SCHOOL OF COMMERCE

The Effect of Banking Innovation on Customer Satisfaction in Commercial Bank of Ethiopia

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Thesis Submitted to Addis Ababa University School of Commerce Post Graduate Program in Partial Fulfillment of the Requirements for the Award of the Degree of Master of Arts in Marketing Management

June, 2020

Addis Ababa

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Addis Ababa University

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Graduate Studies

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STATEMENT OF DECLARATION

I hereby declare that this study entitled "*Effect of Banking Innovation on customers' satisfaction in Commercial Bank of Ethiopia*" is my original work prepared under the guidance of my advisor, Temsgen Belayneh (Ph.D.). This paper is submitted in partial fulfillment of the requirement for the Award of Master of Arts Degree in Marketing Management and it has not been previously submitted to any diploma or degree in any college or university. I would like also to confirm that all the sources of materials used in this study are duly acknowledged.

Name: **Yegzeru Belete Wubshet**

Sig.: _____

Date: June 8, 2020

STATEMENT OF CERTIFICATION

This is to certify that Yegzeru Belete Wubshet has carried out his research work entitled "*Effect of Banking Innovation on customers' satisfaction in Commercial Bank of Ethiopia*" in partial fulfillment of the requirement for the Award of Master of Arts Degree in Marketing Management at Addis Ababa University College of Business and Economics School of Commerce. This paper is an original work and has not been submitted to any diploma or degree in any college or university.

_____

Temesgen Belayneh (Ph.D.)

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Graduate Studies

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"The effect of banking innovation in Commercial Bank of Ethiopia"

Yegzeru Belete Wubshet

Approved by the Board of Examiners:

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ABBREVIATIONS & ACRONYMS

ATM: Automated Teller Machine

CBE: Commercial Bank of Ethiopia

POS: Point Of Sale

SAAD: South Addis Ababa District

SPSS: Statistical Package for Social Sciences

FinTech: Finance and Technology

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Abstract

This study was to examine the effect of banking innovation case study on customers of commercial bank of Ethiopia in south Addis Ababa district. The study tests five dimensions of innovation which is product, marketing, service, technological and process innovations whether there is a relationship on customer satisfaction in CBE. Five research hypotheses are constructed in the literature review. This study was intended to examine the effect of banking innovation on customers' customer satisfaction in Commercial Bank of Ethiopia. Particularly, it was focused on examining the effect of banking innovation in creating customers' satisfaction in terms of five dimensions: namely product, marketing, service, technological and process innovation. Both descriptive and explanatory designs with quantitative approach were employed. Data were collected using five point scale self-administered questionnaire from 366 customers that were sampled across 10 branches of CBE supervised under south Addis Ababa districts. After all appropriate statistical assumptions were checked and confirmed data were analyzed through descriptive and inferential statistical tools by the help of SPSS version 20. According to the data, about 66% of the variation in customers' satisfaction can be explained by the dimensions of banking innovation. Result also shows that three of proposed dimensions of banking innovation namely(product, marketing and technological innovation),has a positive effect on customer satisfaction and service innovation found to have negative effect on customer satisfaction, however process innovation found to have statistically insignificant to analyze. Finally, it is recommended that as the management of CBE who desire to improve on customer satisfaction should invest much of the company's resources into product innovation, marketing innovation and technological innovation.

***Key words**: customer satisfaction, banking innovation, product, marketing, Service, technological, and process*

CHAPTER ONE

INTRODUCION

The introduction chapter explains the purpose of this research. It consists of the background of the study, statement of the problem, research questions, objectives of the study, significance of the study, scope of the study, and organization of the paper.

