ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

MASTERS OF BUSINESS ADMINISTRATION IN PROJECT MANAGEMENT

ASSESSMENT OF SUCCESS FACTORS IN CORE BANKING SOFTWARE PROJECT IMPLEMENTATION AT COMMERCIAL BANK OF ETHIOPIA

BY

WESENYELESH TEZERA BEYENE

JANUARY, 2017

ADDIS ABABA, ETHIOPIA

ASSESSMENT OF SUCCESS FACTORS IN CORE BANKING SOFTWARE PROJECT IMPLEMENTATION AT COMMERCIAL BANK OF ETHIOPIA

BY

WESENYELESH TEZERA BEYENE

ID NUMBER: - SGS/0689/2007A

A THESIS SUBMITTED TO ST. MARY'S UNIVERSITY, SCHOOL OF GRADUATE STUDIESIN PARTIAL FULFILMENT OF THE REQUIRMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION IN PROJECT MANAGEMENT

JANUARY, 2017

ADDIS ABABA, ETHIOPIA

ST. MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDIES
FACULTY OF BUSINESS

ASSESSMENT OF SUCCESS FACTORS IN CORE BANKING SOFTWARE PROJECT IMPLEMENTATION AT COMMERCIAL BANK OF ETHIOPIA

BY

WESENYELESH TEZERA BEYENE

ID NUMBER: - SGS/0689/2007A

APPROVED BY BOARD OF EXAMINERS

----------	----------
Dean, Graduate Studies	**Signature**
----------	----------
Advisor	**Signature**
----------	----------
External Examiner	**Signature**
----------	----------
Internal Examiner	**Signature**

DECLARATION

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of Dr. TemesgenBelayneh. All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

Wesenyelesh Tezera _____

Name Signature

St. Mary's University, Addis Ababa JANUARY, 2017

ENDORSEMENT

This thesis has been submitted to St. Mary's University, School of Graduate Studies for examination with my approval as a university advisor.

TemesgenBelayneh (Ph.D.) ----------

Advisor **Signature**

St. Mary's University **JANUARY 2017**

Addis Ababa

Dedicated to my family

ACKNOWLEDGEMENTS

This research paper is made possible through the help and support from everyone including my husband friends teachers and in essence, all sentient beings especially please allow me to dedicate my acknowledgments of gratitude toward the following contributors.

First of all I would like to give my glory and praise to the Almighty God for his invaluable care, support and all the things throughout my life.

Next I would like to express my thanks and appreciation to my Advisor Dr. TemesgenBelayneh, for his guidance, continual advice, patience, vast knowledge, and critical review of the thesis. It has helped me to improve the quality of the thesis.

In addition, I would like to thank all my friends for their continuous encouragement and support, especially MrsAnaneMiressa and Mr. TemesgenZelalamwhose support, interest, and encouragement during my studies.

I also express my gratitude to the entire project team (respondents) of CBS implementation project and the branch managers Addis Ababa City branches at Commercial bank Especially Team Leaders of CBS project implementation AtoYitbarekTesfaye, Abrham ,Andinet and KidusLelisa for taking time and providing valuable empirical foundation enabling this study.

Finally I would like to express gratitude to my husband ZebeneWodajo, and my kids, Yedideya, Halleluya, Wongel and Elilta, for their sacrifices, patience and understanding shown. Without their unstinted support, completion of the Master's Degree would have been an impossible undertaking. I will always love and thank you.

God bless you all.

ACRONYMS

CBS	Core Banking System
CORE	Centralized Online Real entire banks' branch
PMO	Project Management Office
CBE	Commercial Bank of Ethiopia
NBE	National Bank of Ethiopia
ATM	Automated Teller Machine
CSF	Critical Success Factor
ROI	Return on Investment
SPSS	Statistical Package for Social Sciences
IT	Information technology
STP	Straight-Through-Processing
SMS	Short Text Message
CBSO	Core Banking Solution
BPR	Business Process Reengineering
BOD	Board of Directors

List of Tables and Figures

Tables

Figures

Abstract

Banks play an important role in economic development of a country, where commercial banks play pivotal role within the banking industry. Due to economic reasons, market pressures and regulatory requirements, banks require to change their Core Banking Solution from time to time. The purpose of this study was to determine critical success factor in Core banking Solution project implementation and success measurement criteria in Core Banking Solution implementation project of Commercial Bank of Ethiopia. The study employed descriptive analysis. The survey questionnaire was designed based on the literature and on the information collected through the interviews conducted to the team leaders of both technical and business team. The survey questionnaire was distributed to 227 persons among them 97 was all Commercial Bank of Ethiopia Core Banking System implementation project team members and the rest 130 branch managers of Addis Ababa City branch of Commercial bank of Ethiopia were identified as sample population . Out of the 227 respondents only 179 responded, which represented a response rate of 78.85% .The data gathered through the questionnaire was analyzed by Statistical Package for Social Science (SPSS).The analysis showed that nine critical success factors were identified related to core banking solution implementation project of Commercial Bank of Ethiopia. The key perceptions and aspect of attributes namely; professional project manager, monitoring the progress, dedicated project team dedicated resource, transparency, end users training, top management support, vendor support and commitment identified as Critical Success Factors related to CBS implementation process. . Besides, the identified project success measurement criteria were Improved Efficiency" "End User Satisfaction" and "Reduced Complexity of Operation" are identified as success measurement criteria unlikely this results deviate from generally accepted measurements of success of a project, which are achieving project goals, within agreed time and budget Finally, recommendations were forwarded based on the major findings so as to implement successful Core Banking Solution project.

Keywords: *Core Banking Solutions, Critical Success factors, success measurement criteria Core banking solution implementation.*

CHAPTER ONE

INTRODUCTION

1.1Background of the study

In modern banking service delivery, the environment is ever-changing demanding a lot to satisfy customer expectations through quality service delivery. Beyond this, the government policy, the need of customers and technological advancements have brought about various changes on the in which various products and services are delivered to the customers in banks. Technology is expanding rapidly these days and the most popular services of banks are also given through the use of information technology like internet banking, mobile banking etc. Electronic Banking, an upcoming trend in today's commercial world is widely demanded by citizens and companies. To meet such demands the banks need to continue in widening their services (Awash newsletter, 2014).

The nerve center of technology in a bank's information technology department is core banking system (Otieno,2013). As a result, recently the banking sector has faced stringent competition in implementing core banking system, the technology has dramatically been changing in the faster rate, and the faster is one expected to gain the advantage in the market.

Technology has made tremendous impact in banking. 'Anywhere banking' and 'anytime banking' have become the order of the day. As a result, all commercial banks had engaged and/or to be engaged with implementations of the core banking software projects so as to get the better position both national and international markets (IBM, 2011).

Core Banking Solution (CBS) is networking of branches, which enables Customers to operate their accounts, and avail banking services from any branch of the Bank on CBS network, regardless of where he maintains his account. The customer is no more the customer of a Branch. He becomes the Bank's Customer (Geetha&Ramanarayanan, 2015) though core banking has given unlimited advantages to the banks, many core

banking projects fail due to numerous reasons. Core Banking Software (CBS) implementation projects thus need joint effort of the bank and an implementation partner. The first and most important goal is to deliver the project on time and budget (Haller and Heuberger, 2009).

As noted by Satyanaryanrna and Kavitha(2011) the world is moving very fast and so are the individual and consumer in the banking industry. Therefore, the focus of banks has to shift to the fast moving consumer, who is exposed to better technology and better option in the competitive environment. The gap between different countries will be diminishing from time to time as a result of faster communication, transportation and rapid technological changes.

Accordingly banks in Ethiopia have to quickly shift the old branch based technology to a new core banking solution technology I-Flex(2012). The core banking solution can enable the banks to process their activities quickly, shorter and speedy as per the customer expectation (IBM, 2011). However, due to the lack of proper understanding of factors which affect the implementation of core banking software, many projects have failed or implemented beyond originally scheduled time with high amount of cost. Therefore, understanding of the project behavior in terms of risk, project manager capability and bank's objectives can help the bank's decision maker so as to know whether the project goes wrong or not (Kerzer,1987).

1.2 Background of the Case Study Area

The Commercial Bank of Ethiopia (CBE) is the largest commercial bank in Ethiopia . The bank has reached 1140 branches as of March 31, 2016and it's over 900 branches positioned in the main cities and regional towns. There are 193 branches in the national capital Addis Ababa. CBE's banking network has reached online 783 branches.

The bank also operates two branches in South Sudan, and is contemplating opening re-opening a branch in Djibouti, and opening branches in Dubai and Washington, DC, all to serve the Ethiopian Diaspora further the bank has strong correspondent relationship with

more than 50 renowned foreign banks like Commerz Bank A.G., Royal Bank of Canada, City Bank, HSBC Bank, and other.

The bank has around 28,000 employees; Commercial Bank of Ethiopian is pioneer to introduce modern banking to the country. CBE is the first bank in Ethiopia to introduce ATM service for local users. More than 88 percent of the Bank's branches went on line through T-24 (Core Banking Solutions, 2015).

1.3 Statement of the Problem

The existence of both government and private commercial banks in Ethiopia has created new trends in the banking industry Biritu (2010). Retaining the existing and expanding the same is the order of the day since competition among banks has become very stiff. Therefore, the leading commercial banks in Ethiopia have quickly shifted from traditional to high-technology core banking solution in order to get benefits by providing a variety of products.

As per NBE report (2010), all banks in Ethiopia are expected to be implement core banking projects. According to Capgemini(2012) which is software Provider Company, the process of replacement of the existing system with high-tech core solution has faced various challenges/risks which if not managed properly may present negative out come on the project success. Core banking software change project in a bank is a project which is very costly and risky so that its success depend on top management priority (Otieno, 2013).

According to Otieno (2013) the core banking software implementation project which is very sensitive, complex and vulnerable to fraud, risk, duration, project manager capability and vendor behavior requires high attention of top management. Therefore, before banks have to purchase the software, they must properly be analyzed the probable risk, project manager capability and the project success factor first. As have been argued by Kudav and Bhasin(as cited in Cognizant-software provider,2013) about 25% of core banking system transformations failed without any results due to the lack of proper risk management and modern project management capabilities while 50% do not achieve the

transformation objectives-cost and implementation time which may double or triple. Only 25% are successfully implemented.

According to i-flex solution (2008) which is a leading software provider in Singapore, the primary and significant core banking project strives for meeting or exceeding customer expectations and delighting them. Successful project implementation will require collective wisdom, mutual understanding, organized pre-established risk assessment mechanisms, capable project manager, top management support and periodic evaluation of cost, time and risk. On the other hand, as stated in ESP solutions report (2010), 70% of similar projects fail due to the lack of right vendor, risk management and poor project management

There are a few studies made on CBS implementation project critical success factors in general , These few studies also focused on success factors in the area of project management related, some of them are:Schultz, et al (1987) identified the most important influential factors in banks implementation projects in Ethiopia. Bhatti T.R. (2005) critical success factors in implementing ERP (Enterprise Resource Planning).

Based on the above reviewed literature, most Core Banking Software implementation projects failed due to fact, there are no proper best practices for implementing CBS. Therefore, the study tried to assess determinants of critical success factors in Core Banking Software implementation of Commercial Bank of Ethiopia by addressing the following research questions:

1.4Basic Research Questions

1. What are critical success factors in Core Banking software project implementation of Commercial bank of Ethiopia?
2. What are CBS implementation project success measurement criteria of Commercial Bank of Ethiopia?

1.5 Objectives of the Study

1.5.1 General Objective of the Study:

The general objective of the study is to assess the major success factors in Core Banking software project implementation, by focusing on Commercial Bank of Ethiopia.

1.5.2 Specific Objectives of the Study:

This study aims to:

- ✓ Identify factors affecting success of Core Banking software implementation of Commercial Bank of Ethiopia.
- ✓ To assess CBS implementation project success measurement criteria of Commercial Bank of Ethiopia.

