St. Mary's University

Faculty of Business

Department of Accounting

The Impact of Implementing Core Banking Technology on Commercial Bank of Ethiopia Profitability

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June, 2014

SMU

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DECLARATION

We the undersigned declare that this senior essay is our original work prepared under the guidance of Gebregziabher Hagos. All source of material used for the manuscript have acknowledgment.

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ABBREVIATIONS

CBE - Commercial Bank of Ethiopia

CORE- Centralized online Real-time Electronic Banking

ROA- Return on Assets

ROE- Return on Equity

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Chapter One
Introduction

1.1. Background of the Study

Commercial Banks are an integral part of the financial system of any country. Banks play an important role in mobilizing savings of individuals into productive investments.

The banking sector is essential for the Ethiopian economy and plays an important financial intermediary role therefore, its health is very critical to the health of the general economy at large. In the last twenty years there has been a rapid increase in the activity of private banks in Ethiopia, and this has fostered repaid competitiveness among banks in Ethiopia. In the increasing world of business, the task of each banks operating to make more profits is becoming a challenge with each passing day. In order for an organization like commercial banks to operate optimally, it has to be able to measure its profitability with regards to it inputs and output. (http://www. combanketh.com.)

Like all businesses, banks profit by earning more money than what they pay in expenses. The major portion of a bank's profit comes from the fees that it charges for its services and the interest that it earns on its assets. Its major expense is the interest paid on its liabilities. The major assets of a bank are its loans to individuals, businesses and other organizations and the securities that it holds, while its major liabilities are its deposit and the money that it borrows, either from other banks of by selling commercial paper in the money market.

The changing environment in which banks find themselves presents major opportunities for banks, but also entails complex, variable risks that challenge traditional approaches to bank management.

Nowadays, most banks use core banking applications to support their operations where CORE Banking stands for "centralized online real-time electronic banking". The platform where communication technology and information technology are merged to suit core needs of banking is known as core banking solutions. Here, computer software is developed to perform core operations of banking like recording of transactions, passbook maintenance, and interest calculations on loans and deposit, customer records, balance of payments and withdrawal. This software is installed at different branches of bank and then interconnected by means of communication lines like telephone, satellite, and internet and so on. Thus, it allows the user (customers) to operate accounts from any branch than a single branch (Microsoft, 2008).

Core banking system is basically the heart of all systems running in a bank and it forms the core of the bank's information technology platform. It is banking applications on a platform enabling a phased, strategic approach that is intended to allow banks to improve operations, reduce costs, and be prepared for growth. Implementing a modular, component based enterprise solution facilitated integration with a bank's existing technologies. An overall service oriented architecture helps banks reduce the risk that can result from manual data entry and out of date information, increases management information and review, and avoids the potential disruption to business caused by replacing the entire systems (htt://en. Wikipidia.org/wiki/core-banking)

Core Banking basically means that the entire bank's branches access applications from centralized datacenters. This means that the deposits made are reflected immediately on the bank's servers and the customer can withdraw the deposited money from any of the bank's branches throughout the world. These applications now also have the capability to address the needs of corporate customers, providing a comprehensive banking solution.

A few decades ago it used to take at least a day for a transaction to reflect in the account because each branch had their local servers, and the data from the server in each branch was sent in a batch to the servers in the datacenter only at the end of the day (EoD). Normal core banking functions will include deposit accounts, loans, mortgages and payments. Banks make these services available across multiple channels like ATMs, Internet banking, and branches. All the above issues improve the banks quality service and bring high level of customer satisfaction.

1.2. Statement of the Problem

The financial service industry is undergoing significant transformations. Mergers, consolidation, expansion, shifting customer preferences, emerging nontraditional competition and a continuously evolving complex regulatory environment are just some of the issues on the minds of bankers worldwide. With change coming this rapidly, banks must quickly embrace the new world order and accelerate growth to stay a step ahead of the competition. This requires shedding away the complexity which has grown significantly across business functions and operations (Rhoades,1998).

Bank leaders understand that technology is critical for simplifying banking to create sustainable business growth. But, many are burdened with disparate host systems added piecemeal, over time, and developed on obsolete technology. These legacy systems are simply not equipped to readily respond to change. However, bankers, having grown weary of lengthy deployments and the ensuing business disruption, have apprehensions about transformation. Yet, the need to modernize the organization remains as compelling as ever. A pain free approach to banking transformation, with an adaptive solution at the core, will prove invaluable for banks looking to gear themselves for tomorrow.

CBE Implement new Core Banking Technology is called T-24 before two years. The bank believes this technology enables improve profitability with ease of banking operations. In contrast, lack of customer awareness about the product of the new technology and employment training based on the new technology have a great impact on the profitability of CBE. According to the observation of the researchers, the technology faced the above mentioned reasons.

The purpose of the study is to evaluate and analyze the Impact of Implementing CORE Banking Technology on Commercial Bank of Ethiopia Profitability.

1.3. Research Questions:

1. Does the implementation of CORE banking technology have impact on profitability of Commercial Bank of Ethiopia?
2. How is the improvement of ROA (Return on Asset) of the bank after the implementation of CORE banking?
3. How is improvement of Return of Equity (ROE) of the bank after the implementation of CORE banking?
4. How is improvement in liquidity ratio and position of a bank after implementing Core banking?
5. How is the customer satisfaction?

1.4. Objective of the study

1.4.1 General objectives

The general objective of the study is to evaluate the impact of implementing core banking technology on commercial bank of Ethiopia 2012/2013

1.4.2 Specific objectives

The specific objective of the study is as follows:

- S To assess the impact of core banking technology on the Commercial Bank of Ethiopia profitability
- S To assess Return on Assets (ROA)
- S To examine Return of Equity (ROE)
- S To evaluate the liquidity position
- S To identify satisfaction of customer

1.5. Significance of the study

This study contribute to develop ground for standardized approach to core banking system, provide an insight about the impact of implementing core banking system in the bank; and observe the deficiencies that might be faced by the bank with regard to the core banking system and indicated the possible implications and recommendations for them.

1.6. Scope of the Study

Even though CBE currently has more than 815 branches and more than 627 branches are networked throughout the country. Besides, the study is delimited to the impact of implementing core banking technology in CBE by considering the two years audited financial statement year 2011/12 and 2012/13.

1.7. Research Design and Methodology

This part provides details of the research design and methodology used in this study. It also describes the research design research instrument, and the data analysis techniques to be use.

1.7.1. Research Design

This study is focus on the Impact of Implementation Core Banking Technology in CBE Profitability. Different measures of profitability have been suggested in the literature. However, the study uses Return on Assets (ROA) as measure of profitability and other financial indicators. It reflects the ability of management to utilize bank's financial and real investment resources to generate income.

1.7.2. Population and Sampling Size

The target populations are three Branch Premium and Business customers having real experiences both in smart banking and core banking technology.

Besides the population of study include Business and Premium customers of three branches such as Saris-Abo Grade II, Yosef Grade III and Finfine Grade IV branches under South Addis Ababa District.

The researcher experience in the specific stated area and time limitation force to use three branch areas. The three branches 200 Premium and Business customers within this area included as study concern.

Therefore 15% of the population was considered as sample size. This is equal 30 Premium and Business customers were selected as sample elements.

1.7.3. Sampling Techniques

Sampling techniques were used to convenience sampling. Sampling subject behavior and time available to use probability sampling, and lack of clear and sorted Premium and Business customer's data force the study to use Non probability sampling.

1.7.4. Types of Data and Research Instrument

Due to the basic need of the topic under study we used both primary and secondary data. Secondary data was used as two years financial statements to assess the profitability of the business in relation to implementing core banking. Year 2012 and 2013 official financial report of the bank used to measure ROE, ROA and liquidity position of the bank by using the above stated financial indicators. To see customer satisfaction, questioners distributed to the bank Premium and Business customers.

