically, the main objective of this study is to assess the influence of information and communication technology on the performance of staff in Ethiopian Banking Sector by placing a case at Awash Bank. The research mainly emphasis on the influence and other related factors that are caused by information and communication technology on the performance of staffs of the bank. Data was collected using hand delivery of questionnaire approach, which is the primary data. Additional information has also been gathered by placing an interview with selected Branch Managers. The study used purposive/ Judgmental sampling procedure in selecting the respondents as the sample. Out of total 290 Questionnaires distributed in the selected branches, 84.4% valid responses were gathered for further analysis. Frequency, Tabulation, Mean and Standard deviation are used for describing the results in the analysis part. The findings showed that there is an influence of Information and communication Technology on staffs at Awash Bank and also there are recognized contribution of using the technology which helps to understand the real benefits of the system. The overall implication of the study is that, Information and communication Technology adoption and introduction in the banking industry has resulted to increase in staff overall performance based on the technological factors, which has brought about increases in the skills of workers, staff productivity, communication rates and also help to reduce stress and workload within the bank. As a major recommendation, more improvement on the system is demanded to increase the staff's productivity. Training and development on the system must be conducted to fully make use of the system. Also, if the system fails the bank should have a mechanism to operate on manual bases.

Key Words: *Information and Communication Technology, Staff Performance, Banking Industry*

CHAPTER ONE

1. INTRODUCTION

1.1 Background of the study

Globally, Information technology has become a key element in economic development of many countries in the world. It is increasingly becoming a valuable and powerful tool driving development, supporting growth, promoting innovation, and enhancing competitiveness. Information technology offers opportunities for organizations to improve earlier stages of development. Organizations today are confronted with rapid changing market condition indicated by high merge rate and strong competitors. Under these condition, traditional management approach that focus on financial figures and on centralized, analytical planning methods are considered to be insufficient for effectively steering the organization in dynamic environment (Ahmed, 2008).

The application of information and communication technology concepts, techniques, policies and implementation strategies to banking services has become a subject of fundamental importance and concerns to all banks and indeed a prerequisite for local and global competitiveness. ICT directly affects how managers decide, how they plan and what products and services are offered in the banking industry. It has continued to change the way banks and their corporate relationships are organized worldwide and the variety of innovative devices available to enhance the speed and quality of service delivery. Harold and Jeff (1995) contend that financial service providers should modify their traditional operating practices to remain viable in the 1990s and the decades that follow. They claim that the most significant short coming in the banking industry today is a wide spread failure on the part of senior management in banks to grasp the importance of technology and incorporate it into their strategic plans accordingly.

Woherem (2000) claimed that only banks that overhaul the whole of their payment and delivery systems and apply Information and communication technology to their

operations are likely to survive and prosper in the new millennium. He advises banks to re-examine their service and delivery systems in order to properly position them within the framework of the dictates of the dynamism of information and communication technology. Agboola (2001) studied the impact of computer automation on the banking services in Lagos and discovered that Electronic Banking has tremendously improved the services of some banks to their customers in Lagos. The study was however restricted to the commercial nerve center of Nigeria and concentrated on only six banks. He made a comparative analysis between the old and new generation banks and discovered variation in the rate of adoption of the automated devices.

Aragba-Akpore (1998) wrote on the application of information technology in banks and pointed out that IT is becoming the backbone of banks' services regeneration in the world. Ovia (2000) discovered that banking in Nigeria has increasingly depended on the deployment of Information Technology and that the IT budget for banking is by far larger than that of any other industry in Nigeria. He contended that On-line system has facilitated Internet banking in Nigeria as evidenced in some of them launching websites. He found also that banks now offer customers the flexibility of operating an account in any branch irrespective of which branch the account is opened.

Singh (2002) presented that technology has introduced new ways of delivering banking services and products to the customers, such as ATMs, and internet banking (IB). Hence banks have found themselves at the forefront of technology adoption for the past three decades. These changes and developments in the banking industry have impacts on service quality, employee's performance, future of the banking activities, and consequently its continually competitive ability in the world markets since going along with technology is one of the most important factors of organizations success in general and banks in particular. This motivates banks to spend more on technology and information to achieve maximum returns and attract large number of clients (Nyangosi, 2009).

The role of information in decision-making cannot be overemphasized; and effective decision-making demands accurate, timely and relevant information. As the numbers of employees, customers and transaction increases in an organization the more it become multifaceted, and the information needed for effective management, planning, decision-making and control invariably becomes more complex. Decision-making is the task of every top management in an organization and they need relevant and timely information to assist in taking decisions. According to Lucey (2005), relevant information increases knowledge, reduces uncertainty and is usable for the intended purpose. However, there are difficulties in producing relevant and timely information, but with the advent of information systems most organizations in Nigeria especially the insurance corporations collect data which are raw facts to produce useful and meaningful information which can be used for decision-making which affects the current and future operations of the organization. Although, information does not serve as an alternative for good management but conversely management cannot be good without adequate information.

The role ICT in the banking sector became of interest to this study due to the significant role it plays in the economy by stimulating economic growth through the intermediation of funds to economic agents that need them for productive activities. This function is very vital for any economy that intends to experience meaningful growth because it makes arrangements that bring borrowers and lenders of financial resource together and more efficiently too than if they had to relate directly with one another (Adam, 1998; Ojo, 2007).

Hence, Information technology has been acknowledged as the life wire of banks in the financial sector as it promotes and facilitates not just the organizational performance but also staff performance of banks in the country. These therefore call for a pre-requisite need to embrace information technology. It is in view of this that this research work attempts to assess influence of information and communication technology on the performance of Staff in Ethiopian banking sector today with reference to the case of Awash Bank.

1.2 Organizational Background of Awash Bank

Awash Bank is the pioneer private commercial bank which was founded November, 1994 and commenced its operation in the country of Ethiopia at the capital city of Addis Ababa. Awash Bank was established by 486 founding shareholders with paid up capital of birr 24.2 million and started banking operations on February 13, 1995. Moreover, as of March, 2016 the number of shareholders and its paid up capital increased to over 3,700 and Birr 2.2 Billion respectively. Shareholders have decided to raise the authorized capital to birr 6 Billion and the paid up capital to birr 3 billion within the next two years. Awash Bank is a bank that has thrived over 22 years in a rapidly evolving market and economy. Having grown from humble beginnings with visionary intents, it is the first private bank in Ethiopia to exceed a billion profit markets in the history of Ethiopian private banks in the financial year 2015/2016.

Since inception, the bank has expanded through a combination of substantial organic growth and an enhanced customer service excellence. It is a commercial bank that provides diverse range of financial products and services to a wholesale, retail and individual clients based in Ethiopian market and aspired to expand to east African markets. Awash Bank focuses on delivering distinct profitable solution for its clients in all core areas of commercial banking.

One of the company's unique features is the new adopted and modified information system which has integrated the whole operation of the head office and branch's. The project was undertaken with a cost of more than Birr 12mill. The project employer was 'Awash Bank' and the developer is 'MISYS' an England Company which has placed its office in India. Agreement was signed on January 9; 2010.the project time is three years or 1095 calendar days. As stated in the contract agreement the project scope encompasses requirement analysis, design, development, testing, implementation, conference room piloting, achieving parallel run, integration of the whole operation , provision of the modules and final delivery of the system. The different operations that are performed by

the system include; Core banking, Internet banking, ATM service, Trade and finance operation, Signature System (CIF), Saving account, Current Account and loan processing system are the major operations that are undertaken by the system.

1.3 Statement of the problem

One of the main sectors that can affect a countries economic development is the operation undertaken by the banking industry. Most developed nations are operating their economy based on financial institutions like the banking sectors. As banks came through this many years, they have worked to take a competitive advantage by innovating different technologies to gain better staff performance and service excellence for customer satisfaction. As a result to maximize the efficiency and effectiveness in the banking sector, the information and communication technology is introduced.

The use of Information and communication technology in the banking sector in general is for a reason to create easy communication transaction, increase customer satisfaction and to facilitate workflow for staffs in an organization. It is also important to note that with an increasingly global environment less limited by time or distance, nations around the world need to get connected and join the global networked community. Otherwise, they may fall further behind and the gap they have with the developed world could get wider.

As compared to the practice of different nations the Ethiopian electronic banking system is lagging far behind than the rest of the world (Ganesh and Venkateshwar, 2014). Nowadays, the existing and new banks of the country are implementing the information and communication technology on a limited basis to maximize their performance. But, influence on different stakeholders is not assessed to measure the importance of this huge investment.

Currently, Awash Bank is undertaking E-Commercial banking service such as ATM Service, Internet banking, Mobile banking and other services throughout different branches in the country. This technology is delivered with huge investment under different difficulties. Developing (or Adopting) and implementation of an ICT is a very difficult task to undertake. In general it has an advantage of improving data storage, file and financial history management. It is also a key to improve customer service, facilitate the work flow and decision making. But, this technology has a high development and

implementation cost. It also could minimize the number of employees working in an organization by placing different tasks on one person that could have different effects. Security issues and money laundering are the treats involved with this technology. One of the major challenges related to Information and communication Technology in Ethiopia is Infrastructure. It is known that week telecom service of the country is affecting the operation of the banks causing customer dissatisfaction.

Despite the different aspects of ICT and the researcher's knowhow, there were different studies conducted in relation to the topic (Ahmed, 2008 and Adeoti, 2005). But there is no such study that tries to assess the general influence of Information and communication technology on the overall staff performance by concentrating at Awash bank. The problem associated with the study is to determine the true position of the banking system and what it should achieve if it will align with the global Information and Communication Technology. It is also the main concern of this study to assess the positive or negative influence that ICT has created in relation to adoption and implementation on the staffs at different levels.

1.4 Research Questions

1. How does Information and Communication Technology influence staffs in Awash Bank?
2. What are the Contributions of using Information and Communication Technology in the Bank?
3. What are the major problems recognized in using ICT?
4. What is the practical Challenges Observed in using ICT?