1.6. Significance of the Study

The study will help other private commercial banks in Ethiopia to understand factors that aggravated project cost, delay and stakeholders dissatisfaction. Moreover, the research is not only used for other bank's IT project implementation, but it may also be used as springboard for others to make further study on this area and other bank's project implementation. And importantly, this research will educate project managers on project specifically core banking systems or IT projects.

1.7 Scope (Delimitation) of the Study

The study will focused on all Head office organs Project Management Office (PMO) of Commercial Bank of Ethiopia, who were directly involved in core banking software projects from inception to execution and Addis Ababa city branch managers of the Bank. Hence, the data collected from Head office staffs at PMO and Addis Ababa city selected branches of Commercial Bank of Ethiopia based on the sampling methodology applied.

1.8 Limitation of the study

Limitation is an integral part of a study; hence it may affect the research design and the outcome. Research on CBS implementation project of the commercial bank of Ethiopia would have been the ideal scenario for this study. However, it is practically difficult to get all the members of CBS implementation project at PMO because majority of the project team members assigned to their original place within the branch network of the bank after completion of the project. There was alsoa limitation in obtaining some information critical for the research, which may be considered as sensitive or confidential by the banks. Besides, the objective of the study requiresusing casual research design but, study adopted descriptive design. The other limitation observed during data collection was lack of interest in filling the questionnaire by the respondents.

1.9 Organization of the Thesis Report

The paper is organized in to five chapters. The first chapter is an introduction of the study which introduces the overall study. This part consists of background of the study, background of the case study area, statement of the problem, objectives of the study basic research question, limitation of the sturdy significance and scope of the study.

The second chapter focuses on review of related literature in which earlier studies on the area are highlighted and presented. Theoretical Review of the Literature and empirical evidences of factors affecting core banking system implementation are discussed in detail.

The third chapter emphasizes on the design of the research and the methodologies used. In this chapter sampling techniques, source and tools/ instrument of data collection, procedure of data collection, validity and reliability of data collection instrument, methods of data analysis and ethical research consideration are presented.

The fourth chapter is devoted to data presentation, analysis and interpretation in which the collected primary and secondary data are analyzed and organized in a manner that meets the objectives of the study.

The last chapter deals with summary of the research findings, the conclusion as well as recommendations of the research based on the findings.

CHAPTER TWO

Reviews of Related Literature

2.1 Introduction

In this section of the study, theoretical background and empirical review of literatures of different scholars have been reviewed in order to seek what scholars and other authors have written in the area of project management specifically in connection with banks IT projects. Further, this section deals core banking solution implementation, types, benefits and challenges of Core Banking Solution Implementation.

2.2 Theoretical Review of the Literature

2.2.1. What is project success?

A variety of authors have defined success for IT projects using different ways. According to Hastie, 2006 project success is defined as a measure of the effectiveness of the organizations processes for implementing new Information System projects, up to the point of deployment of the new system to the end user community. This incorporates all the project related activities to ensure: project delivery on time, on budget, of required features and functions and to the requisite quality standards.

A standard must be established by which to define and measure project success. Fundamentally, project success is the delivery of the required product, service, or result on time and within budget. To meet these objectives is to deliver a quality project. PMI illustrates project quality through the concept of the triple constraint—project scope, time and cost. Project quality is affected by balancing these three interrelated factors. "The relationship among these factors is such that if any one of the three factors changes, at least one other factor is likely to be affected" (PMBOK, 2004 page no.37).

Figure 2.1 illustrates this constrained relationship, sometimes called the “iron triangle.”

Source: PMBOK, 2004 page37

2.2.2. Concepts of Project and Project Management

Project can be defined in a various ways as there are different types of project such as IT projects, Construction projects, community development projects etc. According to PMBOK (2013) ‘A project is a temporary endeavor undertaken to create a unique product, service, or result’

Wysocki (2009) define a project as ‘ a sequence of unique, complex, and connected activities that have one goal or purpose and that must be completed by a specific time, within budget, and according to specification’. This definition tells quite a bit about a project.

Project management is defined by different scholars differently. However, the current study uses PMBOK concept of project management, ‘project management is the application of knowledge, skills, tools and techniques to project activities’ (PMBOK2013: page no.5). Project management is accomplished through the application and integration of the project management processes of initiating, planning, executing, monitoring and controlling, and closing**’**Thus, project manager is the person responsible for leading a project from its inception to execution**.**

2.2.3 The Importance of ICT in Banks

Technology has opened up new markets, new products, new services and efficient delivery channels for the banking industry over the last 10 years. The Automated Teller Machines, ecommerce and m-Commerce have been introduced as new channels to Ethiopian customers apart from traditional branch banking. Banks use technology to maintain transaction processing and provide better service to their clients through electronic delivery channels while being competitive within the industry. Information Technology has also facilitated the banking industry to deal with challenges from economic changes leading to higher demand of banking services. Information technology has been the cornerstone of recent financial sector reforms aimed at increasing the speed and reliability of financial operations and of initiatives to strengthen the banking sector (Dortson, 2008).

Further, the information technology enabled the banks to meet expectations of demanding customers. As a result, the banks have increasingly become more tech-savvy. Customers demand instant, anytime and anywhere banking facilities from the banking industry. Traditionally, IT industry has been providing solutions to banks to take care of their accounting and back-office requirements. However, this has now given way to large scale usage in services aimed at the customers of the banks. Further, IT deployment has assumed high levels that it is no longer possible for banks to manage their IT implementations on a standalone basis (Vendor Reports 2012). With the revolution and evolution of IT, banks are increasingly interconnecting their computer systems not only across branches in a city but also to other geographic locations with high speed network infrastructure, and setting up local area and wide area networks and connecting them to the Internet (BOC Annual Report, 2009). As a result, information systems and networks are now exposed to growth to meet the requirements.

2.2.4 Core Banking system

Core Banking Solution (CBS) is networking of branches, which enables Customers to operate their accounts, and avail banking services from any branch of the Bank on CBS network, regardless of where he maintains his account (Geetha&Ramanarayanan, 2015).

The core banking services rely heavily on computer and network technology to allow a bank to centralize its record keeping and access from any location. It has been the development of banking software that has allowed core banking solutions to be developed.

Core banking systems are basically the heart of all systems running in a bank and it forms the Core of the bank's IT platform (Infosys, 2009b). Amongst other functionalities, it provides the customer information management, central accounting and the transaction-processing functions, which by far are the most fundamental processes in a bank (Satchidananda, 2006).These systems not only drive the banks' day-to-day operations but also serve as the core IT platform for new capabilities and growth (Quarterly, 2011). A flexible core banking system that allows the bank to rapidly launch new products and services can give the bank as significant advantage over its competitors (Massed, 2011). Gartner (2003) defines a core banking system as a back-end system that processes daily banking transactions, and posts updates to accounts and other financial records.

2.2.4 Legacy Core Banking Solutions

To keep pace with rapidly evolving business and operational requirements along with changing customer demands, banks need to constantly upgrade their banking practices and processes. This is only possible if banks regularly enhance their core systems and associated applications. Since most core banking applications at large financial institutions were developed almost two decades ago and have been enhanced from time to time to meet business needs, not only have individual applications become complex, but an intricate maze of applications has been created as well (Infosys, 2009b). In

addition, there are very few tools available for the outdated platforms on which the core banking applications were initially developed. These complexities make the task of enhancing core systems extremely difficult, time consuming and costly. Not surprisingly, a growing number of banks are considering replacing existing core systems with next-generation vendor solutions. However, replacing this complex web of applications with new core banking solution is not a straightforward task of merely switching off an old system and turning on the new one. Apart from the fundamental need to meet functional requirements, the data from old systems needs to be cleansed, transformed and then migrated to the new system. Processes driven by older applications too need to be changed and users need to be re-trained on the new application and processes (Finacle 2005).

2.2.6 Types of Core Banking Services

1. Electronic money

Electronic money involves the use of internet or other networks to store or transmit money. This type of money can be stored on smart cards or computers hardware. Electronic money falls into different types as follows: electronic card, electronic wallet, electronic check, digital money, and virtual card (Maleki&Akbari, 2010).

2. Automated Teller Machines (ATMs)

It is an electronic terminal which gives consumers the opportunity to get banking service at almost any time. An ATM combines a computer terminal, record keeping system, and cash vault in one unit, permitting customers to enter a financial firm`s bookkeeping system with either a plastic card containing a personal identification number (PIN) or by punching a special code number into a computer terminal linked to the financial firm`s computerized records 24 hours a day. Once access is gained into the system, cash withdrawals may be made up to pre specified limits, and deposits, balance enquiries, and bill paying may take place, (Alagheband, 2006).

3. Point-of-Sale Transfer Terminals (POS)

Computer facilities in stores that permit a customer to instantly pay for goods and services electronically by deducting the cost of each purchase directly from his or her account are known as Point-of-Sale (POS) Terminals. The customer presents an encoded debit card to the store clerk who inserts it into a computer terminal connected to the financial firm`s computer system. The customer`s account is charged for the purchase and funds are automatically transferred to the store`s deposit account (Alagheband, 2006).

4. Internet Banking

It is an electronic home banking system using web technology in which Bank customers are able to conduct their business transactions with the bank through personal computers. Use of internet to carryout financial transactions is certainly one of the most promising avenues today for linking customers with financial service providers.

5. Automated Limited – service facilities

Even though full service branches still represent a very important channel through which financial firms communicate with their customers, electronic facilities and systems represent the most rapidly growing firm-customer link today. In truth, the most effective service delivery systems in use today appear to be multichannel-combining full service branches and electronic, limited service facilities within the same financial firm (Alagheband, 2006).

6. Mobile Banking and call centers

Mobile banking is a service that enables customers to conduct some banking services such as account inquiry and funds transfer, by using of short text message (SMS). As more cell phones appear and are linked technologically with the internet and with credit and debit card accounts, the cell phone literally becomes a “Portable Bank” (Alagheband, 2006).

Furthermore, by combining cell networks with the power of the internet to convey vast amounts of information at high speed, the cell phone and text messaging technology seem to offer the potential to promote worldwide use of debit and credit card accounts and make purchases and payments from anywhere on the globe (Alagheband, 2006).

Call centers focus is to assist their customers in obtaining account information and carrying out transactions, avoiding walking or driving to a branch office or ATM. Increasingly, call centers are being used not only to answer customer`s questions, but also to cross sell services and build customer relationships (Ibid, 2006).

2.2.7 Benefits of Core Banking System Implementation

The major factor that determines project success and failure is return on investment (ROI) which can be generated from the implemented system. Satchidananda (2006) assesses the benefit from implementation of core banking solutions, which could be divided into two broad areas such as economic benefit sand performance benefits.

Economic Benefits

The cost savings from core banking projects are visible over a period of many years from implementation. The high investment cost and time to market new product and services are the factors to consider. The ROI compounds, as new lines of business and geographic areas move on to the new platform. The return of investment is slow in the first few years till such time the real benefits of the system commence accruing to the bank. The research reports indicated that large core banking replacement projects enter a positive Net Present Value(NPV) as late as the 5^{th}thyear (Satchidananda, 2006). The expected lower transaction processing costs within the branch and through other delivery channels could increase returns. The reduction in license fees related to other software with the implementation of a new CBS, which reduce the complexity would constitute as savings for the bank almost immediately. The reduced maintenance costs and flexibility in customizations make it easy for the bank to build the systems to suite their specific requirements in a lesser time.

Efficient usage of hardware resources by the new CBS significantly reduces the investment in hardware as well as its maintenance cost.