1.7.5. Data Analysis Method

The data from financial statement has analyzed by using descriptive data analysis method with common financial ratios like ratio analysis, which include liquidity ratio and profitability ratio. The methods involved computing and interpreting financial ratios and comparing to explain about their difference after implementation of CORE banking system. Through data obtained questionnaire were analyzed using descriptive tools such as percentage and mean. Tabulation and graphs was part of this analysis.

1.8. Limitation of the Study

Time was the major limitation of the study. It was not possible to increase the sample size and undertaken an in-depth study. Reference materials were also another problem that made the study limited.

1.9. Organization of the study

The study encompasses in to four chapters. The first chapter is introduction part of the study and it includes the Background of the study, Statement of the problems, Objective of the study, Significance of the study, Delimitation of the study, and Research Methodology. The second chapter was the Related Literature Review about the study and the third chapter included Data Presentation Analysis and Interpretation of the study. Chapter four dealt with Summary of major findings, Conclusions and Recommendation of the study.

CHAPTER TWO

REVIEW OF LITERATURES

<u>Theoretical Review</u>

2.1. Measure Banking Performance

Measure banking performance is a lot like measuring the performance of a traditional company. A bank's revenue is the return it makes from investments, and this income comes from interest or asset appreciation on investments. Profits are ultimately made from the spread between the amount banks pay for the investments and the amount they receive from borrowers. The Most commonly used measure of profit for a bank is referred to as net interest margin (Collins, 2001).

Although net income gives us an idea of how well a bank is doing, it suffers from one major drawback: It does not adjust for the bank's size, thus making it hard to compare how well one bank is doing relative to another. A basic measure of bank profitability that corrects for the size of the bank is the return on assets (ROA) which divides the net income of the bank by the amount of its assets. ROA is a useful measure of how well a bank manager is doing on the job because it indicates how well a bank's assets are being used to generate profits.

By bank performance, generally it implies whether a bank has faired well within a trading period to realize it objectives. The only document that explains this is presumably the published financial statements.

According to Rose (2001) a fair evaluation of any bank's performance should start by evaluating whether it has been able to achieve the objectives set by management and stockholders. Certainly, many banks have their own unique objectives. Some wish to grow faster and achieve some long-range growth objective, others seem to prefer quiet life, minimizing risk and conveying the image of a sound bank, but with modest rewards to their shareholders.

Ordinarily, stock prices and its behavior are deemed to reflect the performance of a firm. This is a market indicator and may not be reliable always. However, the size of the bank, the volume of deposit and its profitability could be considered as more reliable performance indicators. For the purpose of this study, profitability indicators, precisely the Return on Equity Capital (ROE) and the returns on Assets (ROA) are used to assess bank performance.

These ratios are indicators of management efficiency, and rate of returns. According to Rose (2001), these profitability measures vary substantially over time and from one banking market to another. The ROE and ROA are popularly in use today. Nikolai & Bazley (1997) hypothesize that the amount of net income earned in relation to total assets is an indicator of how efficiently a company uses its economic resources. They further stressed that when the ROE is higher than the ROA, the company has favorable financial leverage.

2.2. Evaluation of Financial Performance

"Financial analysis is the process of identifying the financial strengths and weaknesses of the firm by properly establishing relationships between the items of the balance sheet and the profit and loss account" (pandey,1999).

Moreover, M Y Khan & P K Jain (2004) defines financial analysis as "a process of evaluating the relationship between component parts of financial statements to obtain a better understanding of the firms (companies) position and performance."

Prasonna (1997) on his part defines financial analysis as "a process that follows different steps, starting from preparation activates to decision making.

Generally, Financial Analysis is a judgmental process. One of the primary objectives is identification of major changes in trend, and relationships and the investigation of the reasons underling those charges.

Financial performance analysis allows mangers, investors and creditors, as well as potential investors, to reach conclusion about financial status of a firm. What is perhaps more important about financial statement analysis is forecasting outcomes about a firm's future financial performance (Prasonna,1997).

The first task of the financial analyst is to select the information relevant to the decision under consideration from the total information contained in the financial statements. The second step is to arrange the information in a way to highlight significant relationship. The final step is interpretation and drawing of inference and conclusions. In brief, financial analysis is the process of selection, relation and evaluation (M.Y Kan & P K Jain, 2004).

2.2.1. Computation

Computation process involves that application of various tools and techniques to gain a better understanding of the firm's financial performance and condition. This process of the analysis leads to final appropriate ratio and percentages by relating financial statement figures. It will use different techniques like ratio analysis, common size analysis and trend analysis (Lawrence, 1991)

2.2.2. Evaluation and Interpretation

The last step in the financial statement analysis is evaluation and interpretation of the ratio. It involves determining a meaningful analysis that develops cause and recommendations about the performance of firm's and its financial conditions. This is the most important step of financial analysis, because it gives meaningful interpretation to the computed ratio and percentages (Prasonna, 1997).

2.2.3. Tools and Techniques of Financial Analysis

Different methods are applicable to get a better understanding about financial status of the organization and operating results. The most frequently used techniques in analyzing financial statements are presented in the following manner.

2.2.4. Ratio Analysis

According to Raymond (1985) the first step in executing an analysis of financial statement is to carefully read the statements and their accompanying notes. This is frequently followed by ratio analysis. The use of ratio analysis has become widespread to the extent that computerized financial statement analysis programs prepare financial ratios as part of their overall analysis. Lenders and potential lenders, such as commercial banks and insurance companies, use similar automated programs in evaluating corporate loan applications. They use the same programs in measuring the financial condition of other borrows.

Ratio analysis enables the analyst to compare items on a single financial statement or to examine relationship between items on two financial statements. After calculating ratios for each year's financial data, the analyst can then examine trends for the company across years. Since ratios adjust for size using the analytical toll facilitates intercompany as well as intra company comparisons. (Raymond,1985).

In general, a ratio is a simple mathematical expression of relationship of one item to another. Every percentage may be viewed as a ratio that is, one number expressed as a percentage of another.

2.2.4.I. Standards of Comparison

According to Pandey (1999) the ratio analysis involves comparison for a useful interpretation of the financial statements. A single ratio in itself does not indicate favorable or unfavorable condition. It should be compared with some standard. Standards of comparison may consist of:

S **Past ratios**:- ratios calculated from the past financial statements of the same firm.

S **Competitors' ratios:-** ratios of some selected firms, especially the most progressive and successful competitor, at the same point in time.

S **Projected ratios**:-ratios developed using the projected, or pro forma, financial statements of the same firm.

2.2.4.2. Types of Ratio

Ratio are classified into four important categories as stated by Raymond, (1985). They are:-

- **Liquidity ratios**:- measure a corporation's ability to pay its current liabilities as they mature.
- **Activity ratios**:- measure the degree of efficiency the corporation displays in using its resources.
- **Debt or Leverage ratios**:- measure a corporation finances itself with debt as opposed to equity sources.
- **Profitability ratios**:- measure the ability of a corporation to earn a positive rate of return for its stockholders.

According to Pandey (2000) ratios are also classified in to four parts. Liquidity ratios, Leverage ratios, Activity ratios and Profitability ratios.