1.5 Objectives of the Study

1.5.1 General Objective:

In general the objective of the research is assessing the influence of Information and communication technology on staffs in Awash bank.

1.5.2 Specific Objectives:

The following are the specific objectives of the study:

- To determine the influence of Information and communication technology on staffs in the bank.
- To explore the contribution using Information and communication Technology in the Bank.
- Identifying major problems in using ICT.
- To identify challenges observed in using ICT.

1.6 Operational Definition of Key Terms

- **Information:** Information is a data that has been processed. It is also referred to data that have a particular meaning within a specific context, or data that have been processed in such a way to be useful to the recipients (Ayatse, 2005).
- **Technology:** According to the oxford advanced learners dictionary (7th edition) “technology is a specific knowledge used in practical ways in industry”. For example, designing new machines which are made to meet up the demand of current and future situation/trend.
- **Data:** Data are facts, events and transactions, observations that describe a particular phenomenon. (Ayatse, 2005).
- **Computer:** Computer is an electronic machine that can store, organize, and find information, do calculations and control other machines. It is also said to be an electronic data that accepts, process, stores and output data at high speed according to programmed instructions (Micro soft Encarta 2009).
- **Performance:** Performance in this context entails how well or badly an individual/organization does something or how well or badly something works.
- **Bank:** A bank is said to be an organization that provides various financial services to individuals like lending or keeping money for people. These banks provide security and comfort to customers.

- **Internet:** This is an international computer network connecting other networks and computer from companies, universities etc. It is termed as a massive connector of network linking millions of computers.
- **Communication:** This is the transfer of information from one point to another either electronically or non-electronically, with the information being understood by the receiver.

1.7 Significance of the Study

The significance of this research work is that it would explore the influence of information technology on the performance of staffs in Awash Bank. It is intended to investigate whether employees' performance is influenced by the technological innovation (ICT) adopted by the organization. It is hoped that this study would contribute to the promotion of the existing frontier or boundary between ICT and staff performance in the banking sector.

The knowledge that would be gained from this research work will assist management of banks to appreciate the importance and use of information technology to achieve the overall efficiency and effectiveness in operation. It would as well contribute to existing literature by identifying the major barriers to the adoption of this innovation on banking operation in Ethiopia and suggest how to address them. It also is a valuation tool for students, academic institutions, and individuals that want to know more about the information technology influence on staff performance in Ethiopian banking sector.

1.8 Scope of the Study

This study is limited to the influence of Information and communication technology on the operations of banking sector and how it affects the performance of Staffs Specifically, the information in this research work is limited to the activities of Awash Bank. Mainly the researcher tried to asses and identifies in general the relationship between the employees of the organization and the influence caused by the implemented system.

1.9 Limitation of the Study

The study is conducted in Addis Ababa because it is the commercial nerve center of the country. Since this study involves itself with one private bank in Ethiopia, the findings doesn't represent the whole Banking industry. Some respondents especially employees might feel uneasy to express their opinions genuinely on the subject matter in order to avoid any conflict with the management.

Some of the perceived limitations for this research are level of awareness, willingness, engagement, cooperation and dedication from the different respondents. Moreover, not giving the required full information as well as being unable to respond on time are also the inevitable limitations. The research study is restricted to 290 respondents working at different branches. Therefore, a detailed research would be needed to explore the influence of information system at different banks which are found in the country. Especially; with much, bigger sample size and a higher response rate so that a deeper analysis can be done for generalization.

1.10 Organization of the Research Report

The report is organized in to five chapters. The first chapter deals with the introductory part of the paper in which background, statement of the problem, objectives of the study, significance of the study, scope and limitation of the study, definition of terms and concepts and organization of the paper are incorporated. The second chapter deals with the literature review. Third chapter incorporates type and design of research, participant of the study, the sources of data, the data collection tools or instruments, the procedures of data collection and the methods of data analysis. Findings of the study along with their interpretation and discussion are presented in chapter four. And finally conclusion and recommendation forwarded in the last (fifth) chapter.

CHAPTER TWO

2.LITERATURE REVIEW

This chapter reviews literature from different Authors who have researched in their opinions and debates on how information and communication technology (ICT) has proven to be a lifeline for today's banking sector because it is integrated in every service that the banks offer to its clients. Information and communication technology (ICT) has become the heart of banking sector, while banking industry is the heart of every robust economy. If it collapses so will the economy. The areas covered includes definition and concepts, Evolution of ICT on the banking sector, Overview of Ethiopian Banking system, The Influence of ICT on staff performance, Impact of Information and communication technology on the banking sector, The Contribution of information and communication technology in the banking sector, Advantage and Disadvantages of Information and communication technology and problems and challenges of using ICT are the major ones.

2.1Theoretical Review

2.1.1 Information and communication Technology Definition and concepts

Information Technology (IT) is the automation of processes, controls, and information production using computers, telecommunications, software and ancillary equipment such as automated teller machine and debit cards. It is a term that generally covers the harnessing of electronic technology for the information needs of a business at all levels. Communication is the convenience or transformation of information from one point to another through a medium (Agboola, 2001). Also according to Banigo (2001), information and communication technology can be defined as electronic based technologies which can be used to collect, store, process and package information and provide access to knowledge.

Information and communication technology (ICT) is the automation of process, controls, and information production using computers, telecommunications, soft ware and other gadget that ensure smooth and efficient running of activities. It is a term that largely covers the coupling of electronic technology for the information needs of a business at all levels. ICT has surpassed the role of support service or only electronic data processing; its field of application is slightly global and unlimited. Its devices especially the internet and modern computer email facilities have further strengthened early modernizations like telephone and fax. Other ICT devices include data recognition equipment, factory automation hardware and service, telecommuting and teleconferences using real time and online system (Adeoti, 2005).

It is a concept that is having a remarkable effect on almost entire aspects of the human endeavors. This implies that it involves the application of principles to engaged physical component in achieving an intended goal. The Merging of computer and telecommunication after about four decades of applying computers to routine data processing, mainly in information storage and retrieval, has created a new development where information has become the engine of growth around the world. This development has created catch-up opportunities for developing countries such as South Africa, Nigeria and Kenya to attain desired levels of development without necessarily reinventing the wheels of economic growth. This new technology has brought far-reaching revolution in societies, which has tremendously transformed most business (Ovia, 2001).

2.1.2 Evolution of ICT on the banking sector

The first attempt to automate the manual processes of banks was done through mechanization. This is the process of using electromechanical devices, such as note counters and accounting calculators, to effect speedy processing of basic banking transaction. About a decade after the Second World War, the computer finally left the exclusive domain of the military and research institution gradually found its way into commerce. These were the main frame computers with their property operating systems and software called “Number cruncher. Banks such as Citibank, American Express and

Bank of America used the mainframe for back office (Batch processing) functions using punched card equipment and electronic accounting functions, other processes remained largely manual. This trend continued throughout the 1960's. In Developing countries, there was no officially available Information on the state of computerization in banks at that time. The advent of information and communication technology has brought about enormous changes, challenging how organizations are structured and how business is run. Yet, Information technology is not static: it is continually evolving, breaking new barriers, defining new horizons and bringing new body of tools, techniques and infrastructure for generating, collecting, storing, processing, and transmitting data and information. With the introduction of multi-user networks in the 1970s, terminals could now be connected to mainframes and minicomputers within a radius of usually short distances around a building. Since the terminals had no intelligence of their own, all processing was done on the computer. It was called a centralized system. For the first time banks started to process transactions online without having to go through the cumbersome punched card process. The prospects that the punched card would soon be a thing of the past became brighter. However, in Nigeria, as well as in other developing economics, the punched card system was an innovation. In the late 1970s, United Bank for Africa introduced the IBM 370 series of computers, linked with line printers. Gradually, there was a move towards the multi- user environment with dump terminals connected to the mini or mainframe computer (Milne, 2006).

2.1.3 Overview of Ethiopian Banking system

Traditional institutes organized with a sense of cooperation and risk sharing has enabled Ethiopia to experience saving and financial management within its cultural context. Eqube and Edir are some of the informal financial institutions that shaped the social bond and interaction (Gebeyehu Aychele, 2008).Modern banking in Ethiopia started in 1905 with the establishment of Bank of Abyssinia, which was based on a fifty year franchise given to the British owned national Bank of Egypt. It has landmark significance in

introducing financial services, which were hitherto unknown in the country (Alemayehu G, 2006).

A significance feature of Commercial banking in Ethiopia then was its innovative nature rather than its contribution to growth and its competitive nature. As the society was new for the banking service, banks had faced difficulty in familiarizing the public and they faced considerable cost of installation. In the pre- 1974 era, there hardly was any banking competitive environment, as the banking industry was dominated largely by a single government owned bank, state of Ethiopia. Despite the efforts made to disengage banking from foreign control and to make the institution responsible to Ethiopians credit needs; these developments did not bring about meaningful competitive environment , as banking industry was characterized by specialization and low level of business.

The establishment of privately owned Addis Ababa Bank in 1964 and its growing branch network created relatively better banking competition among commercial banks, with concentration of their branch office in big towns and trade routes in the country. The then monetary and banking system gave at most emphasis to establish and balance growth of the economy rather than competition (Proclamation No.206/1963). Competition during the period was generally weak. During the Derge regime completion among banks was not taking place during this regime as it was characterized as command economy, instead of market oriented.

2.1.4 The Influence of ICT on staff performance

There has been a debate whether information technology has an effect on employee's performance and productivity. According to Applegate and Mills (2010), technology is revolutionizing how business is being conducted in the world. Further they state that if introduction of IT does not deliver the intended return; there may be three possible casual factors. One is that the employees were not engaged in implementing or accepting the IT introduced by the organization. Two, the leaders were not successful in connecting employees to the use of IT and lastly your business system did not adequately support the IT. The rise in the use of technology within the banking sector has resulted into a

considerable improvement in the day to day performance and therefore the concept of E-banking has now become a crucial element in the present day banking initiatives.