Performance Benefits

The banks also implement CBS to meet its business objectives. The inflexibility more often tends to create an impediment in building new functionality, eliciting data for newer regulations like the BASEL II, accessing better information on customer so as to enable risk management, cross selling, addition of newer business lines, offering new products in the existing business lines and so on. New generation core systems provide flexibility in terms of being modular in nature and supporting an integration layer, which can be used very effectively to connect on to third party applications (Vendor Report 2012). The customer is a key factor for banks; new solutions tend to give a complete 360 degree view of the customer transactions. Satchidananda (2006) explore the objective of new core banking solution to obtain complete perspective of the customer relationship with the bank. This would enable banks many cross selling opportunities. Some of the core systems use data mining tools to harvest useful information from customer transactions and try to get a meaningful message out of that. The most transactions done in the newer core banking solutions are on-line real time not only within the package itself, but across all delivery channels. (Infosys et al 2009/10).The automation of processing the transactions through Straight-Through-Processing (STP) has been used so often with new implementations, which enable banks to bringing in the operational efficiencies and reduces the risks. The research reports indicated that the percentage of global trade failures and crystallized transactions resulting from unmatched trade data is of the order of around 15% of the total trades (Satchidananda, 2006). The STP technology framework seeks to provide these efficiencies by providing a seamless data flow both within the enterprise as well as across the market, without any manual intervention.

2.2.8 Core Banking Solution implementation project Success

Any typical project related to acquiring a software system involves two phases namely; software selection and implementation of the selected software. Selection of appropriate software matching the organizational goals and aspirations are an important aspect of the selection process, as failure in this phase alone could affect the success of the project. Evaluating the software to suit the organizational requirement is another key aspect in the selection phase. The implementation strategy is largely dependent on the Software selected and the capabilities of the vendor. A research on critical success factors in implementing Core Banking Systems Hettiarachchi (2009) identified the following CSF's related to CBS implementation process: Setting Direction, Project Sponsorship, Transparency, Prioritizing Deliveries, Creative Problem Solving, Competence Project Team, Professional Project Manager, Dedicated Resources, Vendor Commitment, and Knowledge Transfer.

Some of the CSF mentioned in literature by Somers and Nelson (2001) include: Top Management Support, Project Team Competence, Interdepartmental Co-operation, Clear Goals and Objectives, Project Management, Inter-departmental Communication, Management of Expectations, Project Champion, Vendor Support, Careful Package Selection, Data Analysis and Conversion, Dedicated Resources, Steering Committee, User Training, Education on New Bus. Processes, Business Process Re-engineering, Minimal Customization, Architecture Choices, Change Management, Vendor Partnership, Vendor Tools, Use of Consultants.

2.2.9 Challenges of CBS implementation

It is obvious that there are challenges in any type of project implementation. Banks need to focus on key factors, which make the core banking transformation a successful experience. Broadly speaking, the key challenges in core banking transformation are: Vendor capabilities and credentials, dependence on legacy/vendor applications and impact on envisioned technology architecture, as well as Bank’s business goals and alignment to leverage the new technology (Finacle 2010).

2.3. Empirical Review of the literature

2.3.1Factors affecting the project success

The success of a project and the factors that affect this success are considered in various ways by different scholars. According to Mohamed (1999), good schedules and correctly utilized budget will not matter if the final expectations and goals are not met. Kerzer(1987) the success of project can be measured by managing excellence consistently. The project success factors in the area of project management clearly identified by Schultz, et al (1987).

The authors classified the factors as strategic and tactical. The strategic group consists of project mission, top management support and project scheduling and the tactical are client consulting, human resource selection and personnel training. Pinto and Slevin (as cited in Chege, 2012) had made an important research on the project success factors. These authors mention most important success factors like top management support, client consultation, personnel recruitment, technical tasks, client acceptance, monitoring and feedback, communication, trouble shouting, character of the project team leader, power and politics, environment events and urgency. On the other hand, according to Munns and Bjeirmi(1996) the project success or failure can be measured by inadequate basis for the project, wrong person as a project manager, top management unsupportive, inadequately defined tasks, lack of project management techniques, management techniques misused, project closedown not planned, lack of commitment to project. More importantly, Hastie (2006) sates that in order to be successful project there should be risk management from inception to execution of the project.

The study is focused on four factors identified by Schultz et al(1987)which were assumed to be most important influential factors in banks in Ethiopia; project manager competency, top management support, risk management and organizational objectives.

i. Project Manager Competency as a project success factor

Some authors' focuses on the success of project can be achieved by recruiting competent project manager. Project manager who have skill and experience will increase productivity yield greater than on investment, increases profit and improve customer satisfaction (Munns and Bjeirmi, 1996).

The project manager is the central figure in accomplishing project success and the most important factor in successful project management (Lei and Skitmae, 2004).According to Nicholas (as cited in Lei and Skitmae, 2004) with the role of project manager being so central that 'without it there would not even be project management-the project manager being the glue holding the project together and the mover and shaker spurring it on'. This involves project managers possessing a wide variety of skills (Kezsbom, 1989, P.183) related to the standard objectives of project completion with in a set specification under time, cost and quality constraints.According to Turner and Muller (2005), project success can depend on the leader ship style, personality and competency of the project manager.

ii. Top management support as a project success factor

The outcomes of the project management are many. The most important one is top management support. According to IBM (2000) most failed projects are the result of lack of top management support. The importance of top management support has long been recognized in the Information system literature (Gattity, 1963). Nonetheless, practioners and researchers alike, have focused their attention on factors they can more directly control (Schmidt, 2001). The importance of top management support are not well developed (Tzu, 1987). Some impose very demanding requirements for top management resources simply to improve technical quality or user satisfaction (Brandon, 1970), goals of little direct interest to top managers. Other good communication, interest, involvement and participation appear to be little impact on projects (Mahnig, 2002). Top management support is generally promoted as being inherently good but there is clear evidence that too much top management support can be dysfunctional and lead to failure (Collins and Bicknell, 1997). As a result, the advice for top managers lacks credibility. However, few

would doubt the need for top management support (Markus, 1981) and top management support is consistently recognized as a critical success factor (Schmidt, 2001).

iii. Risk management as a project success factor

A project is a unique thing which is totally depends on time, cost and customer satisfaction Kahneman and Tversky (as cited in Otieno, 2013). Proactive risk management is a key to success. According to Schwable (as cited in Otieno, 2013), risk identification process begins by reviewing the project documentation, most recent and historical information. As it has been stated (Otieno, 2013) risk analysis is includes analyzing the risk and measuring its vulnerability and its impact. A project sponsor and manager in collaboration can implement risk controlling techniques (Ritter, as cited in Otieno, 2013). According to Ritter, risk can be analyzed in two ways: first brains storm the probable risks and secondly do sensitivity analysis.

iv. Organizational objectives as a project success factor

Without a clear objectives the project can be failed (Kastner, as cited in Chege, 2014) successful project manager should know the business objectives and where to start and where to end. According to the author, clear business objectives articulated at the beginning of the project help to focus and prioritize solutions whilst guiding problem solving and decision making throughout the duration of the project and help measure the project for completion towards the tail end.

According to Munns and Bjeirmi, (1996) the narrow definition of tasks in successful project management provides an indicator of why project management success and project success are not directly correlated. A shorter project duration will probability of failure and the longer duration the outcome could be success, because the larger set of objectives are satisfied instead of the narrow subset which constituents project management.

2.4 Conceptual framework of the study

A conceptual framework is a set of broad ideas and principles taken from relevant fields of enquiry and used to structure a subsequent presentation (Kombo and Tromp, 2009). Based on many related literature reviews, the conceptual framework of this study is determinants critical success factors of core banking solution implementation project such as project management, top management support, risk management, end users training, effective communication vender commitment and monitoring.

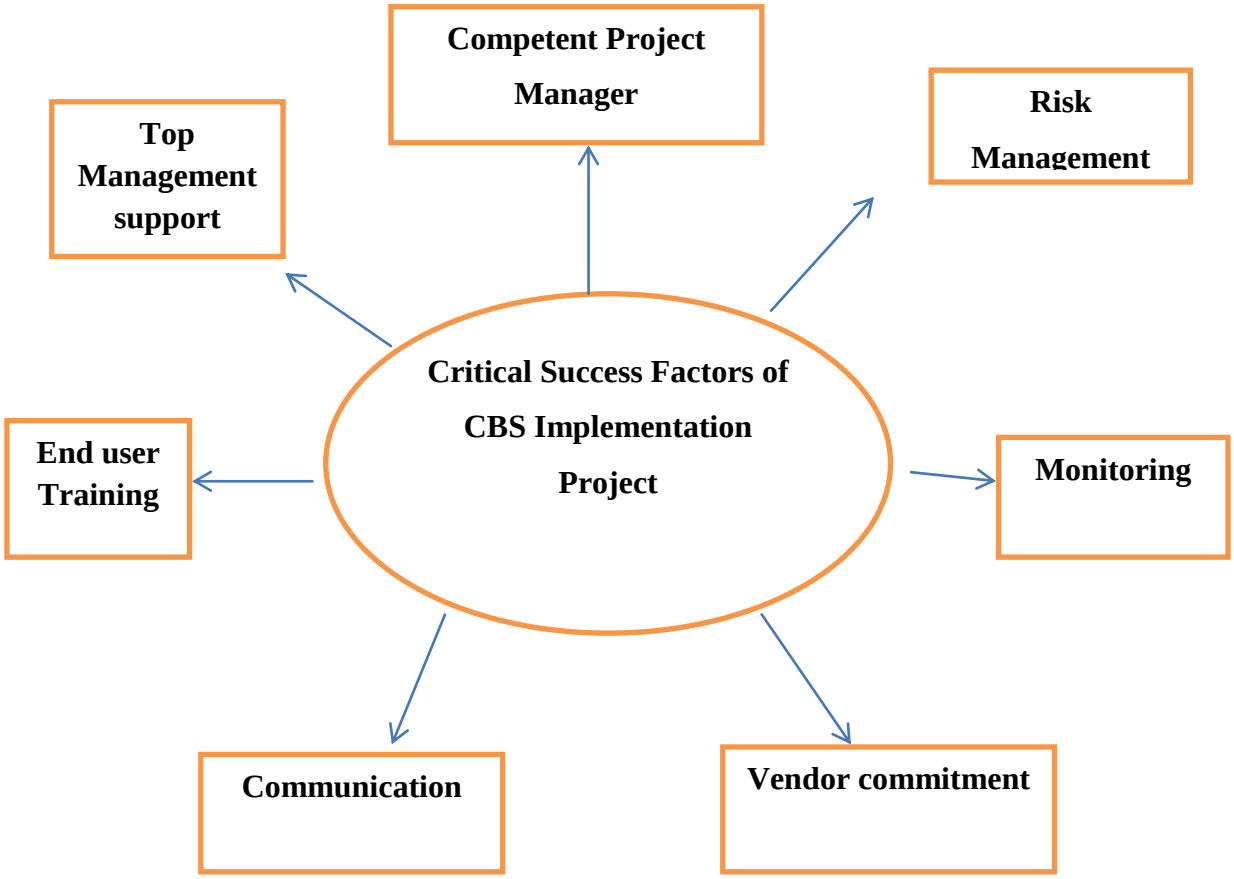


Figure 2.2 conceptualization of that Critical success factors in Core Banking System implementation project.

CHAPTER THREE

Research Design and Methodology

Introduction

There is no general agreement on research design and methodology. There is no single blueprint for planning research. Research design is governed by the notion of fitness for purpose. The purposes of the research determine the methodology and design (Cohen, Manion, and Morrison, 2000). This implies that researchers plan, design and approach a given research problem in different ways in order to achieve the research objective and answer the research question.

The next section discusses the research design and methodology that was used to achieve the objective of the study. Research design, sample and sampling technique, source and tools /instrument of data collection, procedure of data collection, validity and reliability of the data collection instruments and method of data analysis will be presented as follows.

3.1Research Design

In this study the researcher preferred and employed descriptive research method which qualifies and makes use of qualitative data. Descriptive research involves gathering data that describe events and then organizes, tabulates, depicts, and describes the data collection (Glass & Hopkins, 1984). While describing the collected data the visual aids such as graphs and charts are used so as to make the reader understand the data.