A. Liquidity Ratios

It is extremely essential for a firm to be able to meet its obligations as they become due. Liquidity ratios measure the ability of the firm to meet its current obligations. In fact, analysis of liquidity needs the preparations of cash budgets and cash and fund flow statements; but liquidity ratios, by establishing a relationship between cash and other current assets to current obligations, provide a quick measure of liquidity. A firm should ensure that it does not suffer from lack of liquidity, and also that it does not have excess liquidity. The failure of a company to meet its obligations due to lack of sufficient liquidity, will result in a poor creditworthiness, loss of creditors' confidence, or lack of sufficient liquidity, will result in a poor creditworthiness, loss of creditors' confidence, or even in legal tangles resulting in the closure of the company. A very high degree of liquidity is also bad, idle asses earn nothing. The firm's funds will be unnecessarily tied up in current assets. Therefore, it is necessary to strike a proper balance between high liquidity and lack of liquidity.

The most common ratios which indicate the extent of liquidity or lack of it are (i) current ratio and (ii) quick ratio. Other ratios include cash ratio, interval measure and net working capital ratio.

i. Current Ratio

The current ratio is calculated by dividing current assets by current liabilities.

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

Current assets include cash and those assets which can be converted into cash within a year, such as marketable securities, debtors and inventories. Prepaid expenses are also included in current assets as they represent the payments that will not be made by the firm in the future. All obligations maturing within a year are included in current liabilities. Current liabilities include creditors, bills payable, accrued expenses, short term bank loan, income tax liability and long term debt maturing in the current year.

The current ratio is a measure of the firm's short term solvency. It indicates the availability of current assets in rupees for every one rupee of current liability. A ratio of greater than one means that the firm has more current assets than current claims against them (Pandey,2000).

ii. Quick Ratio

Quick ratio establishes a relationship between quick, or liquid, assets and current liabilities. An asset is liquid if it can be converted into cash immediately or reasonably soon without a loss of value. Cash is the most liquid assets. Other assets which are considered to be relatively liquid and included in quick assets are debtors and bills receivables and marketable securities (temporary quoted investments). Inventories are considered to e less liquid. Inventories normally require some time for realizing into cash; their value also has a tendency to fluctuate. The quick ratio is found out by dividing quick asset assets by current liabilities.

$$\text{Quick ratio} = \frac{\text{Current assets - Inventories}}{\text{Current liabilities}}$$

A. Cash Ratio

Since cash is the most liquid asset, a financial analyst may examine cash ratio and its equivalent to current liabilities. Trade investment or marketable securities are equivalent of cash; therefore, they may be included in the computation of cash ratio (Pandey,2000).

B. Leverage Ratios

The short term creditors, like bankers and supplier of raw material, are more concerned with the firm's current debt paying ability. On the other hand, long term creditors, like debenture holders, financial institutions etc. are more concerned with the firm's long term financial strength. In fact, a firm should have a strong short as well as long term financial position. To judge the long-term financial position of the firm, financial leverage, or capital structure, ratios are calculated. These ratios indicated mix of funds provided by owners and lenders. As a general rule, there should be an appropriate mix of debt and owners' equity in financing the firm's assets.

The manner in which assets are finances has a number of implications. First, between debt and equity, debt is more risky from the firm's point of view. The firm has a legal obligation to pay interest to debt holders, irrespective of the profits made or losses incurred by the firm. If the firm fails to pay to debt holders in time, they can take legal action against it to get payments and in extreme cases, can forces the firm into liquidation. Second, use of debt is advantageous for share holders in two ways: (a) they can retain control of the firm with a limited stake and (b) their earning will be magnified, when the firm earns a rate of return on the total capital employed higher than the interest rate on the borrowed funds. (Pandey,2000).

The process of magnifying the shareholder's return through the use of debit is called "financial leverage” or "financial gearing” or "trading on equity.” However, leverage can work in opposite direction as wee. If the cost of debt is higher than the firm's overall rate of return, the earnings of shareholders will be reduces. In addition, there is threat of insolvency. If the firm is actually liquidated for nonpayment of debt holders' dues, the worst sufferers will be shareholders the residual owners. Thus, use of debt magnifies the shareholder's earnings as well as increases their risk. Third, a highly debt burdened firm will find difficulty in raising funds from creditors and owners in future. The owners' equity is treated as a margin of safety by creditors: if the equity base is thin, the creditors risk will be high. Thus, leverage ratios are calculated to measure the financial risk and the firm's ability of using debt to shareholders' advantage (Pandey,2000).

C. Activity Ratio

Funds of creditors and owners invented in various assets to general sales and profits. The better of management of assets, the larger the amount of sales will be. Activity ratio employed to evaluate the efficiency which the firm's manages and utilized its assets. This ratio is also called turnover ratio because they indicate the speed with which assets are being converted or turned over into sales. A proper balance between sales and asses generally reflects that assets are managed well; several activity ratios can be calculated to judge the defectiveness of asset utilization (Pandey, 2000).

Activity ratios measure how efficiently a corporation manages its assets. Efficiency is equated with rapid turnover; hence, these ratios are referred to collectively as activity ratios. Some activity ratios concentrate on individual assets such as inventory or accounts receivable. Others look at coverall corporate activity. The three activity ratios discussed here measure inventory turnover, total assets turn over, and the average length of the account receivable collection period (Raymond, 1985).

D. Profitability Ratios

According to Pandey (2000) the company should earn profits to survive and grow over a long period of time. Profits are essential, but it would be wrong to assume that every action initiated by management of a company should be aimed at maximizing profits, irrespective of social consequences, It is unfortunate that the word 'profit' is looked upon as a term of abuse since some firms always want to maximize profits at the cost of employees, customers and society. Except such infrequent cases, it is a fact that sufficient profits must be earned to sustain the operations of the business to be able to obtain funds from investors for expansion and growth and to contributed towards the social overheads for the welfare of the society.

Profit is the difference between revenues and expenses over a period of time (usually one year). Profit is the ultimate "Output” of a company, and it will have no future if it fails to make sufficient profits. The financial manager should continuously evaluate the efficiency of the company in term of profits. The profitability ratios are calculated to measure the operating efficiency of the company.

2.3. Banking Industry in the Emerging Market Economies

According to Hawkins and Mihaljek (2002) the banking industry worldwide is being transformed. The global forces for change include technological innovation; the deregulation of financial services at the national level and opening-up to international competition; and - equally important - changes in corporate behavior, such as growing disintermediation and increased emphasis on shareholder value.

i. Forces for change

some of the main forces shaping the banking industry in the emerging market economies in recent years. The approach followed is eclectic and no attempt is made to assign weights to the different forces for change that are identified. The reason for such an approach is simple: banking, like other economic activities, is in the midst of rapid - many would argue historic - structural change driven by the development and application of new information technology (IT). Because the core area of this technology is information processing - which also lies at the heart of financial intermediation - and because the development and use of IT are bound to continue (regardless of the movement in new technology stock indices), it is still far too early to grasp where exactly the banking industry is headed. At least three other forces underlie recent changes in the emerging economies. Banking industry:

domestic deregulation and external opening-up of financial sectors, changes in corporate behavior and banking crises (Hawkins and Mihaljek,2002).

ii. Deregulation and Opening-up to Foreign Competition

According to M and Turner (1996) Banking in the emerging economies was traditionally a highly protected industry, living off good spreads achieved on regulated deposit and lending rates and pervasive restrictions on domestic and foreign entry. However, global market and technology developments, macroeconomic pressures and banking crises in the 1990s have forced the banking industry and the regulators to change the old way of doing business, and to deregulate the banking industry at the national level and open up financial markets to foreign competition. As a result, borders between financial products, banks and non-bank financial institutions and the geographical locations of financial institutions have started to break down (Hawkins and Mihaljek,2002).

These changes have significantly increased competitive pressures on banks in the emerging economies and have led to deep changes in the structure of the banking industry. One of the main catalysts for increased competition at the domestic level has been the removal of ceilings on deposit rates and the lifting of prohibitions on interest payments on current accounts (Hawkins and Mihaljek,2002).