As Banker and Kauffman (2009), Adoption of technology in the banking industry has enabled them to provide better and improved services in relation to online banking which is time saving. E-banking enables customers to access key services such as their bank accounts and the accompanying information on the products and services offered by banks using various avenues this has eliminated unnecessary services like sending letters, signing, use of faxes as well as use of telephone (Applegate & Mills, 2010). The use of ICT further enhance the operation speed, quality of communication, management timeliness, gaining the illusive competitive edge and product quality improvement in the industry in which the company is operating. They also established the advantages of the adoption of electronic banking whereby they noted that e-banking enables bank customers to have a diversity of advantages financially including among others, enhanced deposit rates, lowered transaction fees as well as promotional opportunities. Customers are also able to save time wasted in transactions especially when queuing up as well as the use of paper documents. The technology further offers bank customers the opportunity to use electronic data other than communication with the attendants since necessary details are available at the website and online banking enables customers to access the information immediately. Based on service attributes consumers have a positive perception of technology because they think technology will always provide more efficient service as compared to that of a bank employee (Brand and Duke 2011). More so in the evaluation of technology based services reliability and user-friendliness of the technology is crucial.

Most firms have adopted IT in their operations so as to be more efficient and productive. In the last three years, the banking industry has invested in innovative IT based solutions in order to raise its operational efficiencies to guarantee a better customer experience, better trading experience and share value (Applegate and Mills 2010). It should be noted that such changes in adopting the information technology to better customer service. New

electronic service like money transfer, internet banking, or hello money affects employee Performance and productivity (Ayres 2006).

2.1.5 Information and communication technology influence on the banking sector

In today's banking sector, Information and communication technology cannot be separated from banking activities since it facilitates the whole banking process and it is also a source of competitive advantage. New transactions worth billions of dollars can only take place in seconds in the electronic circuit throughout the globe by pressing a single button Castells (2001). It is also reported that many Banks recognized that the growing integration of the world economy is facilitated by ongoing revolution in telecommunication and information technology. According to Ezeamama (2010) it is reported that Information technology is radically changing all over the world, the volume and speed of handling transaction have improved tremendously as a result of the growth in Information technology, which has created a lot of business opportunities, Application of information and communication technology is capable of enhancing optimal performance in service delivery if appropriately carried out. According to Loonam et al (2008), ICT advancements, globalization, competition and changing social trends such as heightened customer interest and increased preferences for convenience have caused intense restructuring of the banking industry.

However, banks have made huge investments in telecommunication and electronic systems, users have also been validated to accept electronic banking system as useful and easy to use (Ayo, 2010).

2.1.6 The Contribution of information and communication technology in the banking sector

Information Technology has tremendously contributed to the expansion of the banking networks and range of the offered services during recent years (Evadat and Kozak, 2005). Information and Communication Technology is a vital to any organization. In other words, for every organization to achieve its goal at peak, information and communication

technology must be fully involved. The need for communication makes business organization develop various means of disseminating Information among the people both within and outside the organization. ICT can also contribute to the acceleration of economic growth at the country level, when deployed in accordance with the specific needs and capacities of each country highlights that developed middle income countries and developing nations can reap benefits from having a healthy information technology (IT) supply sector (Schware ,2006). Industry could contribute by developing more efficient, user-friendly and affordable technologies and also joining various digital bridging and community involvement programs and actions. In the early history of every society, information is delivered through traditional methods like message carriers, talking drums, flutes e.t.c. However, British people introduced the post and telegraph communication which eventually developed into the modern information technology (Gichooly, 2005). Banking operations are based on information management, i.e. sorting, retrieving and processing information and also the most obvious use of computers is improving the quality of banking services to customers. The contributions of ICT to the banking sector are immediate. Customers respond better to results than any promotional adverts. Information Technology in the banking sector has brought about efficiency and also increase in productivity. With the coming of Automated Teller Machine (ATM) bank offices and designated places, such as Airports, Hotels and shopping centers have been felt by the public as mind of revolution blowing in the banking sector in different countries over the couple of years. To a large extent, the adoption of ATM of the banks have helped the banking sectors to achieve its goal as banking halls are being decongested with the installation of facility across the country. ATM [a form of I.T deployed in the banking sector] has increased the financial profile and added financial muscles to banks. So banks have acquired and installed more ATMs in order not to lose their customers to competitors. The contributions of information and communication technology [ICT] have or the banking sector cannot be overstated since it has helped in reducing the cost of doing business in banks, banks all over the world are involved in certain time consuming and routine task on a daily basis. IT handles these routine

functions easily also and reduces operational cost in areas such as personal management administration, maintenance e.t.c .Information and communication technology also gives banks the ability to respond quickly to market events, change in the business environment or new directives from regulatory bodies such as the Central bank and ministry of finance. ICT has also provided local and global village the ability to offer worldwide services to customers in an easy and cost – effective manner through internet services which involves online enquiry on account balances and status: online request for immediate statement of account, payments of bills, downloading of account transaction; online transfer of money between accounts immediate e-mail communication with customers on any problem or request. Today ICT in banking sector have also increase security for customers since most things are done cordially, with the use of passwords in carrying out most transactions (Gichooly, 2005).

Finally [ICT] in the banking sector has also brought about revolutions in the economy since payment methods which include the use of credit cards, electronic transfer of funds from one bank to another, smart cards widely used in supermarkets and other retail outlets have contributed to the economic growth and developments. Computers and telecommunication systems have become very important as delivery systems and productivity tools of electronic data and information (Schware, 2006).

2.1.7 Advantage of Information and communication technology

Improves communication through communication technology: With the help of communication technology, tools like phone, video conferencing, electronic mail, database, just to mention but few, movement of information with an organization has become easy and fast. Employees can easily move information across department without having any interruptions. Tools like electronic mail, e-fax, mobile phones and text messages enhance the movement of information among employees, customers and business partners.

Improves data storage and file management: Banks use cloud hosting services to store and back-up business data. Also it saves on paper work and makes transfer and access of

data remote with services like “DROPBOX.COM” bank can access their data any time. Information and data are very important tools for bank, so it is very essential to store them safely and also access them at any time of need.

Improves financial Management: Accounting software like Quick Books, Bookkeepers, sage 50 and Accounting edge can be used in performing various accounting tasks in a bank. Bank can experience in accounting because these software’s are well equipped with every tools needed in accounting.

Online Banking: Many banks have integrated advanced information technology system to improve on their customer’s service. Today, it is very easy to withdraw money using an ATM card or smart money car. This saves customers from wasting time lining up in banks.

2.1.8 Disadvantage of Information and communication technology

Implementation expense: Some banks fail to afford this expensive technology so they end up losing their clients to a business which has improved its technology and provide a better service.

Job Elimination: Technology has replaced most positions which human being used to occupy. Accounting is now being done by software, so accountants run out of such opportunities.

Security Breach: Since banks store their own remotes cloud servers which can be accessed with a user name and password, they risk losing that data to wrong minded knowledge works, hackers or viruses which can harm the business.

Money Laundering: Cases of online money laundering are on the rise and this has exposed many online users to the predators.

2.1.9 The Role of Information and Communication Technology in the banking sector

The role of ICT in the banking sector became of interest to this study due to the significant role it plays in the economy by stimulating economic growth through the

intermediation of funds to economic agents that need them for productive activities. This function is very vital for any economy that intends to experience meaningful growth because it makes arrangements that bring borrowers and lenders of financial resource together and more efficiently too than if they had to relate directly with one another (Ahmad, 2008). Information and Communication Technology (ICT) is the automation of processes, controls, and information production using computers, telecommunications, software's and other gadget that ensure smooth and efficient running of activities. It is a term that largely covers the coupling of electronic technology for the information needs of a business at all levels. ICT has surpassed the role of support services or only electronic data processing. Its fields of applications are slightly global and unlimited. Its devices especially the Internet and modern computer email facilities have further strengthened early modernizations like the telephone and fax. Other ICT devices include data recognition equipment, factory automation hardware and services, telecommuting and teleconferences using real time and online system (Adeoti, 2005). According to ICT association of America [ITAA], information technology is said to be the study, design, development, implementation, support or management of computer based information system, particularly software application and computer based information system. ICT department in any bank performs these functions and also installing application designing complex computer network, and information data base, data management, networking, engineering computer hardware, database and software design as well as the management and administration of the entire system.

2.1.10 Problems of information and communication technology in the banking sector

The importance of ICT enabling enterprises to develop more effective and efficient operational and management processes has been pointed out by Frenzel (1996) and Holloway (1995). They have also identified ICT related problems facing the modern Banking Industry. Each is briefly described according to the authors' perception of their relative significance.

System Downtime: These are chronic features of Telecommunication infrastructure. While banks have WANS(wide area network) through which they can provide online, relative services to their clients nationwide, they find that they cannot do so most of the time due to constant link failures, which are often as a result noisy carriers, damaged cables, damaged equipment and slow communication speeds.

Lack of investment capital: Funds that can be used to buy Information technologies and for modernizing existing system are generally in short supply. Whilst there are a number of modern banking applications in use, they are mainly the integrated banking system.

Lack of knowledge of how to Develop (ICT) System internally: In all Banks, most of the system in use were developed externally, or are off- the shelf banking application. There is a need to turn the ICT departments of banks into proper computer departments by embarking upon the development of some of their systems in-house and training their ICT personnel.

Lack of internal Maintenance skill: There is too much reliance on external consultants for the maintenance of the system in banking sectors. In a situation where most of these banks are already suffering from lack of funds, this is unfortunate. They would save on expenditure and enhance local expertise if they embrace the do-it-by-yourself practice. Moreover, it is financially difficult to keep up with the regular and up-to date maintenance of the systems in use: spare parts, consumables and regular maintenance are expensive. This factor makes it difficult to plan ahead due to lack of funds to satisfy regular maintains requirements..