1.1 BACKGROUND OF THE STUDY

An innovation is defined as an idea, practice, or object that is perceived as having new values by an individual or other unit of adoption (Rogers, 2003)). It matters little, so far as human behavior is concerned, whether or not an idea is "objectively" new as measured by the lapse of time since its first use or discovery. The perceived newness of the idea for the individual determines his other reaction to it. If the idea seems new to the individual, it is an innovation (Rogers, 2003)). Innovations are complex, uncertain, disorderly, and subject to change (Kline & Rosenberg, 1986). Widely seen as the driving force of economic growth and social creativity, these advancements are a central plank of national and local policies and consume billions of dollars of investment worldwide. In both academic and practitioner communities, it is commonly perceived that organizations should innovate to be effective, or even survive.

According to (Therrien, 2011) innovation is a complex process related to changes in production functions and processes whereby firms seek to acquire and build upon their distinctive technological competence, understood as the set of resources a firm possesses and the way in which these are transformed by innovative capabilities. Innovation at firm level refers to a firms receptivity and propensity to adopt new ideas that lead to development and launch of new products (Rubera & Kirca, 2012). In the third edition of the Oslo Manual, innovation is defined as the ‘’implementation ofa new or significantly improved product (good or service), process, a new marketing technique or a new organizational method in business practices, workplace organization or external relations’’ (OECD, 2005).

The banking industry is one of the sectors where innovation plays an important role. Technology development in the banking sector dates back a long time and so far it has definitely changed the

way banks operate. The recent example of electronic banking seems to be representative here. Nowadays, the latest technologies even affect the business model of banks, threatening the profits of these traditional institutions, which so far have been stable. (Lin, Chen, & Chiu, 2010)], which originally meant any combination of finance and technology, but is now associated mainly with young technology companies (i.e. start-ups) that enter the financial services market.

Each customer has a different role in adopting a new technology; most consumers are able to accept and use the new technology while others are not in determining the choice of consumers will evaluate all information related to a matter that will manifest later on his attitude. This attitude will be formed on the customer satisfaction and so ended up with an action associated with it. (Dabholkar, 1994)

A feature of the banking industry across the globe is that it is increasingly becoming turbulent and competitive, characterized by an increasing trend towards globalization, mergers, takeovers and consolidation of the banking industry. Moreover, a number of non-banking companies have entered the banking industry by offering financial products and services (Seetanah Padachik, 2008). For example most of commercial banks in0 Ethiopia have introduced Atm machines, mobile banking, internet banking and mobile money services to attract and retain its customers. Innovation assists firms to adapt to the global market and to provide customized solutions to consumers. A glance at recent trends of pioneer organizations shows that innovation is a necessity for long-term success, growth, sustainable performance, and to survive as the firm's industry (Patel, 1999).

This gave a myriad of options to customers in choosing banking services providers. As a response and that was aided by technological developments, banks attempted to build customer satisfaction by providing better products and services and at the same time reducing its operating costs. In the developing countries, the banking sector has gained greater importance in the last decade. Consequently, the growing competition in the sector forced the banks to launch new products and services more frequently. The development and modification of these products constituted to one of the most important tasks of a bank manager (Padachi, 2007). Understanding

the needs, motivations and priorities of the consumers and analyzing how they select suppliers and products as the first crucial steps towards the improvement of consumer satisfaction. (Seetanah Padachik, 2008)

In an era where customer retention, the ability to cross-sell products to existing customers and expanding the customer base are critical in determining profitability, it is important that banks respond strategically to these changes. (OECD, 2005) asserted that banks have realized that to stay ahead of competitors they have to improve their existing products or come up with completely new innovations. Banks provides must, therefore, attempt to better understand their customers in an attempt not only to anticipate, but also to influence and retain its consumers.

1.1.2 Concept of Customer Satisfaction

Customer satisfaction is used as a measure of how products and services supplied by a company meet or surpass customer expectation and it is seen as a key performance indicator within businesses. In a competitive marketplace where businesses compete for customers, customer satisfaction is seen as a key differentiator and increasingly has become a key element of business strategy. Organizations need to retain existing customers while targeting non-customers. Measuring customer satisfaction provides an indication of how successful the organization is at providing products and/or services to the marketplace (Spielman, 2010).