In spite of the fact that, the reader's mind inability to interpret and analyze a large mass of raw data, employment of a descriptive statistics methodology is very important in reducing the data to manageable form.

In the course of conducting this research the data type and data collection designs is taken on multiple stages based on the nature of the data that needs to be collected as primary and secondary. For the purpose of this study primary data collection instruments: questionnaires and interviews were undertaken to solidify end result. After collecting the relevant data from the respondents, the questionnaires analyzed with the help of tables and graphs. Apart from the questionnaire, interview conducted with the project manager and team leaders of both technical and business team. Interestingly, the interview ascertained and enabled the constructive and negative implementation experience faced by the bank to correct or address the inequities in the course of the interview. On the other hand, throughout the data collection stages secondary data were found to be integrals.

3.2Sample and Sampling Techniques

Target populations of the study were all Core Banking Solution project implementation team members of commercial bank of Ethiopia and Addis Ababa City Branch managers of the bank. The researcher purposely selected CBS project implementation team because most of the team members involved the implementation project from inception to execution. Further branch managers were targeted because they are senior managers of the bank in decision making.

Polit and Hungler (1995) refer to the population as an aggregate or totality of all objects, subjects or members that confirm to a set of specifications. The process of selecting a portion of the population to represent the entire population is known as sampling. The target populations for the study were all CBS project implementation team members including project manager, team leaders of both business team technical team and branch managers at selected Addis Ababa city branches of Commercial Bank of Ethiopia.

Sampling techniques can be classified into probability and non-probability sampling. Probability sampling involves random selection while non - probability sampling does not. Purposive sampling or judgmental sampling is a non-probability sampling method that basically allows a researcher to select cases that are best suited to answer the research questions (Kalbasi, 2011). This form of sampling is often used when working

with small samples, especially in a case study when a researcher is looking for cases that are particularly informative. Parahoo (2006) describes purposive sampling as a method of sampling where the researcher deliberately chooses who to include in the study based on their ability to provide necessary data. The rationale for choosing this approach was when the researcher seeking knowledge about CBS which participants would provide by virtue of their knowledge.

In this particular study, two sampling techniques were used: probability and non-probability (purposive) sampling. The interviewees were selected based on purposive sampling of the researcher's subjective judgment which considers that the selectee gave first-hand information without any problem. The study employed this type of sampling for the project manager at PMO and team leaders of both technical and business team of CBS project implementation.

Table 3.1: Target population

s.no	**CBS implementation team members**	**Team leaders of/director CBS implementation project**	**Project team members involved in CBS implementation**	**Total**
	I			
1	Project Director	1	2	3
2	Business Team	6	20	26
3	Technical Team	4	10	14
4	Data migration Team	1	18	19
5	Infrastructure team	1	12	13
6	Rollout /UAT team	1	21	22
	Total Project members	**14**	**83**	**97**
	II			
1	Branch Managers of City Branches of CBE			193

Many researchers have suggested that for a good outcome to be obtained extracting large number of population is necessary; however, due to limited number of participants in the core banking solutions projects, the sample was limited members whom participated in the Core Banking Solutions. Thus, due to the above mentioned facts almost all (97) participants of CBS Project implementation team were included in the sample data. Further, the study employed probability sampling for Branch Managers of Addis Ababa City branches of Commercial Bank of Ethiopia.

The study used the sample size, formula developed by Taro Yamane (1967) that was provided a simplified formula to calculate sample sizes. This formula was also used to calculate the sample size.

$$n = \frac{N}{1 + N\,(e)^2}$$

Where n= the sample size

N= the size of the population

And e=the error of 5 percentage points

A sample of one hundred thirty members from the branch manager were taken as representative sample and given questionnaires in addition to ninety Seven participants of CBS implementation project. This resulted in a total of 227 questionnaires that were distributed to the selected target population.

Table 3.2: Strata (subgroups) for Random Sampling

	Districts	**No. of Branches**
1	Easter District of Addis Ababa city Branch of CBE	34
2	Western District of Addis Ababa city Branch of CBE	30
3	Northern District of Addis Ababa city Branch of CBE	37
4	Sothern District of Addis Ababa city Branch of CBE	29
	Total	**130**

3.3 Source and Instruments of Data Collection

The study employed both primary and secondary data sources. As a primary sources, the researcher got data from original sources by means of interview and serving questionnaires. Moreover, secondary data used to interpret and analyze the primary sources.

As explained above participants on this study approached and be highlighted about the objective of the research so that they willingly involve both in the interview and questionnaire. The objective of the research is to gather information about critical success factors in implementing CBSproject of commercial bank of Ethiopia in particular.

Generally the survey conducted in the following ways:-

Questionnaires

Questionnaire distributed for employee has two parts. The first part aimed at the collection of demographic information of the participants. The second part used five point Likert scale to measure critical success factors in CBS implementation project

Interview

In-depth interview conducted using semi-structured interview questions with the key CBS implementation participants' project director and, team leaders of business team and technical team.

Secondary data

Secondary data also collected through desk research to clarify most of the issues. Books, journals, research papers reports and websites also used to carry out the study.

3.3Procedures of Data Collection

As mentioned above the assessment consisted of three major instruments:-

Firstly, the study collected data from respondents by classifying the questionnaires in to two parts:

- ✓ The first part is devoted to demographic data.
- ✓ The second part is dedicated with CBS implementation success trends in Banks.

Accordingly, the researcher has chosen this method by assuming that this method is cost effective since data are easily be analyzed, respondents are familiar to the method, it reduces bias since similar questions are distributed to each participant and unlike telephone and face-to face interview there are no interferences.

Secondly, Secondary data collection as indicated by Natalie Koziol, MA & Ann Arthur, "access to historical data would take several years and millions of dollars to collect". Accordingly, the researcher plan to collect secondary data from books, journals annual reports, NBE reports and websites of the bank.

Thirdly, Interviews were considered as chosen instrument incase respondents misunderstands relevant questionnaires. Accordingly, relevant discussions will be made with the bank's key personnel, project Managers, Business and Technical team face to face through open ended questions.

3.5 Validity and Reliability of the Data Collection Instruments

In order to ensure validity and reliability, the questionnaire were carefully constructed avoiding ambiguity. The questionnaires of the study were reviewed and commented and discussion by two randomly selected senior managers, who worked as core banking software implementation team leaders, friends and suggestion of my thesis advisor too. In order to assess the reliability and consistency of the instrument the Cronbach‟s Alpha was used and the result of the test was 0.808. Further, pilot test was conducted using some sort of the questionnaires during the development stage to ensure the internal consistency of the instrument.

3.6 Methods of Data Analysis

The data analyzed using descriptive statistics method. The study has described the data collected from each respondent. The responses of each respondent coded from 1 up to 5 depending of the importance of each skill. For the purpose of data analysis success factors carrying an average of four and above would be considered are critical success factors. The code for all surveys items in the same category are summed up for a composite score. Later on these scores is going to be applied for statistical analysis based on SPSS Software version 20. The study's frequency distribution, graphs and percentages used and finally the findings drawn.

3.7 Ethical Research Considerations

According to Saunders et al.(2009), research ethics refers to the appropriate behavior of the researcher concerning to the rights of those who become the subjects of the work or affected by the work. Thus the researcher sought the respondents' informed consent,

respecting the confidentiality and anonymity of respondents; and ensured that all the participants participated in the study voluntarily.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1. Introduction

The previous chapter discussed the research design and methodology used to conduct the study. In this chapter, the result of questionnaire distributed to Core Banking Solution implementation project team and branch Managers of CBE Addis Ababa City Branches and interview response obtained from project Managers at Project Management Office (PMO) and team leaders of both business team and technical team of CBS implementation of project at Commercial Bank of Ethiopia are presented. The study attempted to assess critical success factors in implementing Core Banking Solution implementation project at commercial Bank of Ethiopia.

The chapter has four sections. The first section of the chapter deals with the general profile of respondents. The first section presents success measurement criteria of the CBS implementation project the third section presents analysis of critical success factors of CBS implementation project. And the last section of this chapter presents discussion of the findings.

In order to determine the critical Success Factors of CBS project implementation a total of 227 questioners were distributed. Out of a total, 97 questioners were distributed to CBS implementation project team and the remaining 130 branch managers of Addis Ababa City Branch of commercial Bank of Ethiopia. The response 179 (78.85%) questionnaires were obtained valid and used for analysis. To assess critical success factors of CBS implementation project at CBE.

Table 4.1: Rate of Responses by Respondents

Questioners	CBS project implementation Team		Branch Managers		Total	
	Respondents	Valid percentage	Respondents	Valid percentage	Num.	%
Returned	77	79%	102	78.45	179	78.85%
Not-returned	20	21%	28	21.55	48	21.15%
Total	97	100%	130	100%	227	100%

Source: Survey result (2016)

4.2 General Profile of Respondents

The first part of the questionnaire includes 6 relevant questions for the research topic. These includes: the respondents' role in CBS project implementation of Commercial Bank of Ethiopia, their, educational qualification and number of years served in the bank, success measurement criteria. In the second part of the questioner, the respondents were asked the role of project management, top management support, vendor's commitment and support, end users training, analysis of risk factors and the importance of monitoring in successful implementation of IT project. These questions were asked to find out the critical success factors of CBS implementation project.

4.2.1 Gender Distribution

The demographic statistics shown in table 4.2 show the distribution of respondents by gender.17.9% of the respondents were females while the remaining were male. Majority of the respondents compromised of males. Participants were asked to indicate their gender by selecting the appropriate option provided (male or female).

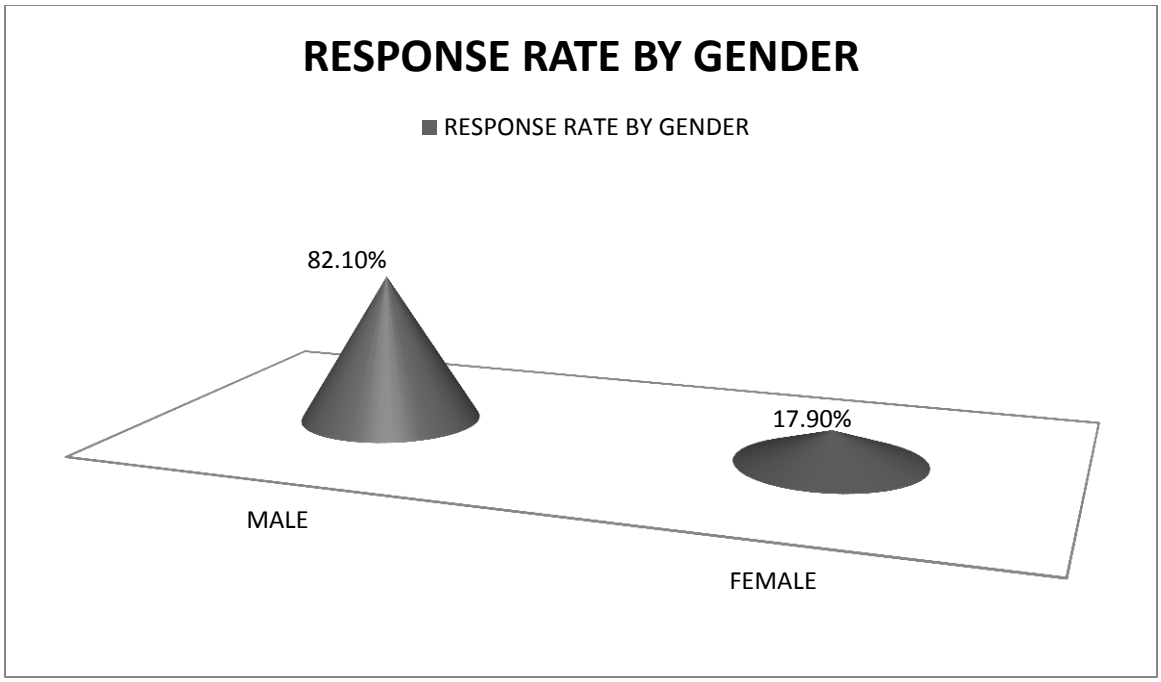


Figure 4.1above summarizes the gender distribution of the respondents. Clearly this indicates that the sample population was dominated by male respondents

4.2.2 Age Distribution of the respondents

Considering the age groups of the respondents, the higher number of respondents was in the range of 29-38 years, which represent 59.8%, followed by age groups of 39 and above which represent 31.3% and the rest 8.9% are in the range of 19-28 years (Table 4.2). This indicated that most of the respondents were between the age of 29 and 38.