Lack of Management Knowledge: like most other companies or organization in African, many banks introduce ICT without proper feasibility studies which will specify requirement before embarking on design. Codes are quickly bashed out and the completed system is introduced without any systematic unit or Integration testing of the code or system. Also, off-the shelf ICT systems are purchased without prior specification of the requirements of the specific banks where they will be used, and usually without a documented systems development life-Cycle Model. It is an acknowledged fact that most

banks have ad hoc processes. In other words, their processes are neither repeatable nor documented. They do not understand what is meant by metrics and how to design and collect metrics for management effectiveness. They also operate without knowledge or use of any in-house, national or international quality standards such as ISO900-3 (Webb, 1993) and SEI's capability maturity Model (paulk et al, 1993).

Absence of strategies: In the banking sector, there is no attempt to evolve short or medium terms plans for their ICT needs, placing in mind the business strategy of their organizations.

2.1.11 Challenges of information and communication Technology

At a world summit on Information society held in Geneva in December 2003, world leaders declared their common desire and commitment to build a people centered, inclusive and development oriented information society, where everyone can create, access, utilize and share information and knowledge, enabling individuals, communities and people to achieve their full potentials (Iboma, 2005).

After discussing the various application of IT and their advantages and disadvantages, as presented by Iboma (2005) there still exist lot of challenges or limitation facing the banking sector in using this modern technology. These challenges include:

High cost of interconnectivity: The cost of inter access, relevant software and hardware is so high that only few individuals, government and private institutions can afford to access the package.

Infrastructure Problem: Linking up to the Internet requires two key basic infrastructures these are power supply, telephone lines or Wireless Radio Wave and alike are the main elements of the ICT and the services of these facilities are unreliable in many developing countries. Low and inadequate power supply remain the main drawbacks.

High Customs Duties: Excessive duties are paid on imported IT equipment and this makes the cost of procurement of IT equipment beyond the capacity of institutions and private organizations.

2.1.12 E-Banking Products/ Services

Automated Teller Machine: Automatic Teller Machine (ATM) is a device which comprises of an input device into which items can be deposited. It also has an imaging and sorting device which sorts deposited items to determine whether the deposited items are banknotes or cheque (Davis 2003). ATMs enjoy wide acceptance by customers of banks since they can offer the same services as the bank tellers thus reducing the time taken in the banking halls. Tufano, (1989) carried out a research on financial innovation and first mover advantages with the objective of the study being to determine whether financial products innovators enjoy first mover advantages.

The researcher concluded that the innovators that created new financial products, in the initial stage did not charge higher prices until imitative products appeared and in the long run charged lower than rivals hence leading to losses.

Mobile Banking: The speed at which technology is developing has created a major occasions for providers of fiscal services to provide services through several electronic channels with mobile phone being among the most preferred platforms for using monetary services by bank consumers (Karjaluo and Pento 2007). Customers are able to access their account balances, make bill payments, airtime top up, account links, deposit money to their accounts and other customers' accounts at the comfort of their offices without having to visit the banking halls . This has improved employees' productivity since they can concentrate on innovating better products for their customers due to the fact that no long queues are in the banking halls. Mobile banking has helped in enhancing reach ability, personalization and convenience to the customers.

Internet Banking: In an effort to serve their customers better banks have adopted internet banking which is a self-service technology which has been availed to enable

access banking services conveniently. Internet banking help in accessibility, confidentiality, convenient services and is a less complex procedure which enables consumers to transact at the comfort of their offices as stated by Egwali (2008). Internet banking flexibility will enable the customers to access their accounts at their convenience and thus giving the banks additional revenue, improving on customer satisfaction and reduce customer queues at the Banking halls. Freedman (2000) observes that banking through the internet is composed of three key appliances, network money, value cards and access to new devices and therefore banking by internet is just the adoption of new tools and is hence not taken much consideration as much.

Electronic Funds Transfer: This is a fund transfer system which facilitates electronic funds transfer between the sender and the recipient by means of an intermediate trusted third party. Retailers and financial institutions have adopted electronic fund transfer as an alternative to the costly, time-consuming, and inconvenient paper-based check system. A consumer makes an electronic bill payment from his financial institution account to another financial institution account intermediary for a certain amount. This has been necessitated by the use of information technology and has expanding bank customers' access to their funds.

2.2 Empirical Review

Sonja (2010) researched on the effects of computerization on saving and credit cooperatives in Uganda and found out that Technology is likely to increase the efficiency, outreach and sustainability of microfinance institutions.

Morufu and Taibat (2012) researched on banker's perception of electronic banking in Nigeria purposely to find out how bankers perceive the benefits and threats associated with electronic banking by investigating banks employees' perception on electronic banking and its implications on bank service delivery. The study concluded that „minimizing inconvenience“ and „government access to data“ appear as the most important benefit and risk respectively while „reducing HR requirements“ and „charges

on high costs for services" are the least important benefits and risk associated with electronic banking.

According to Ahamad Kaleem (2008), bankers in Pakistan perceive electronic banking as a tool for minimizing inconvenience, reducing transaction costs and saving time. Similarly, they believe that electronic banking increases the chances of government access to public data, increases the chances of fraud and that there is lack of information security.

In the study conducted by Nyangosi and Arora (2009) which focused on the adoption of internet banking in Nigeria, the perceived usefulness of mobile banking, analyze the banking services provided by internet and mobile phone banking, the study revealed that ATM technology was the most available technology in user"s banks. Therefore internet banking has gained popularity and become vital in financial transaction events, IT state is at initial stages and the study was useful to institutions planning to offer digital financial services especially internet banking and mobile banking to know the extent it can be used by customers and the services already in the market Also the regulatory authorities to know the area of much interest in provision of banking services through internet and mobile phones.

Agboola (2006) observed that some payments are now being automated and absolute volume of cash transactions have declined under the impact of electronic transaction brought about by the adoption of ICT to the payment system especially in the developed countries. Emmanuel and Sife (2008) observed that positive effects of ICT have continually been noted in business, production, education, politics, governance, culture and other aspect of human life. This view is corroborated by Agboola (2004) and Ayo (2006) that the growing rate of ICT particularly the internet has influenced at an exponential rate, on line interaction and communication among the generality of the populace.

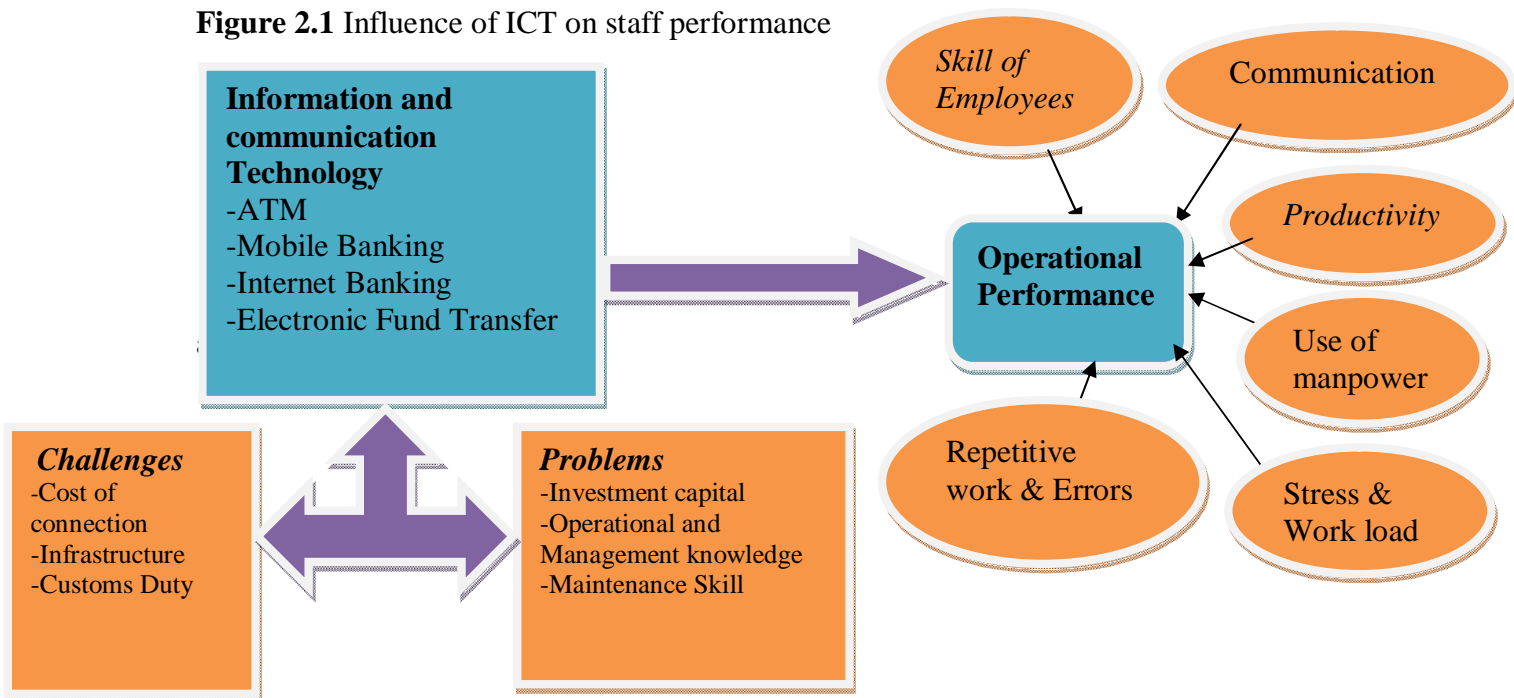
Mitra and Chaya (1996) found that higher IT investments were associated with lower average production costs, lower average total costs and higher average overhead costs. They also found that larger companies spent more on IT as a percentage of their revenues than smaller companies. However, they did not find any evidence IT investment reduced labor costs in organizations.