Bank industry is one of service giving industry. The bank products are nearly identical services and they can only differentiate themselves mainly on the basis of their quality service and also innovative advancement. Therefore, quality service is a potential and an effective tool that banks can use to gain a strategic advantage in customer retention and at most to survive in today's ever-increasing banking competitive environment.

1.1.3 Background of the organization

Commercial bank of Ethiopia has established as Share Company in 1963 since then it is pioneer to introduce modern banking industry in the country such as the first bank to introduce ATM service and mobile banking. Currently CBE has more than 22 million account holders and over

2.5 million users of mobile and internet banking and also 2,513 ATM machines and 9,539 point of sale (POS) machines are available throughout the country to facilitate the daily operation of the bank.

1.2 Statement of the problem

The banking industry has grown over the past years in Ethiopia and the world at large. As a country becomes more developed there is greater need for banking services to facilitate the people's monetary transactions. The state of insecurity has posed an opportunity for expansion in banking industry and hence leading to stiff competition in the industry. Commercial Bank of Ethiopia is among the leading bank in introducing new products and services as a pioneer and also has the largest market share in the country.

The rationale behind innovative driven services and products emanates from the assumption that such practices will enhance the level of customer attraction, satisfaction and retention. Studies suggest that the banking industry is highly competitive. Not only do banks compete among each other, but also with other non-banking financial institutions (Clemes M.D, 2007)and (Yap, 2012). This type of competition has led not only to an improvement in the services offered by commercial banks to their customers, but also to an introduction of innovation-driven services (Mbama, 2018)and (MUllen, 2017). However, most commercial banks' product development areas are easy to duplicate. Since banks provide similar services and products; differentiation of such services and products can only be through fees charged and the quality of services and products. Similarly, innovation is perceived as an engine for commercial banking modernization, because it increases competitiveness in all organization (Agolla J.E & Van Lill, 2016) ; (Vigoda Gadot, 2005). This is because they have managed to satisfy their customers, resulting in added value to their portfolios in the market.

The concept of innovation has received a great deal of attention from Scholars in the field of marketing. The concept has been investigated from many perspectives and examined in many ways indicating its influence on firm performance. However, most of the studies focused on manufacturing industry and most of these in foreign countries. This leaves a gap in knowledge

which needs to be filled. Therefore, there is a need to determine the effect of banking innovation practices on customer satisfaction in the service industry, especially in banking industry in Ethiopia. Findings can help the management to better understand what dimensions of innovation drive customer satisfaction and what should be encouraged with a view to maximize customer satisfaction.

In Ethiopia, various studies have been conducted Challenges and Opportunities in adapting E-banking (Gardachew, 2010), (Kassahun, 2016), (Mattewos, 2016), and (Tekabe, 2016) customer satisfaction to measure the efficiency of E-banking)are conducted. In addition, there are few researches conducted on innovation on firm performance (Rukiya, 2018). These studies concentrate only on E-banking, financial innovation or technological innovations which are ATM, POS and effect on financial performance. However, this study widens the scope of E-banking and financial innovation to banking innovation which includes both technological and technical (Managerial) innovations and measure customer satisfaction. A gap in the literature motivated this study as the study sought to answer the research question, what is the effect of banking innovations customer satisfaction in commercial banks of Ethiopia?

The dimensions of banking innovations are: product innovation, technological innovation, marketing innovation, service innovation and process innovation.

1.3. Research Questions

The main research question of this paper is to the effect of banking innovation on customer satisfaction in commercial bank of Ethiopia.

The specific questions are:-

- What is the effect of product innovation on customer satisfaction?
- What is the relationship between of marketing innovation on customer satisfaction?
- What is the relationship between service innovations on customer satisfaction?
- What is the effect of technological innovation on customer satisfaction?
- What is the effect of process innovation on customer satisfaction?