These deregulation measures have reduced sources of cheap funding for many banks and put pressure on their profits. Intensified competition has made it harder for banks to cross-subsidies different activities and has forced them to price risks more realistically and to charge explicitly for previously free services. This has been unpopular and poses considerable public relations challenges for banks. Banks also increasingly face competition from the non-bank financial industry, especially for lending to large companies (M and Turner,1996).

iii. Technology

As in advanced economies, new technology is affecting the structure and performance of the banking industry in the emerging markets mainly through its impact on the costs and the determination of optimal scale. This cost advantage would seem to favor smaller institutions, as investments needed to attract deposits or provide banking services via the internet are in principle lower than the costs of setting up a traditional branch network. At the same time, investments needed to develop adequate back office and risk assessment systems are very high, creating considerable cost advantages for larger institutions. Moreover, branch networks are not expected to shrink as a result of the development of alternative delivery channels, although branches are generally expected to become smaller (Sundaram, 2004).

2.3.1. Banking Technology And The Economic Effects

Banks are also significant users of financial technologies that employ economic and statistical models to create and value new securities, estimate return distributions, and make portfolio decisions based on financial data. Examples include financial engineering used to create new financial derivatives, credit risk and market risk models employed to improve portfolio management, and modern credit scoring and discriminate analysis used to evaluate credit applications. These financial technologies often depend heavily on the use of IT to collect, process, and disseminate the data, as well as on economic and statistical models to evaluate the data.

Technological progress in the banking industry is also important because of the key roles of banks in providing financing, deposit, and payments services to other sectors of the economy. Examples of technological changes in the banking industry Rather than reviewing microeconomic research on all banking technologies, we focus primarily on three examples in which the technological changes can be observed and some of their effects can be directly measured - Internet banking, electronic payments technologies, and information exchanges. These may not be the most important banking technologies, but they illustrate the multiplicity of potential different actual and measured effects of technological progress.

2.3.1.1. Electronic Banking

Electronic banking is the conduct of banking business electronically which Involves the use of information communication technology to drive banking Business for immediate and future goals. (Daniel,1999)

It also includes the provision of retail and small value banking products and services through electronic channels as well as a large value electronic payment and other wholesale banking services delivered electronically (Alsmadi and Alwabel, 2000)

2.3.1.2. Types and Delivery Channels of E-banking

According to Khrawish, H.A and Al-Sa'di (2011) E-banking can be classified into three basic types. These include Internet banking, Smart card banking and Mobile/telephone banking.

A. Internet Banking

This is a type of E-banking service where customers' instructions are taken and attended to through the internet. Internet banking offers customers the possibility of enjoying banking services from the comfort of their homes and offices. What this means is that customers can buy goods by placing orders from the net, instruct their banks to pay the vendor the invoice amount involved, and the products are delivered to the destination where the buyer wants.

B. Smart Card Banking

This is the conduct of banking transactions through the use of electronic cards (ATM Card, Debit Card, Credit Card etc.). The smart card system makes it easy for bank customers to have access to cash, carry out transfers and make enquiries about their accounts without visiting the banking hall. Smart card facility is usually mounted at strategic places in the cities such as supermarkets, Hotels, Transport terminals, shopping malls etc.

C. Mobile/Telephone Banking

This involves the conduct of banking business through the use of mobile phones or fixed wireless phones. It takes the following steps: Instructions are passed via voice or short messages (SMS) to the computer; the computer decrypts the message and executes the instructions through a highly coded device. Then, the response is given back to the customer electronically.

2.3.1.3 Benefits of Electronic-banking

Rogers (1995) posits that the rate of adoption of a new innovation is related to (perceived) relative advantage: The greater the perceived related advantage, the faster the adoption. Secondly, the desire to improve organizational performance is seen to be an enabler for technological change. However, the benefits of electronic banking encompass a broad range of functions and include: Electronic mail (e-mail) improves communication between individuals and the bank, within the bank, with the bank and external parties and between banks.

The availability of online information provides bankers and customers with a powerful vehicle for research. Banks can provide information and services online which customers can pay for and receive.

The banking software is usually improved on short term basis causing huge financial costs to the banks. To the capital providers, they expect that there would be tremendous returns accruing from the project if information driven technology (e-banking) is adopted. Going through annual financial reports of Nigerian banks in recent years, they reveal that dividend returns are decreasing while other performance indicators seem to be weak contrary to the expectation of the shareholders or investors. Generally, there appears not to be improvement on banks' returns on equity and assets as speculated. This study tries to fill the gap and to complement previous literature available on electronic and internet banking in Nigeria. Although, there has been vast study on the benefits the banks customers will derive on adoption of electronic banking, there is however less research outputs in the area of returns on assets and returns on equity to investors (Rogers, 1995).

Consequently, electronic banking (e-banking) has been the greatest challenge to the banking industry going by the sophistication and volume of fraudulent practices associated with this form of banking. In the past few years, banking activities in Nigeria have increasingly depended on the deployment of information and communications technology. Customers' insatiable appetite for efficient services has compelled financial institutions to fast track to a more radical transformation of their business systems and models for embracing e-banking. E-banking appeal as well its product development is rapidly growing, and the global acceptance has strongly encouraged its penetration. The success of e-banking is contingent upon reliable and adequate data communication infrastructure (Rogers,1995).

Therefore, it is efficient for banks to invest in online transactions through the creation of networks. However, there has been a mix up between electronic banking and internet banking. The fact is that internet banking is subsumed in electronic banking. Banking has come a long way from the time of ledger cards and other manual filing systems. Most banks today have electronic systems to handle their daily voluminous tasks of information retrieval, storage and processing. Irrespective of whether they are automated or not, banks by their nature are continually involved in all forms of information management on a continuous basis (Rogers,1995).

Hernando and Nieto (2000) found that the impact of adopting internet on the performance of banks as a delivery channel of e-banking takes time to appear. They hold the view that the adoption of a transactional website has a positive impact on profitability which becomes significant in terms of ROA and ROE three years after adoption. This finding actually conveys that there is a lag period for positive profitability impact to manifest on adoption of electronic banking. However, their study revealed some weaker evidence of an earlier positive impact on adoption of e-banking particularly in terms of ROA.

2.3.2. Technology in Banking and Customer Engagement

Customer focus is a key objective of banks. Until the advent of the technology era, the customer was given a little personal touch, but the customer service efforts were disjointed. This was because banks used customer data gathered on different occasions, or occasionally employed traditional tools like surveys to get customer feedback, and used these disparate insights to improve their level of service. Some branches provided better service by building a rapport with customers over the years. Although such repeated interactions enabled bank staff to develop intimate knowledge about customers and offer them personal attention, this knowledge was not shared with the institution and was certainly lost when the employees moved out. As size and scale increased, it became impossible for bank staff to keep track of each customer (Ernst and young).

Information technology has helped banks overcome these shortcomings by facilitating the capture, retention and institutionalization of customer data and even made it possible for them to project future customer behavior. Rapid advancements in this space and back-to-back innovations have helped banks pay greater attention to the customer and indeed, center banking activity round him.

Banks have a natural advantage over other business organizations in that they gather huge volumes of data during the course of day to day operations, which when mined correctly can yield a wealth of customer insight. The first step in this process is to find out what the customer wants. For instance, it is a simple banking process, personalized service, the ability to use the latest devices for banking, security, a facility to view updated banking information or all of the above? Banks should first satisfy these needs and then proceed to engage the customer and enhance his banking experience in innovative ways.