Aki(2002) analyzed the structural change in Finland banking sector from the period 1993 to 2002 which showed that 42 percent of households have internet connection with banks and 90 percent have mobile banking service. The author concluded that main goal of the technology were to improve customer satisfaction, cost reduction and develop new methods to collect and analyze the customer information and it has worked out in a favorable way.

Jain and hundal (2006) described the importance of mobile banking and barriers in the adoption of mobile banking. The paper examined the forces that can act as barriers in mobile banking service adoption. The objective of the study was to find the reason why the people had not fully accepted the technology though it provides much advantage to the banking customers as compared to previous technologies. The paper attempted to identify the various barriers, access problems, dissatisfaction and inability of service providers in the adoption of mobile banking services. The result of the study indicated that consumers got disheartened by the complicated function while accessing the mobile banking service which lead to rise in their dissatisfaction level as no proper guide was provided to them. The research suggested that service providers should be aware of the problems of their customers. The findings of the study gave a brief outlook for the practical implication for managers and policy makers who have to make strategies and decisions in order to cater the unexploited service market.

2.3 Conceptual Framework

Figure 2.1 Influence of ICT on staff performance



Source:

Information and communication Technology is the core element in the bank to perform the operation. Mainly advanced technologies like the ATM, Mobile Banking, Internet Banking and other ICT components are used to facilitate the daily activities. Due to challenges like infrastructure problem and cost of connection the system is affected by external factors. Also, problems like operational and management knowledge including lack of maintenance skills are factors recognized internally. These problems and challenges has an impact on the technologies that are used to perform the operations. Staffs of the organization use the technology to enhance skills, communication, productivity and other criteria's of increasing the operational performance of the organization. The study mainly tried to assess the influence that information and communication technology caused on staffs of the bank who are operating the system on their day to day activity.

CHAPTER THREE

3. RESEARCH DESIGN AND METHODOLOGY

This chapter presents the research methods. It deals specifically on the research design, sample and sampling procedure, Source and Tools/ Instruments of Data collection; procedures of data collection, method of data analysis and at the end validity and reliability issues are explained.

3.1 Research Design

Research design is a kind of blue print that guides the researchers in his or her investigation and analysis. It is a format which the researcher employs in order to systematically apply the scientific method in the Investigation of problem (Onwumere, 2005). Methodology is the heart of scientific studies as it is the section that answers the question “How” to carry out a study. Research methodology therefore shows how the writer intends to gather data and the various procedures that would be adopted in analyzing the numerous data so obtain in the course of the study. It is also defined as the techniques and method of arriving at reliable conclusion from studies carried out.

As it was mentioned in the outset of the paper, the purpose of this study is to investigate the Influence of Information and communication technology on staff performance in Ethiopian banking sector by placing a case at Awash Bank. Accordingly, the design that the research followed is descriptive and qualitative research method, because it is concerned with describing the characteristics of a certain individual or group.

3.2 Population and sampling Techniques

The population for the study comprises permanent employees who have at least one year service experience with Awash Bank working in Addis Ababa. Currently, the Bank has total of 241 branches of which 122 branches are located in Addis Ababa while the remaining 119 branches are located in regional towns, (as of June, 2015/16). According to the 2015/16 annual report the total number of employees working in the organization are known to be 6,100 and numbers of staffs who are working permanently on the

operational area who use the information and communication technology in Addis Ababa are known to be 1355 and employees that have an experience more than a year are close to 1150. Therefore, to get a relevant primary data sample of 290 respondents are selected. According to Mordan 1997 table value to determine sample size if the total size of the population is more than 1100 then the sample size is close to 290. (See the appendix for the detail)

**FORMULAE FOR DETERMINING
NEEDED SAMPLE SIZES**

POPULATION SIZE UNKNOWN:

$$\text{SAMPLE SIZE} = \frac{\left(\frac{\text{RANGE}}{2}\right)^2}{\left(\frac{\text{ACCURACY LEVEL}}{\text{CONFIDENCE LEVEL}}\right)^2}$$

<p>Confidence Levels:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"></td> <td style="width: 50%; text-align: center;">$\alpha/2$</td> </tr> <tr> <td>.10 level = 1.28</td> <td style="text-align: center;">1.64</td> </tr> <tr> <td>.05 level = 1.64</td> <td style="text-align: center;">1.96</td> </tr> <tr> <td>.01 level = 2.33</td> <td style="text-align: center;">2.58</td> </tr> <tr> <td>.001 level = 3.09</td> <td style="text-align: center;">3.29</td> </tr> </table>		$\alpha/2$.10 level = 1.28	1.64	.05 level = 1.64	1.96	.01 level = 2.33	2.58	.001 level = 3.09	3.29	<p>Accuracy Levels:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"></td> <td style="width: 50%; text-align: center;">Desired Level of Accuracy (expressed as a proportion)</td> </tr> <tr> <td>Range X</td> <td style="text-align: center;">Desired Level of Accuracy (expressed as a proportion)</td> </tr> </table>		Desired Level of Accuracy (expressed as a proportion)	Range X	Desired Level of Accuracy (expressed as a proportion)
	$\alpha/2$														
.10 level = 1.28	1.64														
.05 level = 1.64	1.96														
.01 level = 2.33	2.58														
.001 level = 3.09	3.29														
	Desired Level of Accuracy (expressed as a proportion)														
Range X	Desired Level of Accuracy (expressed as a proportion)														

POPULATION SIZE KNOWN:

$$\text{SIZE} = \frac{X^2 NP (1-P)}{d^2 (N-1) + X^2 P (1-P)}$$

X^2 = table value of Chi-Square @ $d.f. = 1$ for desired confidence level
 .10 = 2.71 [.05 = 3.84] .01 = 6.64 .001 = 10.83
 N = population size
 P = population proportion (assumed to be .50)
 d = degree of accuracy (expressed as a proportion)

For sample selection the following proportion is applied to the permanent employees of the organization who are working on different branches within the city of Addis Ababa. The researcher has selected five branch's only considering as a representative bank branch's to draw sample employees for the study due to homogeneity of the system and

convenience reason. Hence the following five branches are selected by lottery method and capacity of employee's number working on the branch.

Table 3.1 Sample selection

Branch Name	Total No. of Employees working on the Branch	Sample Selected
Finfine Main Branch	220	84
Bole Main Branch	212	69
Central merkato Branch	181	55
Megenagna Branch	96	46
Aratkilo Branch	84	36

To gather the required data, purposive or judgmental sampling technique is relevant because it attempts to obtain a sample of convenient elements. Respondents are selected because they happen to be in the right place at the right time. Also, Taking the time limitation, scope of the study and getting the most relevant information, it was believed by the researcher as an appropriate technique to draw a representative sample from the population under the study. As the population under consideration is small and concentrated on branches which are found in Addis Ababa, it will not be difficult to manage, distribute the questionnaire and collect the responses from all populations.

3.3 Source and Tools/ Instruments of Data collection

The study mainly relay on data that is gathered from two different sources namely: Primary and secondary.

Primary Data

Primary data are those that are gathered for a specific purpose or for a specific research project. In this research to collect the data the researcher used Questionnaire adopted from Adeoti (2005) and Ahmed K. (2008) with some major modification.

Questionnaire provided an efficient way of collecting responses from a large sample prior to quantitative analysis. Questionnaire was self-administrated to the employees of the organization who are involved in using the system in their daily operation. Questionnaire consisted of scale questions to collect opinions. Five point Likert-style rating scale (1: strongly disagree, 2: disagree, 3: neutral, 4: agree, 5: strongly agree) is used to collect the relevant information.

The questionnaire basically has five parts. The first one is demographic information, and then the second part is about the extent to which Information technology influences the performance of Staff. The third and fourth part discusses the contribution of ICT in Awash Bank. The last part concentrates on the internal problems and external challenges in relation to using ICT. It is done intentionally since one characteristic of good questionnaire is to start with simple factual questions, moving on later to items of opinion or values (Armstrong, Armstrong's Handbook of Human Resource Management Practice, 2009).

From the total respondents selected in the sample size Branch Managers of the selected branches were interviewed for detailed information that could fill the information gap. The interview is composed of major elements that are stated in the literature review part.

Secondary Data

In this study, secondary data is collected from organizational annual reports, published articles from social science journals, books, thesis, websites and related studies on Information and communication technology to support the literature reivew. Acquiring secondary data are more convenient to use because they are already condensed and organized. Moreover, analysis and interpretation are done more easily.

3.4 Procedure of Data collection

After the target population and sample size is recognized, the next decision is to approach the representatives and respondents of this study. First it started with a formal letter of communication and then the data collection was conducted accordingly.

To check validity of questions involved in the questionnaire and reliability test is conducted before distributing the final questionnaire to respondents. The researcher used standardized questionnaire related to ICT. But it was difficult to get one standardized questionnaire that fit with the research questions, therefore the researcher modified the questionnaire and formulated new one for this research. To minimize error made during adjustment even though the researcher used standardized questionnaire reliability test was done properly. For the study, the major source of data is staffs (employees) of the bank which are the only primary sources. The primary data is collected through close ended and self administered questionnaires and for additional information Branch managers of the selected branches are interviewed.

A questionnaire with close-ended questions is developed (1) to improve or increase response rate, (2) to make the data analysis simple and quantifiable, (3) to directly compare and easily aggregate data and (4) to obtain relevant information, opinion and attitude from large population within short period of time.

3.5 Validity and Reliability

The validity of the instruments of data collection is tested using pilot survey before actually using it for the study. This is done to make the instruments consistent and valid and to maintain the usability of the study for the purpose intended. Questionnaire adopted from Adeoti (2005) and Ahmed K. (2008) related to Information and communication Technology (ICT) also used for validity purpose. The researcher prefer English version not only because he don't know other international language rather the major reason is to minimize the risk during translation.