1.4 Objective of the Study

1.4.1. General objective

The main objective of this paper is to investigate the effect of banking innovation on customer satisfaction in commercial bank of Ethiopia.

1.4.2. Specific objectives

- To examine the relationship between banking innovation and customer satisfaction.
- To measure the extent and type of relationship that exist between banking innovation and customers' satisfaction in CBE
- To describe the extent and type of relationship that exist between banking innovation and customers' satisfaction in CBE
- To explain the effect of banking innovation on customers' satisfaction in CBE;

1.5. Scope of the Study

The study would be confined to the effect of banking innovation on customer satisfaction in the Commercial Banks of Ethiopia due to some constraints such as time, budget and extent of the research, the study has confined only to customers of commercial bank of Ethiopia under south Addis Ababa district.

Methodologically, the study was focused on **10** randomly selected branches among those found under target districts. The data were collected from **366** sampled customers through structured questionnaire in order to assess the effect of banking innovation terms of product, marketing, service, technological and process innovation dimension on customer satisfaction in Commercial Bank of Ethiopia South Addis Ababa District.

Theoretically, the study focuses on assessing the effect of the independent variable i.e. banking innovation on the dependent variable that is customer satisfaction in CBE. In other words, the study has tried to explain which banking innovation dimensions affect customer satisfaction. Sub dimensions of the independent variables used to assess the effect of banking innovation were

product innovation, marketing innovation, service innovation, technological innovation and process innovation.

1.6 Significance of the study

Findings from the research will be of great importance to other researchers and banking professionals to understand the effect of innovation on customer satisfaction. The study will provide important information to the bank managers when making decision about adopting new innovations in the banking sector. Secondly the study empirically tests the variables that are considered important in banking innovations, which in turn assists commercial bank in satisfaction of customers as competition intensify. It will also be an important reference and a starting point for other fellow researchers interested to conduct further studies in the area since it is the first of its kind in the country's context given the growing level of demand.

1.7 Organization of the Study

This subsection outlines the entire study in a concise manner. Chapter one deals with the introduction part of the paper. And second chapter discuss the review of related literatures about the subject matter followed by chapter three deals with research methodology use in the research. In chapter four data analysis perform in the research will be covered. Finally, in chapter five of the document the summary, conclusions and recommendations of the research with recommendation for future research included in.

CHAPTER TWO

REVIEW OF RELATED LITRATURE

Under this section, some reviewed related literatures are discussed under theoretical and empirical literatures. Conceptual framework of the study is also established under the chapter. Finally, research hypotheses are derived from the problem stated and literatures reviewed on the topic.

2.1 Theoretical Literature Review

2.1.1 Innovations in the banking activity

The banking industry in Ethiopia is one of the sectors where innovation plays an important role. Technology development in the banking sector dates back a long time and so far it has definitely changed the way banks operate. The recent example of electronic banking seems to be representative here. According to (Lin, Chen, & Chiu, 2010) nowadays, the latest technologies even affect the business model of banks, threatening the profits of these traditional institutions, which so far have been stable. This is inextricably linked to the growing importance of FinTech, which originally meant any combination of finance and technology, but is now associated mainly with young technology companies (i.e. start-ups) that enter the financial services market. Therefore, one of the essential aspects of the innovation context in banking activity is the definition of their development stages.

The second attribute of innovation characteristics is the specific classification of innovations in the banking sector. The traditional classification of innovations defined by the *Oslo Manual* (i.e. product, process, organizational or marketing oriented innovations) could be applied also in the context of banking. It is possible to indicate particular examples from banking practice for each of these innovation groups. However, over recent years, banks have implemented new technologies to such an extent that the burden of banking business has significantly shifted to digital channels. The result is that the aforementioned classification of innovationist inadequate nowadays. Electronic banking could be a good example here, as it could be perceived as following product, process, marketing and organizational innovations, forcing them to be associated only with the digital transformation. The characteristics of the innovation

development in banking activity should therefore be expanded to include the determinants of their development.