2.3.2.1 Customer Analytics Software

While core banking solutions record customer data, customer analytics software enables banks to gain deeper insight into the mind of the customer. Predictive analytics solutions enable forecasting of customers' likely behavior, need for new products and risk of attrition. Armed with this information, banks can make the first move instead of waiting for customers to initiate a transaction. They can either pro-actively reach out to customers with their proposition, or mention the subject when they visit the branch or ring the call center.

2.3.2.2. Technology for Security

While the use of high-tech channels has brought unprecedented gains, it has also introduced new security risks. Fear of ID theft and financial fraud has prevented many customers from adopting these channels. On their part, banks Customer Analytics Software Technology for Security and security technology vendors have invested huge efforts to make multi-channel banking highly secure through multi-factor authentication, instantaneous transaction alerts and so on.

2.3.2.3. Benefits of Customer Focus Endeavors

Leveraging technology for improving customer focus benefits the bank in various ways.

i. Cost Reduction

Although technology is a big ticket investment, it yields a substantial return by way of huge reduction in transaction and maintenance costs.

Use of automated procedures and introduction of non-branch channels - in addition to making banking convenient for the customer - have drastically cut employee costs. The emergence of new channels has led to fewer footfalls in branches. Branches are therefore smaller, spending less on real estate and rent. Technology also helps analyze as well as predict customer behavior, which helps banks improve resource utilization and efficiency by selling the right product to the right customer through the right channel at the right time.

ii. Performance Improvement

Take the example of the processes underlying a product purchase. Existing customers feel quite frustrated when they are asked for the same information each time they take up a new product. The issue is compounded when they make simultaneous purchases offered by the bank's different business lines. From the bank's point of view, customer information silos and disparate processes across business units or product categories mean higher cost and longer delay in fulfillment. Technology can alleviate this problem by integrating data and processes across the banking organization, to deliver a smoother experience to the customer and better performance to the bank.

iii. Customer Loyalty

When customers see their bank going the extra mile to meet their expectations, they become more loyal and might even turn into advocates.

iv. Improved Revenues

Heavy Investment Keeping Pace Trained Staff Ultimately, technology that is used to improve customer focus leads to higher revenues by way of better retention and cross sales.

II. Empirical Review

Abaenewe and Chibueze (2013) study investigated the profitability performance of Nigerian banks following the full adoption of electronic banking system. This study became necessary as a result of increased penetration of electronic banking which has redefined the banking operations in Nigeria and around the world. Judgmental sampling method was adopted by utilizing data collected from four Nigerian banks. These four banks are the only banks in Nigeria that have consistently retained their brand names and remain quoted in the Nigerian Stock Exchange since 1997.

The profitability performance of these banks was measured in terms of returns on equity (ROE) and returns on assets (ROA). With the data collected, we tested the pre- and post-adoption of E-banking performance difference between means using a standard statistical technique for independent sample at 5 percent level of significance for performance factors such as ROE and ROA. The study revealed that the adoption of electronic banking has positively and significantly improved the returns on equity (ROE) of Nigerian banks. On the other hand and on the contrary, it also revealed that e-banking has not significantly improved the returns on assets (ROA) of Nigerian banks.

The findings of this study have motivated new recommendations for bank customers, bank management and shareholders with regard to electronic banking adoption for banking operations. On the other hand, the results also reveal that there is no significant difference between pre- and post- returns on assets (ROA) of Nigeria banks on adoption of e-banking. Here, the implication of this result is that electronic banking adoption has not significantly improved the returns on assets of Nigerian banks. These tests for difference of means applied to test pre - and post returns on adoption of the e-banking technology showed no positive impact of the e-banking technology on the profitability performance indicator measured as ROA, hence the t-calculated < ta0.05 .i.e. -.946 < 2.571. Going by the activities of banks and their full integration into electronic banking system, the operations costs of banks have increased rapidly in relation to turnover. It is also a known fact that electronic banking technology is capital intensive which involves huge initial capital spending and associated maintenance costs. Consequently, electronic banking equipment has increased the total cost of assets of banks. As a result of the above, total asset returns being positive in the short run may not be feasible. It is expected that there should be lag period before positive returns on total assets are noticed.

When we see the conclusion given by the researcher, he said the reason in short run the ROA decreases; because the cost of implementing the core banking technology is high. But we suggest that cost of implementing core banking technology is not only the reason of decreases the ROA in the short run.

In our research, we try to shown the significant or non-significant Impact of Implementing Core Banking Technology in the CBA profitability based on ROA, ROE and liquidity after the implementation of Core Banking Technology since 2011/2012 and 2012/2013.

CHAPTER THREE

Data Presentation Analysis and Interpretation

In this section, data organized from different area is presented, analysis and discussion is made across the primary collected data and the secondary data. Before presentation and analysis of the data, it could be important to pronounce the process of data collection. As showed in the methodology section of this research, the researchers intends to collect primary and secondary data through questionnaires and document reviews.

Document assessment was the method employed for collecting the required data. From those documents researches, reports, publications, broachers and internet were the major ones. And also thirty questionnaires were spread to three branches of Commercial Bank of Ethiopia Grade-II Saris Abo branch, Grade-III Yosef branch and Grade-IV Finfine branch all questionnaires distributed equally for the three banks. Three key informants were put questions to collect the required data. Out of the total questionnaires spread to customers of Commercial Bank of Ethiopia, thirty were properly filled out and used for analysis. The chapter has three sections and organized based on Document analysis. The primary section assesses the profit of the commercial Bank of Ethiopia in relation to the Core Banking Technology. In order to analysis the impact of the core banking on commercial Bank of Ethiopia within two years. That means before and after implement the core banking system. The second section deals with the general profile of the respondents. The third analyzes the contribution of company to assess the customer satisfaction of the user.

3.1 Data Analysis Based on Financial Statements of CBE

At what time the core banking system implement on Commercial Bank of Ethiopia?

On July 1, 2011, CBE also awarded International Business Machines Corp. IBM a three million dollar contract to modernize the bank's core banking systems.

According to the agreement, IBM will provide hardware, software and IT services to support the bank in its fast business growth and shift from manual financial processes to real-time financial services. At the end of May, 2012 core banking system was implementing on Commercial Bank of Ethiopia.

How many banks connect with core banking system in CBE?

Nowadays there are about 815 branches of Commercial Bank of Ethiopia of which there are 627 banks are inter-connect on core banking of Commercial Bank of Ethiopia.

Explain the impact of core banking technology on profitability of CBE

NAME OF ACCOUNTS	ACTUAL July 01, 2012 up to June 30, 2013	PROJECTION Budget	LAST YEAR ACTUAL July 01, 2011 up to June 30, 2012
INTEREST INCOME	9,539,040,882	9,945,025,000	6,703,273,523
INTEREST EXPENSE	2,376,064,326	2,431,318,000	1,674,560,618
NET INTEREST INCOME	**7,162,976,556**	**7,513,707,000**	**5,028,712,905**
	7,162,976,556	**7.513.707.000**	**5,028,712,905**
NON INTEREST INCOME	4,026,811,337	5.412.207.000	4,754,692,721
NON INTEREST EXPENSES	2,692,606,058	2,723,663,000	1,892,567,716
PROFIT/LOSS BEFORE TAXATION	**8,497,181,834**	**10,202,251,000**	**7,890,837,910**
INCOME TAX	2,677,946,003	3,033,332,000	2,471,418,279
PROFIT/LOSS AFTER TAXATION	**5,819,235,832**	**7,168,919,000**	**5,419,419,630**
MINORITY INTEREST			
NET PROFIT/LOSS FOR THE YEAR	**5,819,235,832**	**7,168,919,000**	**5,419,419,630**
APPROPRIATION			
LEGAL RESERVE (25%)	1,454,808,958	1,792,229,750	1,354,854,908
STATE DIVIDEND (75%)	4,364,426,874	5,376,689,250	4,064,564,723
RETAINED EARNINGS			

Source: CBE provisional statement of comprehensive income for the period covering July 01, 201 2 up to June 30, 201 3

The budget of commercial bank of Ethiopia had a plan to get 7,168,919,000 during 2012 after implement core banking system in the end of 2011 and beginning of 2012 up to 2013 ends. Before core banking implement, the actual profit has been seen 5,419,419,630. When we looked the actual profit of commercial banking of Ethiopia was 5,819,235,831 birr, after core banking implement during the season of 2012. We can see 399,816,201 birr of profit difference within the commercial bank of Ethiopian.