Table 4.2 Response rate by age group

Attribute		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	19-28	16	8.9	8.9	8.9
	29-38	107	59.8	59.8	68.7
	39 OR ABOVE	56	31.3	31.3	100.0
	Total	179	100.0	100.0	

Source: Survey result (2016)

4.2.3 Educational Background of the Respondents

From the analysis on educational background of respondents, it was found that 8 respondents (4.5%) have Junior College Diploma, 64 respondents (35.8%) are undergraduate degree, and the rest 107 respondents (59%) have graduate degree /masters and above. This profile shows that majority of the respondents have graduate degree /masters and above.

Table 4.3Educational Background of respondents

Educational background		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Junior college diploma	8	4.5	4.5	4.5
	Under Graduate Degree	64	35.8	35.8	40.2
	Graduate degree /Masters or above	107	59.8	59.8	100.0
	Total	179	100.0	100.0	

Source: Survey result (2016)

4.2.4 Role of Respondents

The respondents were categorized as; Project Manager, team leaders and the team members based on the roles played by them in relation to the CBS project and at the bank. Table 4.4 illustrates role of respondents in CBS implementation and role in the bank. as can be seen in the following table most of the respondents 57.0% were senior management staffs of the bank the rest 43 % were Core Banking Solution implementation team leaders and team members.

4.4 Role of Respondents in core banking implementation project/at the bank

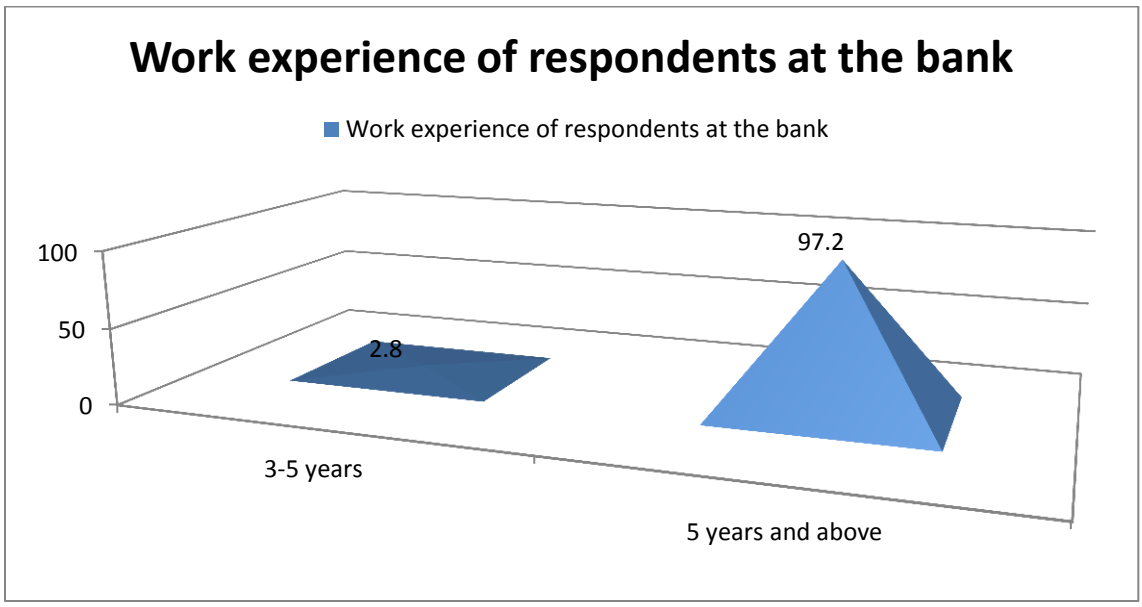
Attribute		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Project director	1	.6	.6	.6
	UAT team	18	10.1	10.1	10.6
	Branch Manager	102	57.0	57.0	67.6
	Team leader	12	6.7	6.7	74.3
	Business team	19	10.6	10.6	84.9
	Technical team	11	6.1	6.1	91.1
	Data migration Team	16	8.9	8.9	100.0
	Total	179	100.0	100.0	

Source: Survey result (2016)

4.2.5 Experience of Respondents at the bank

The below table illustrates the distribution of respondents based on levels of experience in the banking sector. The study chose to consider respondent's level of experience in the banking sector, which is vital towards knowledge of banking operations and CBS. Above 97% of the respondents have 5 years and above experience at the bank the rest 2.8 % of the respondents have 3-5 years of banking experience. Clearly this indicates that majority of the respondents possessed over 5 years of experience in the banking sector hence more accuracy and validity of the research data.

Fig. 4.2summarizes responses to the survey questionnaire based on levels of experience in the banking sector.



4.3 Factors in Measuring Success of CBS Implementation Project

Majority of respondents in two categories, including CBS implementation project team and branch manager. consider“ Improved Efficiency” as the single most important factor and “End User Satisfaction” as the next most important factor in determining the success of a CBS Project, third most important factor in determining the success being “Reduced

Complexity of Operation". These factors fall within the expected end- result of the project and are qualitative and difficult to measure. In contrast, factors such as "Timely Implementation", "Implementation within Budgets" and "Low Cost of Ownership" are easily measurable. The results show a clear deviation from generally accepted measurements of success of a project, which are achieving project goals, within agreed time and budgets. Only 4 respondents out of 179 replayed implementation with in a budget is the most important factor which is about 2% of the respondents and 9 (5.04%) respondents out of 179 replayed timely implementation. and 2 (1.12%) of respondents choose low cost of ownership.

Generally, the role of a typical project manager is to complete the project meeting project objectives, within the budget, within the agreed time within the scope of the project. (PMBK, 2004) surprisingly, project manager and most team leaders have failed to appreciate these factors as the project success measurements. Instead, they have indicated achieving the business objectives of the project such as improved efficiency, end-user satisfaction and reduced complexity of operations as the factors measuring the success of the project. Possibly, this is due to project manager and team leaders of the implementation project not being professional project manager, but senior employees of the bank. As a result, they may not be concentrating on project management principles. Furthermore, they may not have been able to make decisions independently and may have been subjected to influences from various stake-holders in the project such as Senior Managers or business users etc. Such influences may have led to change of project scope due to subsequent "scope creep" and resource allocation issues, which could consequently lead to budget & time overrun. It appears that such overruns are not seriously considered by the bank as long as the project objectives are achieved.

During the interview conducted with the team leaders of CBS implementation project some team leaders indicated successmeasurement criteria such as completion of the project with in specified time or slight variation, Completion within budget or with slight variation and Timely completion of the project with respect to plan (minimal delays).

Table 4.5: Factors in Measuring Success of a CBS Implementation Project

Categories of Respondents	Criteria for the measurement of CBS Project Success	1st Rank	2nd Rank	3rd Rank	Total	%
CBE CBS implementation team	Improved efficiency	28			28	15.65%
	End users satisfaction		27		27	15.08%
	Reduce Complexity of Operation			20	20	11.17%
	Timely Implementation	9			9	5.04%
	Implementing within the Budget					
	Low Cost of Ownership	2		2		1.12%
	Others					
Branch Managers	Improved efficiency	36			36	20.12%
	End users satisfaction		27		27	15.08%
	Reduce Complexity of Operation			26	26	14.54%
	Timely Implementation					
	Implementing within the Budget	4			4	2.23%
	Low Cost of Ownership					
	Others					
Total					179	100%

Source: Survey result November 2016

4.4. Descriptive Analysis of Data Collected

4.4.1 Analysis of Success factors Related to Project Management

Questions 1, 2, 3, 4, and 6 of section II were designed to identify importance of success factors related to Project Management during CBS project implementation process. Project Management is a key aspect of CBS implementation process. As indicated in the following table out of the five success factors, the respondents selected four as critical success factors related to Project Management during the implementation of CBS project. The respondents identified Assigning dedicated, Skilled and experienced project manager, the leadership style of project manager and dedicated project team and

dedicated project resource at the mean value of 4.64, 4.51, 4.49 and 4.46 respectively. Prioritizing delivery of business requirements based on project timing was failed to identify as critical success factor.

Based on the below table it can be interpreted that, Assigning dedicated, skilled and experienced project manager, the leadership style of project manager, dedicated project team, dedicated resource and Prioritizing delivery of business requirements based on project timing and completing the project within the scheduled time and within the budget are the responsibilities of a project manager. Project Management in a CBS implementation is a complex task, a full time job requiring a professional project manager and Akkermans and Helden (2002), in their research have identified the importance of experienced full time project managers for the success of IT projects. The respondents in this research too have identified a Full time, Experienced Project Manager as a CSF for the CBS Implementation process.

Having dedicated project team members would be extremely useful during the implementation stage of the selected CBS. Bates (2004), Bhatti (2005), and Akkermans and Heldon (2002) have indicated that competent project team and dedicated Resources as CSFs for IT projects. Respondents in this research seem to have appreciated these factors as they have selected Competent Project Team, Dedicated Resources as CSFs contributing for the success of CBS implementation projects. If the resources were dedicated to the project, they would be committed to the project and their only interest would be to complete the project successfully. Further, their performance evaluations would be directly linked to their performance in the project, which will motivate them to complete the project successfully.

Table 4.6Analysis of Success factors Related to Project Management

Attribute	N	Minimum	Maximum	Mean	Std. Deviation
Professional project manager.	179	1	5	4.64	.878
The leadership style of project manager	179	1	5	4.51	.889
Dedicated project team	179	1	5	4.49	.889
Dedicated resource	179	1	5	4.46	.843
Prioritizing delivery of business requirements based on project timing	179	1	5	3.65	.864
Valid N (listwise)	179				

Source: Survey result (2016)

4.4.2 Analysis of Success factors Related to Top Management Support

There were three questions related to Top Management Support. Part II Question, 5,7 and 9 were designed to ascertain the response of the population on success factors, which were designed to identify the level of top management Support required during the CBS implementation processes**.** As indicated in the below mentioned table top management support (setting direction) is identified as critical success factor whereas, undue influence and interference of top management and adopting the system with minimum customization fail to identified as critical success factors**.**

Based on Table 4.9 it can be interpreted that, top management support in setting direction during implementation of the CBS project is important. Akkermans and Helden (2002) has also identified Top Management Support as a CSF for ERP projects.

Table 4.7 Top Management support

Attribute	N	Minimum	Maximum	Mean	Std. Deviation
Top Management support	179	1	5	4.13	1.006
Undue influences or interference of top management	179	3	5	3.87	.654
Adopting the proposed system with minimum customization	179	1	5	3.58	.964
Valid N (listwise)	179				

Source: Survey result November 2016

4.4.3 Analysis of Success factors Related to Effective Communications

Question 11 and 12 of section II of the questionnaire were intended to identify the importance of having Effective Communication during a CBS project implementation to keep stakeholders up to date with project information throughout the project to minimize, if not eliminate possible, miscommunications, misunderstandings and conflicts among the stakeholders of the project. Effective communication among stakeholders of the project is identified as critical success factor with the mean value of 4.24

Table 4.8 Analysis related to effective communication

Attribute	N	Minimum	Maximum	Mean	Std. Deviation
Effective communication between stakeholders of the project	179	1	5	4.24	.985
Valid N (listwise)	179				

Source: Survey result November 2016

Akkermans and Helden (2002), and Bhatti (2005) have indicated efficient communication between the stakeholders as a critical success factor for ERP projects. The respondents in this research have validated the importance of this as a CSF for CBS projects as well. Effective communication between all stakeholders is important for the transparency of decisions and using appropriate medium of communication is important as well. Effective communication reduces the misunderstanding between the stakeholders. Project Manager takes the center stage in disseminating required information to the stakeholders via various meetings and reports. It is important to have a single source for the purpose of project communication during implementation of CBS project.