2.1.2 Determinants and challenges of innovation development in banking activity

The shape of innovations in the banking sector is influenced by a number of factors. The most important ones are, as has been stressed many times, technological determinants. The long history of the use of technological solutions by the banks is the reason why they are now widely recognized as one of the most innovative among the traditional services sectors. It has also given them a sound basis for further development in this direction. This is confirmed by a large number of case studies that show that representatives of the banking market all over the world actively participate in the creation and development of the new technologies. The synergy effects are visible here not only in terms of operational effectiveness (i.e. automation of processes), but also in terms of sales capabilities (i.e. personalized offer). Artificial intelligence, distributed ledgers (especially block chain) and cloud computing (HonW.K & Millard, 2018) are just some of the latest trends that occupy experts in banks. It should be emphasized that technologies in this sense depend mainly on the access to financing capabilities and therefore banks should appear to be the natural pioneers of their implementation. However, practice shows that among start-ups and large technology companies the adaptation of modern solutions is even faster. This is primarily a result of the mentality of the bank management staff. As traditional institutions with centuries-old history, they are not accustomed to reacting flexibly to changes in the field of technology and making bold decisions. Thus, banks have to face a new type of challenges not only in terms of technological transformation, but also in terms of mentality changes. Banks that do not fear to invest in technological innovations and establish a practice of efficient implementation within their structures, will be able to maintain their market position and even build a unique competitive advantage. (Zaleska.M., 2014))

The latest technologies are merely a way to meet the clients' needs. Unquestionably, technology will play an increasingly significant role in the banking sector, enabling banks to concentrate on customers and prepare personalized offers, especially in the context of the new generation of clients entering the financial market and their behavior shaped from an early age. However, at the same time, banks are perceived by their clients as institutions of public trust. This implies that when following changes, they should also recognize and counteract new types of risks

imposed on their activity. Therefore, cyber security will be a challenge of the utmost importance to banks.

The next determinant of the innovative character of banking activity is the high level of competition on the market, which encourages the sector players to take advantage of the newest technologies. On the one hand, the innovations, despite the fact that they require financial investment during the implementation phase, usually lead to the optimization of processes and generate savings in the long run. On the other hand, thanks to the preparation of an attractive and modern range of products, they ensure high retention and make it possible to attract new customers. It is precisely the scale in terms of the size of the client base that has already become the crucial factor determining the profitability of banks in the environment of high cost pressure. In addition, when analyzing the competitive environment of banks, it is important to include start-ups and other technology companies that are entering the market more and more effectively.

2.1.3 Schumpeter Theory of Innovation

(Schumpeter, 1995)argued that entrepreneurs who could be independent inventors or R&D engineers in large corporations, created the opportunity for new profits with their innovations. In turn, groups of imitators attracted by super-profits would start a wave of investment that would erode the profit margin for the innovation. However, before the economy could equilibrate a new innovation or set of innovations, conceptualized by (Schumpeter, 1995) as Kondratiev cycles, would emerge to begin the business cycle over again. He emphasized the role of entrepreneurship and the seeking out of opportunities for novel value generating activities which would expand and transform the circular flow of income, but it did so with reference to a distinction between invention or discovery on the one hand and innovation, commercialization and entrepreneurship on the other. This separation of invention and innovation marked out the typical nineteenth century institutional model of innovation, in which independent inventors typically fed discoveries as potential inputs to entrepreneurial firms.