Profit Analysis from 2012 to 2013 on Commercial Bank of Ethiopia

This section examines the findings gathered from the report, document and budget of commercial bank of Ethiopia. Data was collected through document review which was announce by the budget and plan of the bank which checked by external auditors within the bank. The budget of commercial bank of Ethiopia had a plan to get 7,168,919,000 during 2012 after implement core banking system in the end of 2011 and begging of 2012 up to 2013 ends. We had seen the document of commercial bank of Ethiopia that was provisional statement of income for the period covering July 01, 201 2 up to June 30, 201 3. Before core banking implement, the actual profit has been seen 5,419,419,630. When we looked the actual profit of commercial banking of Ethiopia was 5,819,235,831 birr, after core banking implement during the season of 2012. The findings have been presented in two parts; one representing data gathered from July 01, 2011 to June 30, 2012 of actual profit explain on income statement. Another presenting data gathered from July 01, 2012 to June 30, 2013 of actual profit explain on income statement of Commercial Bank of Ethiopia budgets. The explanation present as follows.

PROVISIONAL STATEMENT OF COMPRHENSIVE INCOME

FOR THE PERIOD COVERING JULY 01, 2012 UP TO JUNE 30, 2013

Name of Accounts	**July 01, 2012 to June 30, 2013**	**July 01, 2011 to June 30, 2012**
Interest income	9,539,040,882	6,703,273,523
Interest expense	2,376,064,326	1,674,560,618
Net interest income	7,162,976,556	5,028,712,905
Non-interest income	4,026,811,3367	4,754,692,721
Non-interest expenses	2,692,606,058	1,892,567,716
Profit/loss before taxation	8,497,181,834	789,0837,910
Income tax	2,677,946,003	2,471,418,280
Profit/loss after taxation	5,819,235,832	5,419,419,630
Net profit/loss for the year	5,819,235,832	5,419,419,631

Source: CBE provisional statement of comprehensive income for the period covering July 01, 201 2 up to June 30, 201 3

From the above information, we can prepare the income statement of the two years as follows: - the first income statement shows, the profit of commercial Bank of Ethiopia has been pronounced before the core banking system implemented. The period was starting July o1, 2011 to June 30, 201 2.

INCOME STATEMENT OF COMMERCIAL BANK OF ETHIOPIA

FOR THE PERIOD JULY 01, 2011 TO JUNE 30, 2013

	JULY 01, 2011 TO JUNE 30, 2012	**JULY 01, 2012 TO JUNE 30, 2013**
REVENUE		
Interest income	6,703,273,523	9,539,040,882
Non-interest income	4,754,692,7 2 1	4,026,811,337
Total	11,457,966,244	13,565,852,219
EXPENSE		
Interest expense	1,674,560,618	2,376,064,326
Non-interest expense	1 , 892,567,716	2,692,606,058
Income tax	2,471,418,279	2,677,946,003
Total	6,038,546,613	7,746,616,387
Net Income	**5.419.419.631**	**5,819,235,832**

Source: CBE Income statement of commercial bank of Ethiopia for the period July 01, 2011 to June 30, 2013

From the above analysis of the document indicated that the profit on July o1, 2011 to June 30, 201 2 was 5,419,419,631 birr recorded as gain. The profit had been gotten before banking system implement on Commercial bank of Ethiopia. This profit used for analyzing for after core banking system implemented.

And also the profit on July 01, 2012 to June 30, 2013 was 5,819,235,832 birr recorded as gain. The profit had been gotten after banking system implement on Commercial bank of Ethiopia. This profit used for analyzing for after core banking system implemented.

From the above income statement, before core banking implemented, the profit of commercial bank of Ethiopia was 5,41 9,419,631 birr. But after core banking implemented the profit of commercial bank of Ethiopia was 5,819,235,832 birr. We can see 399,816,201 birr of profit difference within the commercial bank of Ethiopian. The profit of commercial bank of Ethiopia was increase by 7.38% after implement the core banking system. So we can conclude that core banking system had the grass root of income for the profit of the commercial bank of Ethiopia.

Evaluate ROA and ROE

The profitability performance of these banks was measured in terms of returns on equity (ROE) and returns on assets (ROA). With the data collected, we tested the pre- and post-adoption of E-banking performance difference between means using document from taking Commercial bank of Ethiopia before implement and after implement core banking system. The significance for performance factors such as ROE and ROA. The study revealed that the adoption of electronic banking has positively and significantly improved the returns on equity (ROE) of Commercial Bank of Ethiopia.

From the provisional statement of financial position information, we can prepare the return on asset and return on equity of the two years as follows: - the first return on asset and return on equity shows, the performance factor of commercial Bank of Ethiopia has been pronounced before the core banking system implemented. The period was starting July o1, 2011 to June 30, 201 2.

years	Total profit	Asset	Equity	Return on Asset (ROA)	Return on Equity(ROE)
July o1, 2011 to June 30, 2012	5,419,419,631	219,905,525,949	9,590,425,000	0.025	0.57
July 01, 2012 to June 30, 2013	5,819,235,832	194,488,321,717	9,045,234,650	0.3	0.64

Source: CBE provisional statement of financial position and statement of change in equity as at June 30, 201 3

The above result shows the performance factor of return on asset on July o1, 2011 to June 30, 2012. That is 0.025.

The above result shows the performance factor of return on equity on July o1, 2011 to June 30, 2012. That is 0.57.

From the provisional statement of financial position information, we can prepare the return on asset and return on equity of the two years as follows: - the first return on asset shows, the performance factor of commercial Bank of Ethiopia has been pronounced before the core banking system implemented. The period was starting July o1, 201 2 to June 30, 201 3.

The above result shows the performance factor of return on asset on July o1, 2012 to June 30, 2013. That is 0.3.

The above result shows the performance factor of return on equity on July o1, 2012 to June 30, 2013. That is 0.64.

The findings of this study have motivated new recommendations for bank customers and bank management and with regard to electronic banking adoption for banking operations. On the other hand, the results also reveal that there is some difference between pre- and post- returns on assets (ROA) and returns on equity (ROE) of Commercial bank of Ethiopia on adoption of e-banking. Here, the implication of this result is that electronic banking adoption has more significantly improved the returns on assets of Commercial Bank of Ethiopia. These measure for difference of means applied to measure pre - and post returns on asset adoption of the e-banking technology showed positive impact of the e-banking technology on the profitability performance indicator measured as ROA, hence the ROA=0.025 which shows it has small ROA before implement core banking on Commercial bank of Ethiopia whereas ROA=0.3 that has a high asset after implement core banking system on Commercial banking of Ethiopia whereas return on equity,

These measure for difference of means applied to measure pre - and post returns on equity adoption of the e-banking technology showed positive impact of the e-banking technology on the profitability performance indicator measured as ROE, hence the ROE=0.57 which shows the bank has small ROE whereas ROE=0.64 that shows the bank has relatively high ROE compare to before implement core banking system.

Evaluate the liquidity position

We can see from the provisional statement of financial position information starting from July 01, 2011 to June 30, 2012 to July 01, 2012 to June 30, 2013 on commercial bank of Ethiopia.