Furthermore, reliability of the scales is checked with the application of the Cronbach Coefficient Alpha for the computations so as to check for the internal consistency of the scales. A Benchmark alpha of 0.70 is set as an acceptable measure of reliability (Raynaldo, 1999). The cronbach alpha coefficient indicates the consistency of responses to items. The following table shows the SPSS result on the Cronbach Alpha.

Table 3.2 Reliability coefficient for items in each variable

<i>Reliability Coefficient (Cronbach alpha)</i>	<i>No. of items</i>
0.891	21

As indicated in table 3-1, the Cronbach Alpha test implies that the instrument's internal consistency as 89.1% which is above the acceptable percentage.

3.6 Method of Data Analysis

The collected data from employees is summarized, edited, coded and data entry is done using Statistical Package for Social Science (SPSS) for easy of analysis and interpretation. The results are presented using frequency and tabulation.

After completion of inserting data in the computer, various statistical analysis tools are utilized. Demographic variables are measured using descriptive statistics method. Counting, mean, and standard deviation is applied to interpret the data. The items developed to assess the influence of ICT on staff performance were also measured using descriptive statistics and frequencies. And for the interview questions, responses are organized and presented by integrating them to the research questions as presented in the analysis part to achieve the general and specific objectives of the study.

Here mean score and frequency were calculated to determine the level of agreement of respondents to each question. With five point scales, the intervals for breaking the range in measuring each variable are calculated as follows:

Ranges= (Max-Min)/5= (5-1)/5=0.8=agreement level

The translation of level of ranking is analyzed based on the following criteria designed by (Vigderhous, 1977).

- Agreement level 1.00-1.80 means strongly disagree
- Agreement level 1.81-2.60 means disagree
- Agreement level 2.61-3.40 means neutral
- Agreement level 3.41-4.20 means agree
- Agreement level 4.21-5.00 means strongly agree

CHAPTER FOUR

4.DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presents the results of data collected as indicated by the research questions. This part is organized around the research questions in chapter one and it presents a brief analysis of the data, results of the survey instruments along with a discussion of each research question.

The objective of the study is used by the researcher as a guide in analyzing the findings obtained from the field work. With the research objectives the findings of the study is categorized as follows:-

- Demographic Characteristics
- Influence of ICT on staff Performance at Awash Bank
- Advantages or Disadvantages of using ICT at Awash Bank
- Major problems (internal problems) recognized in using ICT at Awash Bank
- Practical Challenges (external challenges) observed in using ICT at Awash Bank

4.2 Demographic Characteristics

The background of the respondents is analyzed using frequency tabulation. It mainly includes the gender composition, Age group, Educational status, Work experience and position of work. Samples of 244 respondents from five different branches who are using the implemented system have participated in the study.

Table 4.1.A. Respondents according to gender, age and education level

No.	Description	Classification	frequency	Percent (%)
1	Gender	Male	170	69.7
		Female	74	30.3
2	Age group	21-25	135	55.3
		26-35	98	40.2
		36-40	11	4.5
3	Education Level	Diploma	13	5.3
		Degree	192	78.7
		Masters	39	16

Table 4.1A shows that out of 244 respondents, majority (69.7%) of them are male and 30.3% are female. Since majority of them are male, we can say the gender balance is inclined towards male employees. Item no.2 indicates, out of 244 respondents, 55.3% were in the age between 21-25 years. 40.2% of the respondents are in between 26-35 age and the remaining 4.5% of them are between 36-40 years of age. This implies that majority of the respondents are populated by active work age group. Item no.3 indicates that out of the total respondents, majorities (78.7%) of them are degree holders and 16% of the total has acquired a master's level degree. The remaining 5.3% of the respondents are diploma graduates. This implies that the organization is composed of educated work force which could enhance the performance and productivity.

Table 4.1.B. Respondents profile according to work experience and position

No.	Description	Classification	frequency	Percent (%)
1	Work Experience	1 up to 2	84	34.4
		3 up to 5	86	35.2
		6 up to 10	51	20.9
		Above 11 years	23	9.4
2	Position of work	Team leader	10	4.1
		Supervisor	23	9.4
		Officer	151	61.9
		others	60	24.6

As indicated in item No.1 of table 35.2% of the respondents has 3 upto 5 years and 34.4% of them has 1 up to 2 years of service experience. Close to 70% of the respondents has service experience less than five years. The remaining 30% of the respondents has 6 years and above experience working in the organization. This implies that most of the respondents has less experience and doesn't have the opportunity to work before the system was implemented (on manual basis).

Item No.2 presents the Participants position of work in the organization. Majority (62%) of the respondents are officers and employees working at other operational areas who use the system are 24.6% and Team leaders and supervisors are 4.1% and 9.4% respectively. This implies that the study has concentrated on employees at an officer level who uses the system in their daily operation. This will have a positive impact on the results of the study.

4.3 Presentation of variables

The descriptive statistics of the mean scores and standard deviation of 244 attributes is discussed in the subsequent five tables in each category (variables). Influence of ICT on staff performance, Advantage and Disadvantage of using ICT, Problems and challenges are the basic variables to be discussed. Each item is analyzed by mentioned category. The interpretation was made based on the following measurement scale interval or range. Mean score 1.00-1.80 Strongly Disagree, 1.81-2.60 disagree, 2.61-3.40 neutral, 3.41-4.20 agree and 4.21-5.00 strongly agree are presented as rating criteria.

4.3.1 Influence of ICT on staff Performance at Awash Bank S.C

The following Table is presented to discuss the influence of Information and Communication Technology on staff performance by concentrating on different criteria's to evaluate. As presented by Aires (2006) there is a great influence on the performance and productivity of employees of an organization when they are involved with using Information and communication Technology. Also, According to Ezeamama (2010) Information technology is radically changing all over the world, the volume and speed of

handling transaction have improved tremendously as a result of the growth in Information technology, which has created a lot of business opportunities. Therefore, application of information and communication technology is capable of enhancing optimal performance of employees in service delivery if appropriately carried out.

Table4.2. Perception of employees on the influence of ICT on staff performance

No.	Description	<i>SD</i>	<i>D</i>	<i>N</i>	<i>A</i>	<i>SA</i>	<i>Mean</i>	<i>Standard deviation</i>
		<i>Fn</i>	<i>Fn</i>	<i>Fn</i>	<i>Fn</i>	<i>Fn</i>		
		%	%	%	%	%		
1	ICT has improved the skills of workers in the organization	37	11	28	119	48	3.535	1.286
		15.2	4.5	11.5	48.8	19.7		
2	ICT has increased staff productivity based on the automated process in the Organization	13	31	31	107	60	3.7025	1.13521
		5.3	12.7	12.7	43.9	24.6		
3	Advent of ICT has reduced the rate of repetitive work and errors within the organization	12	25	14	125	67	3.7025	1.0843
		4.9	10.2	5.7	51.2	27.5		
4	ICT have enhanced the rate of communication and interaction within the organization		5	32	148	56	4.06	0.668
			2	13.1	60.7	23		
5	ICT is a tool for staff learning and development in the organization	4	20	55	122	42	3.73	0.899
		1.6	8.2	22.5	50	17.2		
6	ICT has exposed the ignorance of many workers		20	48	129	45	3.8223	0.82834
			8.2	19.7	52.9	18.4		
7	ICT has reduced stress and work load	9	21	38	86	87	3.917	1.09609
		3.7	8.6	15.6	35.2	35.7		

As shown in table 4.2 above, the respondents overall rating regarding influence of Information and communication technology on staff performance was found to be 3.804, implies that there is high influence of ICT on staff performance. The standard deviation of responses lies between 1.13 and 0.668 which implies closer assumption of the respondents. As presented in the above table all responses that were analyzed indicated

that there value of attribute lies between 3.41 and 4.20. This response rate clearly indicates that ICT has great influence on performance of staffs in the organization.

The highest mean rating was scored in relation to communication and interaction within the organization. The value of attribute was found to be 4.06. Also from the responses collected from the interview they have recognized and appreciated the use of ICT in facilitating communication and interaction within staffs. “Technology is enabling the user to have easily access the needed information. Strong ICT has enabled the user to get timely and accurate information and deliver it to concerned person who facilitates the communication and interaction between the employees of the organization”.

With regards to reduction of stress and work load the value of mean is found to be 3.9170, implies that ICT has great impact on reduction of stress and work load for employees of the organization. “The highest influence of technology is on the workload of employees; it doesn’t mean that working level has reduced, it indicates that many activities are automatically being performed by the system. But there is less relation of using the system and reduction of stress in the work environment. The manual work which was done in the form of keeping manual registers and calculation has greatly reduced and systems keep all the transactions records and perform calculations automatically. This is resulting in reduction in paper work and moving towards paperless banking”.

In relation to skill improvement of workers, the influence of ICT is rated to be 3.5350, implies that by using the system the skill of staffs are improving from time to time. With regards to reduction in repetitive work and productivity the value of attribute is found to be 3.8642 and 3.7025 respectively. The implication is that in using the system productivity of staffs has increased and repetitive works including operational errors has reduced. The system is helping staffs a tool for learning and development in the organization. The value of mean from aggregate response is found to be 3.73, implies that learning and development is assisted by the system.

The negative aspect of the Information and communication technology is in relation to exposing ignorance of the work force from operational and other activities has been noted. The value of attribute from the responses collected is found to be 3.8223, implies that majority of the workforce is ignored as the system simplifies the operation and one person could undertake many operation at one time.

4.3.2 Contributions of using Information and communication technology at Awash Bank

Awash Bank has been using this new adopted system for different reasons and the technology has different recognized Benefits (advantage) and drawbacks. The following table presents the advantages and disadvantages of using ICT at the bank by analyzing the response gathered from the employees of the organization.