The author further saw innovations as perpetual gales of creative destruction that were essential forces driving growth rates in a capitalist system. Schumpeter's thinking evolved over his lifetime to the extent that some scholars have differentiated his early thinking where innovation

was largely dependent on exceptional individuals/ entrepreneurs willing to take on exceptional hazards as an act of will. His later thinking recognized the role of large corporations in organizing and supporting innovation. This resulted in his emphasis on the role of oligopolies in innovation and which later was falsely viewed as the main contribution of his work (Freeman, 1994)

Schumpeter drew a clear distinction between the entrepreneurs whose innovations create the conditions for profitable new enterprises and the bankers who create credit to finance the construction of the new ventures. He emphasized heavily that the special role of credit-creation agents who have no proprietary interest in the new enterprises they finance, bankers are the capitalists who bear all the risks (none is borne by the entrepreneurs). That requires having the special ability to judge the potential for success in financing entrepreneurial activities. Schumpeter emphasized that it is just as important to deny credit to those lacking that potential as it is to supply credit to those having it (Schumpeter, 1995). According to Schumpeter, innovation does not mean invention rather it refers to the commercial applications of new technology, new material, new methods and new sources of energy.

2.1.4 Theoretical Reference Framework Innovation

The innovation means the creation, development and implementation of a new product, process or service with the goal of improving efficiency, effectiveness or competitive advantage. Innovation had better be capable of being started small, requires first little money, few people and only a small limited mark.

An innovation is also defined by the Oslo manual (OECD, 2005) as a product, process, marketing method or organizational method that is new(or significantly improved) to the firm, including products, processes and methods that firms are the first to develop and those that have been adopted from other firms or organizations. (Bersali & Guermat.c., 2014) showed that Innovation in a customer-firm context can be viewed as a new product or services created by the service provider specifically for its customers.

According to (Damanpour.F. & Evan.W.E., 1984), they classified innovation is into two types as technical innovation and administrative innovation. Technical innovations include products, marketing, services, and the technology used to produce products, product sales, or render services directly related to the basic work activity of an organization.

Administrative innovation pertains to organizational structure and administrative processes, indirectly related to the basic work activity of the organization and is more directly related to its management (Damanpour.F. & Evan.W.E., 1984). Besides these types, several scholars have identified key dimensions that have been theorized in innovation literature. For example, business model innovations (Kirim, 2007), managerial innovations (Damanpour, 1991) organizational innovations (Huiban & Bouhsina, 1998), and marketing innovations (Higgins & Howell, 1990)

However (Lin, Chen, & Chiu, 2010) proposed the five key dimensions of innovation capability such as product innovation, process innovation, marketing innovation, service innovation and administrative innovation. This study adopts the frameworks proposed by (Lin, Chen, & Chiu, 2010) and modified by changing administrative innovation with technological innovation to provide a blueprint for the implementation of innovation in the banking sector.

2.1.5 Product Innovation

According to (Liao & Chen, 2007) define Product innovation is the development and introduction of a new product to the market or the modification of existing products in terms of function, quality consistency, or appearance). Product innovations can utilize new knowledge or technologies, or can be based on new uses or combinations of existing knowledge or technologies.

And also (Akova, Ulusoy, Payzin, & Kaylan, 1998) defined Product innovation is a difficult process driven by advancing technologies, changing customer needs, shortening product life cycles, and increasing global competition. For success, it must involve strong interaction within the firm and further between the firm and its customers and suppliers. Two scholars (Christopher, 2006) & (Johannessen, 2008) defined Financial product innovations are as new or modified financial services that have not existed in the market before or differ substantially from existing services. This refers to the introduction of new or modified financial services, such as new credit, savings, insurance, leasing, hire purchase or other financial products. Product innovations may be introduced to better reflect the demands of the target clientele, to improve efficiency or to expand the institution's market and outreach.