Years	Asset	Liability	Liquidity ratio
July 01, 2011 to June 30, 2012	219,905,525,949	150,524,468,643	**1.46**
July 01, 2012 to June 30, 2013	194,488,321,717	115,443,087,067	**1.68**

Source: CBE provisional statement of financial position as at June 30, 2013

From the above analysis of the document indicated that the liquidity ratio were 1.46 and 1.68 in July 01, 2011 to June 30, 2012 and July 01, 2012 to June 30, 2013 respectively at Commercial Bank of Ethiopia. We can see that the impact of core banking on liquidity ratio was show a better performance than before implement it.

3.2 Data Analysis Based on Customers of CBE

Table-1: Background information of customer respondents

No	Items	No of respondents	Percentage
1	Age range		
	a. 20-30	17	56.67
	b. 31-40	9	30
	c. 41-50	3	10
	d. Over 50	1	3.33
	Total	30	100
2	Sex		
	a. Male	15	50
	b. Female	15	50
	Total	30	100
3	Educational Back Ground		
	a. Below 10th grade	1	3.33
	b. 12 complete	2	6.67
	c. Certificate	4	13.33
	d. Diploma	10	33.33
	e. BA	13	43.33
	f. MA	-	-
	g. Other	-	-
	Total	30	100

As to item 1 of table-1, 1 7 (56.67%) of the respondents are within the age range 20-30, 9 (30%) are in the age range of 31-40 and the rest of the respondents are age ranges of above 41. Therefore, from the above table item one we can understand that majority of the bank's customers are younger. When we look at item 2 of table-1, sex characteristics of the sample, both male and female respondents are equal proportion 15 (50%). Item 3 of table-1 indicates educational level of respondents. According to this table, 1 (3.33%) of the respondents are 10^{th} grade, 2 (6.67%) of the respondents are 12 grade complete, 4 (13.33%) of the respondents have certificate holders, 10 (33.33%) of the respondents are diploma holders, the rest, 13 (43.33%) are degree holders. From this one can understand that the sample constitutes all types of customers of the bank.

Table-2: Duration of Customers Stayed in a Bank

No	Item	No of Respondents	Percentage
1	How long are you stayed as a customer?		
	a. 1 -3 years	17	56.67
	b. 4-8 years	8	26.67
	c. 9-1 2 years	1	3.33
	d. 1 2-15 years	3	10
	e. Above 15 years	1	3.33
	Total	30	100

As shown from the above table, a great number of customers 17 (56.67%) stayed in a bank as a customer for 1-3 years, 8 (26.67%) of the respondents replied that the bank's customers stayed for 4-8 years, 3 (10%) stayed in a bank as a customer for 12-15 years and 1(3.33%) of the respondents responded that the bank's customers stayed in a bank 9-12 and above 15 years. From the above table we can conclude that the bank's customers are not stayed for a long period of time.

Table-3: Service delivery of the bank, Network accessibility and Withdrawal of money

No	Items	No of respondents	Percentage
1	To what extent are you satisfied with the overall service delivery of the bank?		
	a. Very great extent	10	33.33
	b. Great extent	12	40
	c. Moderate	6	20
	d. Lower extent	-	-
	e. Very lower extent	2	6.67
	Total	30	100
2	How much are you satisfied with the branch network accessibility?		
	a. Very satisfied	7	23.33
	b. Satisfied	9	30
	c. Moderate	10	33.33
	d. Dissatisfied	4	13.33
	Total	30	100
3	To what extent can you get service relating with withdrawal of money?		
	a. To a very great extent	5	16.67
	b. To a great extent	19	63.33
	c. Moderate	4	13.33
	d. To a lower extent	1	3.33
	e. To a very lower extent	1	3.33
	Total	30	100

According to the above table, item one, most of the respondents 12 (40%) replied that great extent with service delivery of the bank, 10 (33.33%) responded that very great extent with service delivery of the bank and the rest of the respondents 6 (20%) and 2 (6.67%) responded that moderate and very lower extent with service delivery of the bank. Based on the above table of item-1 we can understand that service delivery of the bank is good to their customers'.

The above table 3 tabulates the customer's opinion on the satisfaction of branch network accessibility in Commercial bank of Ethiopia. Out of the total respondents, 9 (30%) of the customers of Commercial bank of Ethiopia are satisfied about branch network accessibility followed by 10 (33.33%) of the respondents who have expressed about branch network accessibility is moderate, 7 (23.33%) of the customers responded that the bank's branch network accessibility is very satisfied and the remaining respondents 4 (13.33) replied that are not satisfied with the bank's network accessibility. This table reveals that the major customers are "satisfied” and enjoy convenience with regard to branch network accessibility of Commercial bank of Ethiopia.

From the above table-3 of item three, a great number of customers 19 (63.33%) responded that the bank's service relating with withdrawal of money is "to a great extent”, 5 (16.67%) of customers replied that the bank's service in relating to withdrawal of money is "to a very great extent”, 4 (13.33%) responded that the bank's service delivery is "moderate” and the rest of the respondents 1 (3.33%) responded that "to a lower extent” and "to a very lower extent”. Therefore, the banks service delivery in relation to withdrawal of money is very good to customers.

Table-4: Image of Commercial Bank of Ethiopia and Cost of services

No	Items	No of respondents	Percentage
1	How do you express the image you have about the CBE?		
	a. Great	13	43.33
	b. Good	17	56.67
	c. Moderate	-	-
	d. No good reputation	-	-
	Total	30	100
2	How do you evaluate the cost of services?		
	a. Very costly	2	6.67
	b. Costly	4	13.33
	c. Reasonable	20	66.67
	d. Lower	2	6.67
	e. Very Lower	2	6.67
	Total	30	100

As indicated from the above table-4, item one, majority of the customers 17 (56.67%) replied that image of Commercial Bank of Ethiopia is "Good" ~~and the~~ while the other respondents 13 (43.33%) replied that the bank's image is "Great". So, Commercial Bank of Ethiopia has a good image for the society.

Table-4, item two pinpoints the opinion on Commercial Banking of Ethiopia charges. Out of the total respondents, Majority (i.e.) 20 (66.67%) of the sample respondents have expressed the banking charges are reasonable while 6 (20%) of sample respondents are of opinion that the charges on banking services are not reasonable and they have to pay excessive charges and the rest of customers 4 (13.34%) responded that the bank's service charge is "lower" and "very lower".

Table-5: Provision of alternative service delivery, Friendship approach and Staff willingness to support customers

No	Items	No of respondents	Percentage
1	What do you feel about the provision of alternative service delivery of channels like, ATM, Mobile banking and Internet banking system?		
	a. Very satisfied	10	33.33
	b. Satisfied	20	66.67
	c. Less satisfied	-	-
	d. Dissatisfied	-	-
	Total	30	100
2	To what extent do you express the friendly approach of the staffs?		
	a. Great	10	33.33
	b. To a great extent	15	50
	c. Moderate	5	16.67
	d. To a lower extent	-	-
	e. To a very lower extent	-	-
	Total	30	100
3	To what extent do you express the staff willingness to support advice and serve the customers?		
	a. Great	7	23.33
	b. To a great extent	18	60
	c. Moderate	5	16.67
	d. To a lower extent	-	-
	e. To a very lower extent	-	-
	Total	30	100

As indicated the above table-5, item one, majority of the customers 20 (66367%) responded that "satisfied” with the banks provision of alternative service delivery channels and the remaining of the respondents 10 (33.33%) replied that the provision of alternative service delivery channels of the bank is "Very satisfied”. From table-5 item one we can conclude that the provision of alternative service delivery channels of the bank is encouraged.