Table4.3. Views of operational and higher management officials on the advantages of using ICT

No.	Description	<i>SD</i>	<i>D</i>	<i>N</i>	<i>A</i>	<i>SA</i>	<i>Mean</i>	<i>Standard deviation</i>
		<i>Fn</i>	<i>Fn</i>	<i>Fn</i>	<i>Fn</i>	<i>Fn</i>		
		%	%	%	%	%		
1	Using ICT has improved data storage and file management		20	42	115	65	3.9298	0.878
			8.2	17.2	47.1	26.6		
2	Using ICT has improved financial management	22	12	43	103	59	3.6904	1.168
		9	4.9	17.6	42.2	24.2		
3	Online banking and other ICT products usage has improved customer service		23	59	82	80	3.8975	0.9695
			9.4	24.2	33.6	32.8		
4	Using ICT has improved the cost management of the organization	11		70	79	79	3.8996	1.015
		4.5		28.7	32.4	32.4		

The respondents overall mean rating was 3.85, implies that the advantages of using Information and communication technology are recognized by the staffs of the organization. Also, the standard deviation lies between 1.1 and 0.8 which implies closer response rate.

As per the responses gathered, using the system has improved data storage and financial management. The value of mean is found to be 3.92, implies the positive influence of Information and communication technology on data storage and financial management. Interview responses also support this benefit. “As earlier said that manual work has reduced a lot and record keeping is automatically being done on the system so users are able to extract financial and related reports from the system in few seconds which they had to prepare manually by spending several hours; so it has great impact on their performance as they are able to save much time and have option to use the relaxed time and have option to use the relaxed time for extra activities”.

Online Banking and other ICT products usage has improved customer service. The aggregate mean value is found to be 3.875, implies there is great advantage in using ICT to improve customer service. “The system has facilitated the day to day operation to be satisfactory. Customer turnaround time is reduced in using the system. The user facilitates more customers during working time. Employees are able to deliver better quality service to customer because the time which they spend on manual working and gathering information from manual register and files has reduced a lot”.

Table 4.4. Disadvantages of using ICT

No.	Description	<i>SD</i>	<i>D</i>	<i>N</i>	<i>A</i>	<i>SA</i>	<i>Mean</i>	<i>Standard deviation</i>
		<i>Fn</i>	<i>Fn</i>	<i>Fn</i>	<i>Fn</i>	<i>Fn</i>		
		%	%	%	%	%		
1	ICT has high implementation expense		27	54	152	8	3.5851	0.73174
			11.1	22.1	62.3	3.3		
2	Job elimination has increased due to ICT implementation	6	12	124	84	15	3.3734	0.7810
		2.5	4.9	50.8	34.4	6.1		
3	Security breach and money laundering are the greatest treats of ICT	14	9	4	187	28	3.8512	0.8847
		5.7	3.7	1.6	76.6	11.5		

As presented in table 4.3 above, the respondents overall mean rating was 3.603, implies that there are recognized disadvantages of using information and communication technology. High implementation expense, increased number of job elimination and

security breach & money laundering are selected to be the major disadvantage that could occur in using information and communication technology.” As globalization expands throughout the world, many countries share their cultures and values with different unusual wrong practices like money laundering and security breaches like cyber attacks. These could affect the system implemented in the bank. This technology is based on central processing; so when main server gets down, processing in all branches of the bank gets down. Similarly, because of several security checks, the dependency of one department on others has increased and this is the major disadvantage of the system”.

4.3.3 Major problems (internal problems) recognized in using ICT at Awash Bank

As presented by frenzel (1996) in discussing the importance of information and communication technology, it helps organizations to develop there operational efficiency and effectiveness. But, there are recognized problems in the modern banking industry. Based on these the following table discusses the internal problems related to information and communication technology.

Table 4.5. Perception of the management and supervisors on internal Problems of using ICT

No.	Description	<i>SD</i>	<i>D</i>	<i>N</i>	<i>A</i>	<i>SA</i>	<i>Mean</i>	<i>Standard deviation</i>
		<i>Fn</i>	<i>Fn</i>	<i>Fn</i>	<i>Fn</i>	<i>Fn</i>		
		%	%	%	%	%		
1	The Implemented ICT system of the bank has slow communication and network speed	25	35	22	78	81	3.64	1.349
		10.2	14.3	9	32	33.2		
2	There is lack of knowledge how to maintain and develop ICT system internally.	20	57	48	108	7	3.1042	1.063
		8.2	23.4	19.7	44.3	2.9		
3	In the bank there is no attempt to evolve short or medium term plans for their ICT needs		5	111	101	27	3.6148	0.7079
			2.0	45.5	41.4	11.1		

As shown in table 4.5 above, the respondents overall mean rating was 3.453, implies that problems like slow communication and network speed, lack of maintenance knowledge and no desire plan of ICT needs are recognized in using the system in the bank. “There are some issues which create problem both to the staffs as well as for the customers; out of these problems, slow transaction processing or network speed is the highest one and connectivity problem is the second one. The reason for the said problems can be lack of proper infrastructure for applied technology or over burden of server with respect to ideal capacity. Due to this, sometimes transaction processing speed gets down or results in invalid response from server. The previous mentioned situation results in poor customer service which badly affects the performance of user as well as the reputation of the organization”.

4.3.4 Practical Challenges (external challenges) observed in using ICT at Awash Bank

The following table describes the practical challenges involved with using the information and communication technology in the banking sector by concentrating at Awash Bank. These challenges are external in nature which means they are caused by external parties like the government, society, poverty e.t.c

Table 4.6. Views of management and supervisors on the external Challenges of using ICT

No.	Description	<i>SD</i>	<i>D</i>	<i>N</i>	<i>A</i>	<i>SA</i>	<i>Mean</i>	<i>Standard deviation</i>
		<i>Fn</i>	<i>Fn</i>	<i>Fn</i>	<i>Fn</i>	<i>Fn</i>		
		%	%	%	%	%		
1	The cost of internet access, software and hard ware is very expensive	19	6	62	121	34	3.5992	1.02281
		7.8	2.5	25.4	49.6	13.9		
2	In the country there is high Infrastructural problem which affects the ICT of the bank	41	10	49	96	47	3.4033	1.31501
		16.8	4.1	20.1	39.3	19.3		
3	Excessive duties are paid on imported IT Equipments	13		36	143	52	3.9057	0.91362
		5.3		14.8	58.6	21.3		

As presented in the above table, the aggregate rate of mean is found to be 3.636, implies that external challenges affects the use of information and communication technology in the bank. Costs that are incurred in using internet access, infrastructure problems and excessive duties on imported IT equipments are the major ones. “In the country there is lack of proper infrastructure facility which affects the operation that is undertaken by the bank. Power interruption is a major problem that affects the network and other services provided by telecommunication”.

CHAPTER FIVE

5. SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary of Major Findings

This research work was embarked upon in order to look into the influence of information and communication technology on banking sector. However, based on the data analysis carried out in chapter four:-

- The gender balance is inclined towards male employees; the majority of respondents are populated by active work age group. The organization is composed of educated workforce that could enhance the performance and productivity. Most of the respondents have an experience less than five years working in the organization which implies there is less number of experienced staffs. And also, majority of the respondents are working at an officer level that uses the system in their daily operation.
- The influence of information and communication technology to staff performance of Awash Bank, which has brought about increases in the skills of workers, staff productivity based on the automation process, enhances communication rates within and outside the bank, reduced rate of repetitive work and errors, serve as a tool for staff learning and development and also helps to reduce stress and workload within the bank.
- The advantages of using ICT at Awash Bank has improved data storage and financial management, online banking and other product usages has improved customer service and also improved the cost management of the organization.
- The disadvantages of using ICT at Awash Bank increased job elimination, has high implementation expense and security breach and money laundering are the greatest challenges.
- Major internal problems like slow communication net work speed, lack of maintenance knowledge and no desire plan of ICT needs are recognized in using the system in the bank.

- External challenges that affect the use of ICT in the bank are costs that are incurred in using internet access, infrastructure problems and excessive duties on imported IT equipments are the major ones.

5.2 Conclusion

Investment in technology has vital importance in every field. To compete efficiently, organization needs to adopt and implement technology at every level. Employees are the internal customers and most important resources of any organization. Organizations should make such arrangement for their employees to make them easy to perform their job. It will result in better quality service and increase in productivity. Investment of organizations in new technology has good impact on the performance of employees. It also makes the organization more competitive regarding customer services like in the case of Awash Bank that has become more customer focused and service oriented.

Investment in it also resulted in cost management of the organization as per the responses gathered and there is a great advantage of using the system. Similarly, it also makes the user more comfortable to his working environment because it reduces a lot of manual work which consumes extra energy and time. It created great comfort for user to get information and use it strategically because modern competition is based on information.

As result indicated that the biggest problems which are faced in using this ICT are slow network speed connectivity issues, infrastructural problems, high cost of internet access, excessive duties on imported IT equipments, lack of maintenance skills are some of the major issues. So it is strongly suggested that any organization who wants to implement new technology, should fulfill the prerequisites to tackle this problems. Failure to do so could result in unexpected outcomes. E.g. poor customer services which ultimately will result in losing customers. Similarly, training of users has vital importance in technology implementation because technology can be fruitful only if users are aware of how to use it efficiently. For consistency quality service, training should be given to the employees after regular intervals.

Information and communication technology has already become the nervous system of the banks all over the world. As the economy grows the country participates in world trade organization that creates a competitive environment which comes on international level. Therefore, investment on information technology is a must to defeat the competitive industry, and to have a positive impact on the economic growth. Staff performance and customer satisfaction could also be increased by adopting and implementing ICT on the banking sector.

5.3 Recommendation

Knowing that information and communication technology cannot be separated from the banking sector due to its immense contributions to the banking sector and based on the respective respondents, the research therefore makes the following recommendations with the intent that if adoption and implementation of ICT have positive effects on staff performance in the banking sector.