4.4.4 Analysis of Success factors Related to Vendor Commitment

Vendor support and commitment is one of the most important factors to complete implementation of CBS project successfully Question no. 15 and 16 of section II of the questionnaire designed to identify the critical success factors related to vendor support and commitment. Table 4.9 is representation of the responses to the success factors by the respondents. Both vendor support and commitment and knowledge transfer are identified by respondents as critical success factor during CBS implementation with the mean value or 4.12 and 4.23 respectively.

Table 4.11 Analysis of success factor related to vendor support and commitment

Attribute	N	Minimum	Maximum	Mean	Std. Deviation
Vendor support and commitment	179	2	5	4.12	.692
Knowledge transfer	179	1	5	4.23	.900

Source: Survey result November 2016

Based on the above table it can be interpreted that vendor support and commitment and knowledge transfer are the critical success factors in implementing CBS at commercial Bank of Ethiopia. Somers and Nelson, (2001) and Akkermans and Helden (2002) in their research have identified vendor support and commitment as a CSF for the success of ERP projects. End users training in knowledge transfer by vendor to the selective trainers who in turn would train the end users. Transferring knowledge to the end user is critical in implementing CBS projects successfully.

4.4.5 Analysis of Success factors Related to Risk Management

Questions 13 and 14 of section II were designed to identify the critical success factors related to the analysis of risk during the CBS implementation process. Risk analysis is not identified as critical success factor with the mean value of 3.94. The interview result revealed that, proper risk analysis was not done before the project implementation there was only proactive response to the risk when it happened. The problem occurred during implementation most of the business and technical teams resigned because the market needs their skill. Schultz, Slevin and Pinto (1987) clearly identified analysis of risk for successful implementation of the project. However, this study failed to identify analysis of the risk as critical success factor for successful completion of the CBS project.

Table 4.10 analysis related to risk analysis

Attribute	N	Minimum	Maximum	Mean	Std. Deviation
Proper analysis of risk on implementing is Core Banking	179	1	5	3.94	.940
	179				

Source: Survey result November 2016

4.4.6 Analysis of Success factors Related to Monitoring

In any project activity monitoring is an important factor to complete the project with in the agreed time scope and budget as the intended objective of the bank. There were two questions designed in the questionnaire section II question no.8 and 10: top management guidance and supervision by the board during CBS implementation project.

Table 4.11 Success factors related to monitoring

Attribute	N	Minimum	Maximum	Mean	Std. Deviation
Monitoring the progress of the project by the Board of Directors.	179	1	5	4.56	.841
Top management guidance.	179	1	5	4.22	.901

Source: Survey result November 2016

As it is indicated in the above table 4.11 Both guidance of top management and monitoring the progress by the Board of Directors were identified as critical success

factors in implementation of CBS project with the mean value 4.22 and 4.56 respectively.Bhati, (2005) and, Akkermans&Helden (2002) are identified top management guidance and monitoring as critical success factors in implementation project.

4.5 Discussion o of Major Findings

This section presents the discussion of results drawn from the data analysis. Discussion involves CBS implementation processes success measurement criteria and critical success factors identified in previous section.

4.5.1 **Project Success Measurement Criteria**

The primary goal of any IT projects would be to meet the business objectives byimplementing a suitable software package. Bhatti (2005), Somers and Nelson (2001) havementioned in their research work the importance of having clear success measurementcriteria to evaluate success of IT projects. Project Management Body of Knowledge (2004)indicates that completion of a project achieving project objectives and goals within theagreed time frame, and within the budgets at the successful completion of the project. Thepossible reasons for the change of success measurement criteria would be the cultural issues,resistant to change, regulatory requirements, local business practices and unique operationalprocedures in the banks.

The research outcome related to measurement of success of a project differs from that in relation to the definition in the PMBOK and the theories of other researchers.In excess of 91% of the respondents have identified Improved Efficiency, End User Satisfaction, and Reduction of Operational Complexity as the three main factors in measuring success of aproject which are more or less related to organizational objectives expected out of theproject. The research outcome shows that the identified success measurement criteria are more or lessrelated to the project objectives. It is difficult to measure the extent of achievement as theyare more or less qualitative and perceptive.

Project quality is affected bymanaging these three factors namely complete the project within the project scope, time and budget. High quality projects deliver the required product, service orresult within scope on-time and within budget. The relationship of these factors is such that ifany one of these factor changes, at least one of other factor is likely to be affected. Most of the respondents failed to identify this “Triple Constraint” to be thesuccess measurement of CBS projects. This may be due to their not being professionalproject managers or their inexperience in managing IT projects.

There is a strong possibility of appointing a senior member of the Bank, who is not a professional project manager or team leaders to manage CBS projects on behalf of the bank. As a result, they fail to appreciate importance of the real project management and may be subject to influences from various stake holders of the project hence not adequately independent to make right decisions. This is further confirmed by the similarity of thinking patterns of the Project Managers and the patterns of senior managers and team Members.

As a results of not identifying completion of the project within the agreed time frame and completion of the project within the budgets as a criterion for measuring success of the project may result in time and cost overruns, tying-up business resources for long durations than anticipated and vendor losing interest in the project. This could be a result of concentrating more on factors such as user satisfaction, improved efficiency and reduced complexity, which may result in scope-creep leading to extension of project duration. As a result, cost overrun too would take place, not to mention the opportunity cost associated with delays.

4.5.2 **Critical Success Factors of core banking solution implementation projects**

Project Management

Project Management in a CBS implementation is a complex task, a full time job requiring a professional project manager.Fortune and White (2002), and Akkermans and Helden (2002), in their research haveidentified the importance of experienced full time project managers for the success of IT projects.

The respondents in this research too have identified a Full time, Experienced Project Manager as a CSF for the CBS Implementationprocess.Respondents inthis research seem to have appreciated these factors as they have selected Competent ProjectTeam, Dedicated Resources, and the leadership style of project manager as CSFs contributing for the success of CBS projects. If the resources were dedicatedto the project, they would be committed to the project and their only interest would be tocomplete the project successfully.

Top Management Support

Akkermans and Helden (2002) has identified Top Management Support as a CSF for ERP projects. Many other researchers including Bhatti, (2005), Somers and Nelson (2001),Ramkumar (2004), Lewis (2003), and Sirivastava (2003) have identified the importance of Top Management Support for the success of software projects. Both categories of respondents indicated as critical success factors.

Effective Communication

Effective communication among stakeholders of the implementation project is useful in any project. Bhatti (2005) have indicated efficient communication between the stakeholders as a critical success factor for ERP projects. The respondents in this research have validated the importance of this as a CSF for CBS projects as well.

Effective communication between the stakeholders is important for the transparency of decisions as well as to synchronize the stakeholders with respect to their expectations.it also reduces the misunderstanding between the stakeholders, hence disputes. Project

Manager takes the center stage in disseminating required information to the stakeholders via various meetings and reports. It is important to have a single source for the purpose of project communication.

Vendor support and commitment

In the case of a CBS project, vendors and the banks represents two sides of the same coin. Banks opt to maximize the benefits out of the project while the vendors try to maximize their profits from the project. Vendors make various promises and agree on numerous concessions during the selection phase to win contracts, which are worth multi million dollars. Banks on the other hand bargain on pricing and negotiate heavily on terms and conditions, which appear to be beneficial to them. The outcome of those could be the compromise on the quality of delivery during implementation phase by the vendors trying to cut corners to maintain their profit margins. Hence, the contracts need to have win-win position for both banks and vendors. If that is not the case and banks become inflexible and insist on delivery to the letters of the contract, vendors too will become inflexible, and may lose interest on the project halfway through. In such situations, the project duration will have to be extended. Extending the project period would not be beneficial to both parties as there will be budgetoverruns and loss of opportunities for both sides.In reality, the vendors and their implementation teams manage the CBS implementationprojects. As a result, banks have to largely depend on the vendors for the successfulcompletion of the project. Though the parties agree on the terms, conditions, and deliverablesat the time of signing the contract, contingencies may crop up requiring corrective measuresbeyond the printed letters of the agreements. Mutual understanding and flexibility of the parties are extremely important in such instances. This study identifies vendor support and commitment as critical success factors in implementing CBS projects.

CHAPTER FIVE

Summary, Conclusion and Recommendations

5.1 Summary of the major findings

This section finalizes the research study summarizing key findings. The study conducted interview with the commercial bank of Ethiopia core banking solution project implementation project manager and team leaders. Besides, survey questionnaire distributed to all Core banking Solution implementation team members and branch managers of Addis Ababa city branches .This research aimed at identifying core banking system implementation project critical success factors and success measurement criteria of Commercial Bank of Ethiopia The major findings of the study were:

- ✓ The study identified, thirteen Critical Success Factors in relation to CBS implementation projects. However, respondents have failed to identify 5 success factors as CSFs out of a list of 13.Only nine critical success factors identified as

    - ✓ Professional Project management
    - ✓ Monitoring the progress of the project by BOD
    - ✓ Competent project Manager
    - ✓ Dedicated project team
    - ✓ Dedicated project resource
    - ✓ Effective communication
    - ✓ Users training
    - ✓ Top Management Support and
    - ✓ vendor support and commitment

    The study critically evaluated the selected CSFs and their impacts on the project. Further analysis has been made on the success factors, which have not been selected as critical and their impact on the project.

- ✓ In addition success factors success measurement criteria are identified in this study were improved efficiency, End use satisfaction and reduced complexity of operation.

5.2 Conclusion

The research aimed at identifying core banking system implementation project critical success factors and success measurement criteria of Commercial Bank of Ethiopia To find answers to these questions, a literature review was conducted together with administering survey questionnaire and conducting in-depth interviews with the project manager and team leaders of business and technical teams of CBS implementation project of the bank.

This project implementation attributed to many factors. In this study, these factors are assessed by categorizing them under major factors. Moreover, among many, nine most influential determinants classified under project success were identified among thirteen critical success factors. our factors as important for the success of CBS projects, but have not been identifies as CSFs by the respondents includes; proper analysis of risk, interference of top management, prioritizing delivery of business requirements based on project timing, adopting the proposed system with minimum customization. On the other hand, the factors identified nine critical factors related to the CBS implementation project of commercial Bank of Ethiopia covering the key perceptions and aspect of attribute the key perception and aspects of attributes.

Moreover, for success measurement criteria both CBS implementation project team and branch managers have identified Improved Efficiency, End User Satisfaction, and Reduction of Operational Complexity as the three main factors in measuring success of a project. This result deviate from success measurement criteria identified through literature reviewed.

Generally, it can be concluded that literature reviews in the field of project management generate lists of critical success determinants project success. Therefore, investigating determinants of project implementation success is a fruitful area to achieve on a much larger scale. It is well-known that not only what determinants are important for achieving an outstanding project outcome, but also how they are interrelated and influence the project implementation success are crucial.

5.3 Recommendations

The following recommendations were made in order to enhance the effectiveness of the CBS s implementation project at commercial bank of Ethiopia.

5.3.1 Recommendations for CBS Implementation success factor

Professional Project Manager

Before implementing the CBS project the bank shall identified and assigned experienced and professional project manager internally. However if such person is not available internally it is recommended to obtain the service externally. In addition to this the project charter that authorize the project manager with authority in decision making independently from the top management of the bank or from the vendor. This will help the assigned project manager to make unbiased decision of the bank interest.
Regarding the evaluation, the project manager should be evaluated based on the predefined success measurement criteria and there should be compensation up on successful completion of the project like bonus and allowance during implementation process. This will encourage the project manager to achieve the desires outcome.