As shown from the same table above, item two, a great number of respondents 15 (50%) responded that friendly approach of the staff is "to a great extent”, 10 (33.33%) of customers responded that friendly approach of the staff is "Very great” and the rest of the respondents 5 (16.67%) replied that friendly approach of the staff is "Moderate”. Therefore, the banks staff approach with customers is in a good way.

From the same table above, item three, most of the respondents 18 (60%) replied that the bank's staff willingness to support advice and serve the customers is "To a great extent”, 7 (23.33%) of customers responded the that staff willingness to support advice and serve the customers is "Great” and 5 (16.67%) of the respondents replied that the bank's staff willingness to support advice and serve customers is "Moderate”. Therefore, staff of Commercial Bank of Ethiopia is willing to handle customers properly.

Table-6: Handling of customer compliant, Access to credit facilities and Ease of service delivery channels

No	Items	No of respondents	Percentage
1	How much are you satisfied with the compliant handling system of the Bank?		
	a. Very satisfied	12	40
	b. Satisfied	17	56.67
	c. Less satisfied	1	3.33
	d. Dissatisfied	-	-
	Total	30	100
2	How do you evaluate the access to credit facilities and the bank willingness to do so?		
	a. Very Interesting	11	36.67
	b. Interesting	7	23.33
	c. Good	8	26.67
	d. Poor	4	13.33
	e. Very poor	-	-
	Total	30	100
3	Do you think that the bank service delivery channels are simple and user-friendly?		
	a. Strongly agree	10	33.33
	b. Agree	11	36.67
	c. Somehow agree	8	26.67
	d. Disagree	1	3.33
	Total	30	100

According to the above table-6, item one, majority of the customers 17 (56.67%) replied that the bank's handling system of customer compliant is satisfied while 12 (40%) of customers responded that compliant handling system of the bank is very satisfied and the remaining of the customers 1 (3.33%) replied that the compliant handling system of the bank is less satisfied. From item-1 we can understand that the bank's way of solving customer problems is in a good way.

Based on the same table-6 above, item two, majority of the customers 11 (36.67%) said that access to credit facilities and the bank willingness is "Very Interesting", 8 (26.67%) of the respondents replied that the willingness to facilitate credit access is "Good", 7 (23.33%) of customers responded that the bank willingness to facilitate access to credit is "Interesting" and the remaining of the customers replied that the way to facilitate access to credit is "Poor". From this we conclude that the bank to facilitate access to credit is attractive for their customers.

According to the above table, item three, most of the banks customers 11 (36.67%) responded that agree with the bank's services are ease to use for customers, 10 (33.33%) of the respondents replied that strongly agree with the bank's services for their customers simple and uses-friendly, 8 (26.67%) of customers "Somehow agree" with service delivery channels are simple and user-friendly and the rest of the respondents 1 (3.33%) responded that the banks service delivery channels are not simple to customers. So the banks service delivery channels are simple and user-friendly for their customers.

Table-7: Service Design basis, new core banking system and Service relating with money transfer

No	Items	No of respondents	Percentage
1	To what extent does the service design basic the value of the client in order to provide customer focused service delivery?		
	a. Very great extent	10	33.33
	b. To a great extent	12	40
	c. Moderate	7	23.33
	d. To a lower extent	-	-
	e. To a very lower extent	1	3.33
	Total	30	100
2	Are you satisfied with the new core banking system, like accessing the banking service everywhere you are, ATM service, mobile banking, Internet Banking and so on?		
	a. Very satisfied	12	40
	b. Satisfied	13	43.33
	c. Moderate	5	16.67
	d. Below expectation	-	-
	Total	30	100
3	To what extent can you get service relating with money local transfer?		
	a. To a very great extent	9	30
	b. To a great extent	14	46.67
	c. Moderate	7	23.33
	d. To a lower extent	-	-
	e. To a very lower extent	-	-
	Total	30	30

As indicated from the above table 7 item one majority of the respondents 12(40%) said that the value of the client in order to provide customer focused service deli very are "To a great extent" 10(33.33%) of customers responded that "very great extent" to the banks client in order to provide customer focused service delivery and 7(23.33%) of the customers said that "moderate" with service delivery system to bank clients.

As shown from the same table above, item two, most of the respondent 13(43.33%) replied that "satisfied" with the new core banking system, 12(40%) of customers responded that "very satisfied" with the new core banking system of commercially bank of Ethiopia & the rest of the respondents 5(16.67%) replied that "moderate" with the new core banking system.

Prom the above table, item-2, we conclude that the new core banking system of CBE is very useful to their customers to access dear services easily everywhere you go.

As indicated from the same table,-7, majority of the customers 14(46.67%) replied that "to a great extent" with money transfer by the using the system of the new core banking system, 9(30%) of the respondents replied that "To a very great extent" with transfer money from one branch to another or withdrawal of money from every branches and the remains of the customers 7(23.33%) responded that " moderate" with the transfer of money by new system of the bank.

Therefore, money transfer is easy, Simple and safe to customer with the help of the new core banking system of Commercial Bank of Ethiopia.

CHAPTER FOUR

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The ultimate objective of this study is to evaluate the impact of implementing core banking technology on Commercial Bank of Ethiopia. In order to achieve this objective, related literatures were reviewed, relevant secondary data and questionnaires were distributed the sample respondents.

The data obtained are presented using percentages and summarized as shown below. Moreover, based on the findings conclusions are drawn and recommendations are forwarded.

4.1. Summary

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The major findings of the study are as follows.

- Currently Commercial Bank of Ethiopia 815 branches of which 627 branches are interconnected with the technology.
- As the data indicated from Income Statements of Commercial Bank of Ethiopia before core banking implemented the profit was 5,419,419,631 birr but after core banking implemented the profit was 5,819,235,832 birr. Due to the above fact that the bank got a profit of Birr 399,816,201 after implemented Core Banking Technology.
- From the provisional statement of financial position information the bank profit of was increased from time to time after core banking technology implemented.
- Electronic banking adoption has more significantly improved the return on assets , return on equity and liquidity of CBE.
- It was reported by most of the respondents of the study groups that satisfied by the branches network accessibility.
- The majority of the respondents agreed that the bank services are easy to customers as well as staff members.

4.2. Conclusions

In reference to the basic questions stated in the first chapter of this paper, the following conclusions were drawn.

Core banking in commercial bank of Ethiopia has more significant in the income of profit. It has been a great role to generate the income of profit within the bank. Core banking practice through ATM, credit card, debit card and internet mobile service.

Core banking involved in the saving of time, money and staying customer within the bank. Core banking can satisfy the needs customer's.

After core banking implemented Commercial bank of Ethiopia, the asset and equity of the bank increase.

Commercial Bank of Ethiopian cannot interconnect all branches with the system of core banking. Nowadays 188 branches of CBE do not use core banking technology.

The implication of analysis was that electronic banking adoption has more significantly improved customer's satisfaction.

4.3 Recommendation

Taking in to considerations of the findings obtained and conclusions drawn, the following recommendations are suggested:

> A major challenge of most core banking is dependency on power of electrical and material resources to be considered essential for carrying out their activities. Overcoming this challenge will require the government and society to recognize the important role of core banking. The government must realize the role of core banking in the improvement of profit. It should also prepare alternative for power

supply for giving continuous service. Citizens have also take part in the activities of core banking system through participation and contribution. They should develop culture of proper use and handle for future it.

> Profit of the bank more increases from year to year it must give awareness to staff members and also customers of Commercial Bank of Ethiopia.

> In order to increase the profit of the bank the remaining branches of CBE must be connected with core banking technology.

> In order to more increase the bank's return on assets and return on equity there should be an improvement in the network access.

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