- The banks should improve more on its information technology so as to enhance staff productivity.
- The use of ICT in the banking sector should not only be restricted to the cities alone, rural banking should also be improved up on.
- From time to time there should be in house and external training for staff on new concept and technology development in the world of ICT.
- There should be enlightenment given to the general public through the various media on how to use some of the ICT equipments like the ATM, Mobile banking, internet banking e.t.c and its importance should also be made known to the public.
- Staff should be used side by side with ICT rather than reducing human capital which will intern increase the unemployment rate.
- Until the infrastructural and related problems of the country are solved the bank should prepare plan B (manual work + system usage) in case of system failure.

- At the time of system failure or malfunctioning developers or consultants are communicated for solutions which have a cost to be incurred. Maintainer's trainings for IT staffs shall be provided in order to minimize this cost.

Reference

- Alemayehu G (2006).” **The structure and performance of Ethiopia’s financial sector in the pre and post reform period with a special focus on Banking**”, Research paper No.2006/112, UNU World Institute for Development Economics Research, Helsinki.
- Gebeyaw Aychile (2008). **Financial performance of national Bank of Ethiopia workers saving and credit association with special emphasis to adjustments (NBE WSACA).**
 - Agboola, A.A (2001). “**Impact of Electronic Banking on Customer Service in Lagos, Nigeria**” in IFE journal of Economics and finance. Department of economics, O.A.U, IIE-IEF, Nigeria, Vol.5, Nos.1 and 2.
 - Adeoti, J.O (2005). “ **Information Technology investment in Nigerian Manufacturing Industry : The Progress so far**”, selected paper for 2004 annual conference, Ibadan: Nigerian Economic Society, 213-244
 - Ovia J. (2001). **Financial ICT: opportunities and constraints.** A paper presented at the African IT exhibitions and conference venue held at EKO le meridian hotel, Lagos.
 - Milne, A. (2006). “**What is in it for us”? Network effects and bank payment innovation, Journal of banking and finance**, 30(6): 1613-1630.
 - Banigo, J(2001). “**Information technology demystified** “. A Report from the uniform technical steering committee, open system help rated banks compete: pg 35
 - Castells,M . (2001). **The Internet Galaxy: Reflection on the Internet, Business and Society**, Oxford; New York: Oxford University Press.
 - Ezeamama, M. (2010). “ **Fundamental of financial management**” Achara layout Enugu: Ema press ltd: pg 282
 - Loonam, M. and O.Loughlin, D. (2008). An observation analysis of e-service quality in online Banking. **Journal of financial service marketing**, Vol.13, No.2, pp.164-178.

- Ayo, C.K (2010). An Emperical Investigation of the level of users acceptance of E-banking and commerce, Vol.15,No.1
- Mitra, S. and Chaya, A.K (1996). Analyzing cost effectiveness of organizations: The impact of information technology spending. **Journal of management information system** Vol.13 (2), pp 29-57.
- Eyadat.M and Kozak.S (2005). The role of ICT in the profit and cost efficiency improvements of the banking sector. **Journal of academy of business and economics**. February 2005.
- Schware, R. (2005). **Economic development from excitement to effectiveness**. Washington DC: The international banks for reconstruction and development :World Bank.
- Gilhooly, D. (2005). Creating **an enabling environment towards the millennium development goals, process of the Berlin global forum of the United Nations ICT task force**. New York: united Nations task force.
- Ahmed ,K. (2008). “Bankers perception of electronic banking in Pakistan”. **Journal of internet banking and commerce**, April 2008, Vol.13.no.1
- Frenzel, C.W. (1996). “**Management of Information technology**”. Boyd and fraser publishing company, Massachusetts, USA.
- Holloway, K.K (1995). **Using computers to branch out, bank marketing**, March 1995. Pg 57-62.
- Davis F.D. (1998). **Perceived usefulness, perceived ease of use and user acceptance of information technology**, MIS Quarterly, Vol.13, No.3, PP.318-339.
- Tufano, P.(1989). Financial Innovation and first mover Advantages. **Journal of financial economics**, Vol.25. Pg.213-240.
- Karijaluoto,H., Mattila, M. and Pento.T (2007). Electronic Banking in Finland; Consumer beliefs and reaction to a new delivery channel, **Journal of financial service marketing**, Vol.6, No.4 Pg. 346-361.

- Egwali, A.O. (2008). Customer perception of security indicators in online banking sites in Nigeria, **Journal of internet Banking and commerce**, Vol.13, No. 3.
- Freedman, C. (2000). Monetary policy Implementation: Past, present and future **“Will electronic money lead to the eventual demise of central banking?”** International Finance, Vol.3, No.2, Pg.211-227.
- Applegate, L., Cash, J. and mills,D.Q. (2010). Information Technology and Tomorrows managers. **Journal of internet banking and commerce**, July 2010, Vol.3.no.4.
- Banker,R.D. and Kauffman, R.J. (2009). **“Strategic contributions of information technology: An Empirical study of ATM networks”**. Proceedings of the ninth international conference on information systems. Minneapolis, Minnesota.
- Brand, H. and Duke, J. (2011), **Productivity in commercial Banking**: Computer spur the Advance, Monthly Labor review, Vol.105, pg. 19-27.
- Ayres, R.U. (2006), **“Information, Computer, CIM and productivity”**. Organization for economic Co-operation and Development Paper. June (2006).

Appendix 1
Questionnaire
St. Mary University
Graduate program in project management
A questioner designed to support a study on Assessment of Information and communication technology (ICT) Influence on Ethiopian banking sector- The case of Awash Bank

Dear sir/madam:

I am a project Management student at St. Mary University conducting a research study on the Influence of Information and communication technology on staff performance in the Ethiopian banking sector by placing a case at Awash Bank in partial fulfillment of Award of Master of MBA in Project Management.

You have been carefully chosen as one with capacity to help in gathering this information that will contribute to the expected results of this research. All the information provided will be treated with utmost confidentiality it deserves and it will strictly be used for academic research.

In this regard, your honest, accurate and clear response to the questions as well as your prompt respond will be highly appreciated. So you are kindly requested to give your genuine answer. Inclosing of your Name is not necessary. In the mean time I would like to express my gratitude and great appreciation for devoting your precious time.

***Instruction:** you are kindly requested to make a tick mark in the box (s) provided.*

Section A. Demographic Information

1. Gender

Male Female

2. Age

A.21-25 B.26-35
 C.36-40 D.41 and above

3. Educational Status

A. Below Diploma C.BA/BSC
 B. Diploma D. Masters

4. Work Experience

A. 1-2 Years C. 6-10 Years
 B. 3-5 Years D. above 11Years

6. The position you are holding in the Organization

A. Manager C. Officer
 B. Supervisor D. Others

Section B: The Extent to which Information technology influences the performance of Staff in AIB.

<i>No</i>	<i>Statements</i>	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
1	ICT has improved the skills of workers in the organization					
2	ICT has increased staff productivity based on the automated process in the Organization					
3	Advent of ICT has reduced the rate of repetitive work and errors within the organization					
4	ICT have enhanced the rate of communication and interaction within the organization					
5	ICT is a tool for staff learning and development in the organization					
6	ICT has exposed the ignorance of many workers					
7	ICT has reduced stress and work load					

Section C: the Advantage of using ICT in Awash International Bank S.C

<i>No</i>	<i>Statements</i>	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
8	Using ICT has improved data storage and file management					
9	Using ICT has improved financial management					
10	Online banking and other ICT products usage has improved customer service					
11	Using ICT has improved the cost management of the organization					

Section D: the Disadvantage of using ICT in Awash International Bank S.C

<i>No</i>	<i>Statements</i>	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
12	ICT has high implementation expense					
13	Job elimination has increased due to ICT implementation					
14	Security breach and money laundering are the greatest treats of ICT					

Section E: Major problems recognized in using ICT at Awash international Bank S.C

<i>No</i>	<i>Statements</i>	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
15	The Implemented ICT system of the bank has slow communication and network speed					
16	There is lack of knowledge how to maintain and develop ICT system internally.					
17	In the bank there is no attempt to evolve short or medium term plans for their ICT needs					

Section F: Practical Challenges experienced in using ICT at Awash international Bank S.C

<i>No</i>	<i>Statements</i>	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
18	The cost of internet access, software and hard ware is very expensive					
19	In the country there is high Infrastructural problem which affects the ICT of the bank					
20	Excessive duties are paid on imported IT Equipments					

Appendix 2
St. Mary University

Graduate program in Project Management

Interview Questions:

1. What is your role in your organization and your involvement in using Information and communication Technology?
2. What kind of Information and communication technology is used in your organization? Was it developed or adopted from other countries?
3. What kind of Influence does information and communication technology has on the overall staff performance? Discuss?
4. Can you identify and discuss the advantages and disadvantages of using the system?
5. Are there any major internal problems in using the technology?
6. What are the practical external challenges you are facing in using the system?
7. Please provide any additional information that you think would be helpful in general?

Appendix3

FORMULAE FOR DETERMINING NEEDED SAMPLE SIZES

POPULATION SIZE UNKNOWN:

$$\text{SAMPLE SIZE} = \frac{\left(\frac{\text{RANGE}}{2} \right)^2}{\left(\frac{\text{ACCURACY LEVEL}}{\text{CONFIDENCE LEVEL}} \right)^2}$$

Confidence Levels:

	α	$\alpha/2$
.10 level =	1.28	1.64
.05 level =	1.64	1.96
.01 level =	2.33	2.58
.001 level =	3.09	3.29

Accuracy Levels:

Range X Desired Level
of Accuracy
(expressed as a
proportion)

POPULATION SIZE KNOWN:

$$\text{SIZE} = \frac{X^2 NP (1-P)}{d^2 (N-1) + X^2 P (1-P)}$$

X^2 = table value of Chi-Square @ $d.f. = 1$ for desired confidence level
 .10 = 2.71 .05 = 3.84 .01 = 6.64 .001 = 10.83

N = population size

P = population proportion (assumed to be .50)

d = degree of accuracy (expressed as a proportion)

TABLE 1
Table for Determining Sample Size from a Given Population

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Note.—*N* is population size.
S is sample size.