Competent Project Team

Having experienced, professional, competent Project Manager is not only important for successful implementation of the project similarly a competent project team is also an important factor. Therefore:

- ✓ It is advisable to include senior and experienced staffs members related to business and service area, who are capable of making decision related to the area they represent.
- ✓ The project team members shall include those who are capable and voluntary working long hours should be selected.

- ✓ The project team members only report to the project manager and they should be made independent of their former heads of the departments and the senior management for the purpose of the project. No need to have two bosses
- ✓ It is advisable to include few staff members representing IT, Internal audit and risk/compliance in the project team.
- ✓ Based on the size of the project and on the anticipated duration, adequate number of team members shall be allocated to the project.

Top Management support and guidance

Top management support and guidance throughout the CBS implementation project is a mandatory ingredient for the success of the project therefore:

- ✓ The top manager should own the implementation project and not consider it as IT project.
- ✓ The top management shall release the best of the resources to the project as and when necessary and resolve issues related to the project in a timely and effective manner.
- ✓ Top management shall give their full corporation to the project manager and the Project manager shall be made adequately independent to make decisions related to the project within his scope, but shall made him/her responsible and accountable for such decisions and their implications on the project and the bank.

Vendor Relationship Management

Smooth relationship between the bank and vendor could facilitate the implementation process. Both parties need to be adequately flexible unless serious violation of contract happened therefore:

- ✓ Bank shall maintain a cordial relationship with the selected vendor throughout the project to ensure that the project is completed as expected.

  During selection process banks shall ensure that the vendor sends an adequately experienced project manager and an implementation team. This will avoid the problem arise during implementation phase

- ✓ Banks (including their Project Managers and the implementation team members) shall be adequately flexible during the implementation and shall be practical and reasonable in assessing the situations.
- ✓ When required, apply appropriate amount of pressure on the vendor is recommended. However, banks shall refrain from applying excessive pressure.

Effective Communication

Effective communication is essential in running any project. Communication between the stakeholders of the project is vital to maintain transparency, reduce misunderstandings and to keep the stakeholders update the project status, accomplishments, events that may affect other stakeholders of the project. This could be done by correctly identifying the expectations of different stakeholders of the project and managing their expectations accordingly. To have effective communication between the stakeholders of the project.

- ✓ Project steering committee need to have direct communication with the project manager and let the project manager manage the project, project team and the vendor relations. Progress review meetings with the participation of the bank's project manager and the vendor's project manager shall be held on a frequent basis.
- ✓ Project manager shall have constant communication with the project team by way of project team briefings to obtain feedback on project progress and provide guidance.
- ✓ Based on the requirements, project manager or team members appointed by the project manager may arrange meeting with, business heads, end-users and the IT staff on need basis.
- ✓ Project manager of the bank shall have regular meetings with the project manager and the project team of the vendor to have a constant update on project status and resolve issues related to the project.
- ✓ All meetings must be initiated with an invitation for the meeting to all parties concerned followed by the agenda of the meeting. All important matters discussed, decisions and point of actions need to be recorded with the due date of

action and persons responsible and minutes circulated within the shortest possible time after the meeting to all participants and copied to others only on need to know basis.

5.3.2 Project Success Measurement Criteria

Without appropriate success measurement criteria, it is difficult to assess whether the project was concluded successfully or not. Further, it is important to know the extent of the project success to make corrective actions (if necessary) and to reward the people who were involved in the project. Criteria to measure the success could be a mix of both qualitative and quantitative factors, which shall be based on the business objectives and scope of the project. In order to be effective, project success measurement criteria shall be agreed at the beginning of the project. Modifications to success criteria shall not be done without the agreement of the project stakeholders (specifically, project manager, the project team and the end-users who are expected to be rewarded on successful completion of the project) to avoid disappointments and discouragement of the stakeholders.

Degree of achievement of expected project objective, outcomes, on-schedule implementation and implementation within the allocated budgets shall be included in the measurement criteria. Qualitative and subjective measurements such as end-user satisfaction shall be avoided as measurement criteria. It is advisable to convert such qualitative factors in to quantifiable or measurable factors.

References

Akkermans H. and Helden K. (2002) Vicious and Virtuous Cycles in ERP implementation: A case Study interrelation between critical success factors, European *Journal of Information Systems* V 11, Page 35-46

Black, T. R. (1999) *Doing quantitative research in the social sciences*: An integrated approach to research design, measurement, and statistics. London, England: Sage publications.

Bhatti T. R. (2005**)***Critical Success Factors for the Implementation of Enterprise Resource Planning (ERP):* Empirical Validation.College of Business.Zayed University, UAE.

Brandon DH. (1970) *Management planning for data processing*, Princeton, New Jersey: Brandon Systems Press, PP.206–8.

Chege,K.(2012) '*factor affecting the success of information technology'* ,Master thesis, Kenya.

Cohen, J. W. (1988). *Statistical power analysis for the behavioral sciences* (2nd edn). Hillsdale, NJ: Lawrence Erlbaum Associates.

Collins, T. and Bicknell, D. (1997) Crash: *ten easy ways to avoid a computer disaster*. London: Simon and Schuster.

Dortsonet all (2008) Core banking System Survey, published on www.capgemini.com [Accessed on 04 November 2010]

Ellis,T. and Levy,Y.(2008) 'Framework of Problem-Based Research: A Guide for Novice Researchers on the Development of a Research-Worthy Problem', *informing science of Journal*, 11(1), PP.17-33.

Finacle (2012) Core banking transformation. Available at:www.infosys.com/finacle/solutions/Documents/CoreBankingSolution.pdf(Accessed*01 September 2016).*

Finacle (2005)key challenges in core banking replacement finacle connect.

Gartner Industry Research (2011). *Core Banking Systems Selection*: Criteria that Matter. Retrieved from http://www.oracle.com/us/industries/financial-services/ofss-article-20456901.

Geetha, C. S. (2015). The impact of Core Banking Services in SBM.*International Journal of Commerce, Business and Management*.

IBM, F. S. (2011).*Core Banking Modernization*.

Haller,K. and Heuberger,M.(2009) *'Know how transfer in core banking system implementation projects'*, 4th IFIP TC2 Central and east European conference on software engineering techniques,Krakow,Poland.

Hastie,S.(2006) *'what makes information system successful*?', software education associate 9th international ASECU conference on systematic economic crisis: current issues and prospects.

Hettiarachchi N,(2009)*Critical Success Factors in Selecting & Implementing CoreBanking Systems in Local Commercial Banks in Sri Lanka***.**University of Colombo

Kerzner, H. (1987) 'In search of excellence in project management', *Journal of Systems Management,* 38 (2), PP.30-40.

Kezsbom, D. S., Schilling, D. L. and Edward, K. A. (1989) *Dynamic Project Management*: A Practical Guide for Managers and Engineers, New York: Wiley.

Krejcie R. V. and Morgan D. W. (1970) Determining Sample Size for Research Activities Educational and Psychological Measurement, Published on www.fns.usda.gov/fdd/processing/info/SalesVerificationTable.doc

Lei, W. W., &Skitmore, M. (2004) '*Project management competencies:* A survey of perspectives from project managers in South East Queensland' Journal of Building and Construction Management, 9(1), PP.1-12

Lim, C., Mohamed,M.,(1999) 'Criteria of project success: An exploratory re-examination', *International Journal of project management*,17(4),PP.243-248.

Maleki, M. &. (2010). Investigating the role of electronic banking in Iran. *Journal of Bank and Economics, issue* 112, pp. 14-20.

Markus, L. (1981) *Implementation politics*: top management support and user involvement, System Object Solution, pp. 203–15.

Munns,A. and Bjeirmi,B.(1996) 'The role of project management in achieving project success', *International journal of project management*, 14(2),PP:81-87.

National bank of Ethiopia,(2010) *Biritu* volume 10.

Otieno,J.(2013) 'An assessment of the role of risk management practices in core banking software project success', *International journal of Academic research in Business and Social sciences*,3(10).

Parahoo, K. (2006) Nursing Research Principles, Processes and Issues.
Ed.Hampshire: Palgrave

Polit, A and Hungler, B.P. 1995.*Nursing Research Principles and methods.(5th ed*)Philadelphia: J.B Lippincott.

Project Management Institute (2013) *A Guide to the Project Management Body of Knowledge* (PMBOK® Guide) – Fifth Edition.

Project Management Institute. A Guide to the Project Management Body of Knowledge: PMBOK® Guide, 3rd Edition. Newtown Square, Pennsylvania, Project Management Institute, 2004, p. 37

Satchidananda S. S., Rao S. and Wadhavkar R. (2006) Core Banking Solutions: An Assessment. Working Paper 8, CBIT Center of Banking and Information Technology, International Institute of Information Technology, Bangalore.

Satyanaryanrna,S. and Kavitha,N.(2011) '*impact of BPR in commercial banks on customers'*.

Schultz, R. L., Slevin, D. P.,and Pinto, J. K., (1987) '*Strategy and tactics in a process model of project implementation',* Interfaces, 17(3), pp.34-46.

Schmidt, R.(2001) 'Identifying software project risks: an international Delphi study', *Journal of Management Information System* ,17(4),PP:5–36.

Somers, T., & Nelson, K. (2001).*'The impact of critical success factors across the stages of enterprise resource planning implementations'*, In Proceedings of the 34th Hawaii International Conference on System Sciences (HICSS).

Turner, J.R, and Muller, R.(2005) 'the project manager's leadership style as a success factor on projects: a literature review', *Project management Journal,36(2),PP.46-61*

Wysocki Robert K. (2009) *Effective Project Management***:** Traditional, Agile, Extreme, Fifth Edition. Canada: Wiley Publishing, Inc.

ANNEX 1

St. Mary's University

School of Graduate Studies

Department of Project Management (MBA)

Dear Respondent,

The objective of this questionnaire is to gather and analyze relevant, accurate, and timely information that will help to assess critical success factors in implementation of Core Banking Solution at Commercial Bank of Ethiopia. This study is undertaken as a partial requirement for the completion of Masters of Business Administration in Project Management.

All data and information that will be gathered through these Questionnaires will be used for the sole purpose of the research and remains confidential. Therefore, you are kindly requested to respond to the questions with utmost good faith, freely and to the best of your knowledge. There is no need to write your name on the Questionnaires

Thank you in advance for your time and kind cooperation.

WesenyeleshTezeraBeyene

E-Mail: eliltawon@gmail.com

Mob: +251 09 11 634272

Tel: +251 011 3497386

This questionnaire is a means to collect data on assessment of critical success factors in Core Banking Solution implementation at commercial bank of Ethiopia.

Please put a **"√"** mark to all your responses in the circle provided beside each statement.

I. General Profile

---

1. Gender

□ Male □ Female

2. Age (years old)

□19-28 □29-38 □39 or above

3. Education background

□ High school diploma or below □ Junior college diploma

□ Undergraduate degree (Bachelor‟s degree) □Graduate degree (Master‟s degree) or above

4. Which of the following best describes your role in the Core Banking System Implementation Project? / At the bank?

□ Project Director □ UAT Team □ Branch Manager □ Other----------

□Team Leader □ Business Team □ Technical Team □ Data migration Team

5. Work Experience in the Bank

□ Less than 3 year □ 3-5 years □ 5 years and above

6. On what key factors do you define Core banking system implementation Success? (Please rank if more than one selected)

□ Improved efficiency □ Reduced Complexity of operation

□ End user Satisfaction □ Low cost of ownership

□ Timely implementation □ Implement within budget

Other (please Specify) ……

Section II-

This part of questionnaire covers critical success factors in Core banking Solution implementation project at commercial Bank of Ethiopia. Please indicate how much you agree or disagree with each of the following statements by writing the number that best represents your opinion. 1 indicates strongly disagree (SDA), 2 indicates disagree (DA), 3 indicates neutral (N), 4 indicates agree (A) and 5 indicates strongly agree (SA).