Most companies seem to have overestimated the relative advantage of the innovation. In particular the profitability of the envisaged product appeared much lower than expected, in most cases. The required organizational adaptations (production process and, particularly, distribution channels) were largely neglected and only found out to be important at, often, too late a stage. Consequently, the complexity of the innovation was underestimated. Compatibility only posed problems if the new product was intended to provide the company with access to a new market segment. Trialability tended to be overestimated, but this does not explain many of the bottlenecks encountered. Neither does the observability of the innovation, which often increased dramatically once a detailed design or prototype was available. So, the perceived relative advantage, complexity and compatibility of product innovation seem to explain most of the bottlenecks, especially in companies that had to implement considerable adaptations to their organization (new production process, new distribution channels, entering a new market segment). Usually the reorganization required for that was badly underestimated. The

consequences: underexposure of the organizational adaptation process and communication with other functions (internal diffusion), in particular manufacturing, and marketing and sales. (Harry, 2015).

Saving Account

Savings accounts are one suite which has experienced a great deal of evolution. Banks have come up with different savings accounts which are flexible and customer friendly and such accounts includes children account like special youth scheme account and modified youth scheme which encourage parents to open saving accounts for their children for long term benefits; hybrid accounts which are operated through check; current protection scheme accounts that links current and savings account of same customer so that cheques would not be bounced wherever the current account balance is not found adequate to cover the cheque amount and women's savings account to encourage and support women's, saving plus account, student account, salary account, Interest plus account and others this will reduce the number of unbanked population (CBE Website & Fortune, 2013). Current accounts have also not been left behind as the banks have tried to come up with current accounts that are attractive to their customers and put them ahead of the competitors.

2.1.6 Process innovation

Process innovation involves creating and improving the method of production, and the adoption of new elements (e.g. input materials, task specifications, information flow, and equipment) to the firm's production process (Damanpour, 1991). This includes significant changes in techniques, equipment and/or software (e.g. installation of new or improved manufacturing technology, such as automation equipment or real-time sensors that can adjust processes, computer-aided product development).

Process innovations can be intended to decrease unit costs of production or delivery, to increase quality, or to produce or deliver new or significantly improved products (OECD, 2005). (Fageberg, Mowery, & Nelson, 2004) states that while the introduction of new products is commonly assumed to have a clear, positive effect on the growth of income and employment, process innovation, due to its cost-cutting nature, can have a more hazy effect.

2.1.7 Marketing innovation

A marketing innovation is the implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing (OECD, 2005). (Atalaya, Anafarta, & Sarvanc, 2013), assert that marketing innovations target at addressing customer needs better, opening up new markets, or newly positioning a firm's product on the market with the intention of increasing firm's sales. Marketing innovations are strongly related to pricing strategies, product package design properties, product placement and promotion activities along the lines of four P's of marketing (Kotler, 1991).

2.1.8 Service innovation

The organization commitments in different innovative activities to promote the customer satisfaction are after sale services, keeping method instructions, systems to accept orders and innovation in services. With regard to the specifications of services part, the managers should take into account some considerations to increase their success opportunity. The managers should involve the customers from the beginning and approach such a service modeling as possible.

(Martin, 2010) state that direct and increasing participation of customers in general process of development and using of information related to the customer increase the success capabilities in special stages.

2.1.10 Technological Innovation

This is the process of commercial banks embracing new idea or improved services or goods that has been commercialized for the production of better services and goods to their loyal customers. Innovations has been explained as ideas that are completely new for a bank, or innovation that is radical meaning the ideas concern a world novelty (Hall, Fergusen, & Pinnuck, 2010). Technological innovation is, presently, renowned as one of the main factors on the competitive advantage of the firm's as well as a crucial element in enhancing the financial and economic results of firms. Indeed, increased financial and economic performance has been observed among

banks capable of employing innovation to differentiate their services and products and improve their processes in association to their competitors. Commercial banks are examples of institutions that have been successful due to its introduction and opening of technologically improved services to its esteemed customer and continue to grow and expand its customer base as a result of opening customer oriented business portfolios that vary and which are a product of research that is thorough as far as customer needs are concerned and significance of technological innovations. Technology introduction in a service can be both detrimental and beneficial (Hall, Fergusen, & Pinnuck, 2010).