S.no		Strongly disagree	Disagree	Neither agree not disagreed	Agree	Strongly agree
1	Assigning dedicated, Skilled and experienced project manager is mandatory in achieving successful implementation of Core Banking system.					
2	The leadership style of project manager is important in implementing Core banking System					
3	Dedicated project team and is mandatory to achieve successful implementation of a core banking system					
4	Dedicated resource is mandatory to achieve successful implementation of a core banking system					
5	Adopting the proposed system with minimum customization is important in CBS implementation.					

6	Prioritizing delivery of business requirements based on project timing is important in successful implementation.					
7	Top Management support is crucial for successful completion of the implementation process					
8	Top Management guidance is crucial for successful completion of the implementation process					
9	Undue influences or interference of top management in implementation process adversely affect the outcome of the project.					
10	Monitoring the progress of the project by the Board of Directors.					
11	Effective communication between stakeholders of the project is vital for the success of the implementation project.					
12	Using proper medium of communication during Core banking solution implementation process is important for successful implementation.					
13	Proper analysis of risk on implementing is Core Banking Solution is a critical success factor					

14	Having risk management plan is important in implementing successful Core Banking Solution.					
15	User Training is important factor for implementation success					
16	Vendor support and commitment is a key for successful implementation					
17	Any other factors related to banking system Implementation? 1. 2. 3. 4. 5. 6. 7.					

Comments:

1……

2……

3……

4……

5……

6……

ANNEX II

St. Mary University

School Graduate Studies

Masters of Business Administration in Project Management

Check List for in-depth Interview Questions Project Director and Team Leaders of CBS implementation project

Dear Respondent,

The objective of this interview is to gather and analyze relevant and in-depth information that will provide insights about critical success factors in Core Banking Solution implementation projects at Commercial Bank of Ethiopia. This study is undertaken as a partial requirement for the completion of MBA in Project Management.

1. What was your role in the Core Banking System Implementation Project?
2. What are the importances of professional project management in Core banking software implementation project? Explain
3. On what key factors do you define Core banking system implementation Success?
4. Was there monitoring and evaluation by BOD during implementation?
5. Do you think there was top Management support and guidance during implementation process? Explain
6. Do you think there was vendor support and commitment during implementation of the project? How?
7. Was there effective communication among project manager, vendor, team leaders team members and other stakeholders? How?
8. Was there proper analysis of risk in implementation of Core Banking Solution?
9. Do you have any comment to add?

ANNEX III

FREQUENCY TABLE RELATED TO CRITICAL SUCCESS FACTORS AND MEASURMENT CRITERIA

Frequency Table

On what key factors do you define core banking system implementation success?(please rank if more than one selected)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Improved efficiency	63	35.2	35.2	35.2
	Reduced complexity of operation	46	25.7	25.7	60.9
	End user satisfaction	55	30.7	30.7	91.6
	Low cost of ownership	11	6.1	6.1	97.8
	Implementation within budget	4	2.2	2.2	100.0
	Total	179	100.0	100.0	

Assigning dedicated, Skilled and experienced project manager is mandatory in achieving successful implementation of Core Banking system.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	8	4.5	4.5	4.5
	agree	32	17.9	17.9	22.3
	strongly agree	139	77.7	77.7	100.0
	Total	179	100.0	100.0	

The leadership style of project manager is important in implementing Core banking System

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	8	4.5	4.5	4.5
	agree	55	30.7	30.7	35.2
	strongly agree	116	64.8	64.8	100.0
	Total	179	100.0	100.0	

Dedicated project team and resource is mandatory to achieve successful implementation of a core banking system

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	8	4.5	4.5	4.5
	agree	59	33.0	33.0	37.4
	strongly agree	112	62.6	62.6	100.0
	Total	179	100.0	100.0	

Dedicated resource is mandatory to achieve successful implementation of a core banking system

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	5	2.8	2.8	2.8
	neither agree nor disagree	11	6.1	6.1	8.9
	agree	54	30.2	30.2	39.1
	strongly agree	109	60.9	60.9	100.0
	Total	179	100.0	100.0	

Adopting the proposed system with minimum customization is important in CBS implementation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	6	3.4	3.4	3.4
	Disagree	9	5.0	5.0	8.4
	Neither agree nor disagree	96	53.6	53.6	62.0
	agree	41	22.9	22.9	84.9
	Strongly agree	27	15.1	15.1	100.0
	Total	179	100.0	100.0	

Prioritizing delivery of business requirements based on project timing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	4	2.2	2.2	2.2
	neither agree nor disagree	85	47.5	47.5	49.7
	agree	56	31.3	31.3	81.0
	strongly agree	34	19.0	19.0	100.0
	Total	179	100.0	100.0	

Top Management support and guidance is crucial for successful completion of the Implementation Process

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	8	4.5	4.5	4.5
	neither agree nor disagree	32	17.9	17.9	22.3
	agree	60	33.5	33.5	55.9
	strongly agree	79	44.1	44.1	100.0
	Total	179	100.0	100.0	

Top management guidance important in successful implementation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	5	2.8	2.8	2.8
	disagree	1	.6	.6	3.4
	neither agree nor disagree	24	13.4	13.4	16.8
	agree	69	38.5	38.5	55.3
	strongly agree	80	44.7	44.7	100.0
	Total	179	100.0	100.0	

Undue influences or interference of top management in implementation process adversely affect the outcome of the project.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	neither agree nor disagree	51	28.5	28.5	28.5
	agree	100	55.9	55.9	84.4
	strongly agree	28	15.6	15.6	100.0
	Total	179	100.0	100.0	

Monitoring the progress of the project by the Board of Directors.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	4	2.2	2.2	2.2
	disagree	4	2.2	2.2	4.5
	neither agree nor disagree	5	2.8	2.8	7.3
	agree	40	22.3	22.3	29.6
	strongly agree	126	70.4	70.4	100.0
	Total	179	100.0	100.0	

Effective communication between stakeholders of the project is vital for the success of the project

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	8	4.5	4.5	4.5
	neither agree nor disagree	22	12.3	12.3	16.8
	agree	60	33.5	33.5	50.3
	strongly agree	89	49.7	49.7	100.0
	Total	179	100.0	100.0	

Using proper medium of communication during Core banking solution implementation process is important for successful implementation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	7	3.9	3.9	3.9
	neither agree nor disagree	22	12.3	12.4	16.3
	agree	61	34.1	34.3	50.6
	strongly agree	88	49.2	49.4	100.0
	Total	178	99.4	100.0	
Missing	System	1	.6		
Total		179	100.0		

Proper analysis of risk on implementing is Core Banking Solution is a critical success factor

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	8	4.5	4.5	4.5
	neither agree nor disagree	36	20.1	20.1	24.6
	agree	85	47.5	47.5	72.1
	strongly agree	50	27.9	27.9	100.0
	Total	179	100.0	100.0	

Having risk management plan is important in implementing successful Core Banking Solution

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	7	3.9	3.9	3.9
	disagree	2	1.1	1.1	5.0
	neither agree nor disagree	42	23.5	23.5	28.5
	agree	80	44.7	44.7	73.2
	strongly agree	48	26.8	26.8	100.0
	Total	179	100.0	100.0	

User Training is important factor for implementation success

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	8	4.5	4.5	4.5
	neither agree nor disagree	8	4.5	4.5	8.9
	agree	89	49.7	49.7	58.7
	strongly agree	74	41.3	41.3	100.0
	Total	179	100.0	100.0	

Vendor support and commitment is a key for successful implementation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	disagree	4	2.2	2.2	2.2
	neither agree nor disagree	21	11.7	11.7	14.0
	agree	103	57.5	57.5	71.5
	strongly agree	51	28.5	28.5	100.0
	Total	179	100.0	100.0	

ANNEX IV

Critical success factors identified by respondents in CBS implementation project

Descriptive Statistics

Attribute	N	Minimum	Maximum	Mean	Std. Deviation
Professional project manager	179	1	5	4.64	.878
Monitoring the progress of the project by the BOD.	179	1	5	4.56	.841
The leadership style of project manager	179	1	5	4.51	.889
Dedicated project team	179	1	5	4.49	.889
Dedicated project resource	179	1	5	4.46	.843
Effective communication	179	1	5	4.24	.985
User Training	179	1	5	4.23	.900
Top Management support	179	1	5	4.13	1.006
Vendor support and commitment	179	2	5	4.12	.692
Valid N (listwise)	179				

Source: Survey result November 2016

Factors identified as important for success but not identified by respondents

Descriptive Statistics

Attribute	N	Minimum	Maximum	Mean	Std. Deviation
Proper analysis of risk	179	1	5	3.94	.940
Undue influences or interference of top management in	179	3	5	3.87	.654
Prioritizing delivery of business requirements based on project timing	179	1	5	3.65	.864
Adopting the proposed system with minimum customization	179	1	5	3.41	.922
Valid N (listwise)	179				

ANNEX V

NUMBER OF ADDIS ABABA CITY AND SURROUNDING BRANCHES OF COMMERCIAL BANK OF ETHIOPIA

DISTRICT	NO. OF BRANCHES	TOTAL NO. OF BRANCHES
1.NORTHERN DISTRICT		
GRADE IV	5	**90**
GRADE III	4	
GRADE II	40	
GRADE I	41	
2.SOUTHERN DISTRICT		
GRADE IV	9	**79**
GRADE III	2	
GRADE II	49	
GRADE I	19	
3.EASTERN DISTRICT		
GRADE IV	5	**91**
GRADE III	3	
GRADE II	49	
GRADE I	34	
4.WESTERN DISTRICT		
GRADE IV	5	**101**
GRADE III	4	
GRADE II	46	
GRADE I	46	
TOTAL		**361**

SOURCE:COMMERCIAL BANK OF ETHIOPIA HRM PROCESS SEPTEMBER,2016

ANNEX VI

NUMBER OF ADDIS ABABA CITY BRANCHES
OF COMMERCIAL BANK OF ETHIOPIA

DISTRICT	Addis Ababa City Branches of CBE
1.NORTHERN DISTRICT	
GRADE IV	5
GRADE III	3
GRADE II	24
GRADE I	22
TOTAL	**54**
2.SOUTHERN DISTRICT	
GRADE IV	8
GRADE III	1
GRADE II	23
GRADE I	11
TOTAL	**43**
3.EASTERN DISTRICT	
GRADE IV	3
GRADE III	2
GRADE II	26
GRADE I	20
TOTAL	**51**
4.WESTERN DISTRICT	
GRADE IV	3
GRADE III	2
GRADE II	20
GRADE I	20
TOTAL	45
GRAND TOTAL	**193**

SOURCE:COMMERCIAL BANK OF ETHIOPIA HRM PROCESS
SEPTEMBER,2016

ANNEXVII

Table for Determining Sample Size from a Given Population 95% Confidence Interval

N	S	N	S	N	S
10	**10**	**230**	**140**	**1200**	**291**
15	**14**	**240**	**144**	**1300**	**297**
20	**19**	**250**	**148**	**1400**	**302**
25	**24**	**260**	**152**	**1500**	**30**
30	**28**	**270**	**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**	**351**
95	**76**	**480**	**214**	**5000**	**357**
100	**80**	**500**	**217**	**6000**	**361**
110	**86**	**550**	**225**	**7000**	**364**
120	**92**	**600**	**234**	**8000**	**367**
130	**97**	**650**	**242**	**9000**	**368**
140	**103**	**700**	**248**	**10000**	**373**
150	**108**	**750**	**256**	**15000**	**375**
160	**113**	**800**	**260**	**20000**	**377**

180	**118**	**850**	**265**	**30000**	**379**
190	**123**	**900**	**269**	**40000**	**380**
200	**127**	**950**	**274**	**50000**	**381**
210	**132**	**1000**	**278**	**75000**	**382**
220	**136**	**1100**	**285**	**10000**	**384**

Note: "N" is population size

"S" is sample size.

Source: Krejcie R. V. and Morgan D. W. (1970)