2.1.11 Banking Innovation in Ethiopia

Banking in Ethiopia started in 1905, the "Bank of Abyssinia", was established based on the agreement signed between the Ethiopian Government and the National Bank of Egypt, which was owned by the British. In 1908 SociteNationaled'Ethiope pour le Development Dei' Agricaltureet du and two other foreign banks (i.eBanque de l'Indochine and the Compagnie del' Afrique Orientale) were also established (Richard P. , 1968). In 1931 the Ethiopian government purchased the Abyssinian Bank, which was the dominant bank, and renamed it the Bank of Ethiopia (Belay, 1990 & Befekadu, 1995). It operated for only a few years, being closed after the Italian invasion. During the Italian occupation, several Italian banks opened branches in Ethiopia. (Harvey, 1995) After the liberation in 1942, the State Bank of Ethiopia was established. It became operational in 1943. The Bank also acted as the country's main commercial bank, while a few much smaller foreign banks continued to operate. In 1963, a new banking law split the functions of the State Bank of Ethiopia into central and commercial banking as the National Bank of Ethiopia and the Commercial Bank of Ethiopia respectively. The very interesting part of this law is it allowed other commercial banks to operate.

After the fall of the imperial government in 1974, since the remaining private sector commercial banks were relatively small; they were nationalized and concentrated into the Commercial Bank of Ethiopia (CBE). The new Ethiopian socialist government merely shifted, therefore, from owning most of the banking system to owning it completely (Harvey, 1995).

Currently, the industry comprises one state-owned development bank and 17 commercial banks, one of which is state-owned, which is the dominant Commercial Bank of Ethiopia (CBE). After

the merger of Construction and Business bank, with CBE that make the composition of the sector to two state owned banks; Commercial bank of Ethiopia and Development bank of Ethiopia and 16 private commercial banks. However currently more than 10 private banks are under formation by selling shares to the public and surely they will join the Ethiopian banking industry in the meantime.

2.1.12 Customer satisfaction

The most important concept of customer satisfaction is accepted all around the world is the expectancy disconfirmation theory. This theory was presented by (Oliver, 1980), he presented that satisfaction stage is the resultant of distinction between anticipated and supposed performance. Satisfaction will be encouraging when the actual level of services or products is better than the anticipated (positive disconfirmation), whereas (negative disconfirmation) when the product or services level is lower than expected.

(Agbor, 2011) Defined customer satisfaction as, customer satisfaction is identified by a response (cognitive or affective) that pertains to a particular focus (i.e. a purchase experience and/or the associated product) and occurs at a certain time (i.e. post-purchase, post consumption) (Daniel & Berinyuy, 2010).

Customer satisfaction is conceptualized as being transaction-specific meaning it is based on the customer's experience on a particular service encounter (Cronon & Tayler, 1992). Concepts of customer satisfaction once customers are satisfied and have positive image about a particular firm, it will take some time for competitors to snatch or convince them and switch to their organization. Benefits derived by companies from customer satisfaction include repurchasing to increase sales or profits speak well about the products or services to others, as a result end up with loyal customers. Banks have different customers including individuals, groups, organizations, communities or nations which may have different interest but all of them need to be satisfied. So as a service giving industry, the banking service has to intensify its efforts to satisfy customers through the provision of quality services. The importance of customer satisfaction cannot be dismissed because happy customers are like free advertising (Mohammed & Sreekumar, 2009).

Customer satisfaction plays especial role in highly competitive industries, where there is a tremendous difference between the loyalty of merely satisfied and completely satisfied or delighted customers. To improve its customer satisfaction levels, a company must first find out how satisfied or dissatisfied its current customers actually are (Lovelock & Wright, 1999). In fact, customer satisfaction is widely recognized as a key pressure in the formation of customers' future purchase intentions (Tayler & Baker, 1994). In today's highly competitive, increasingly consolidated world, offering personalized and differentiating services can be critical to a bank's success. It is a well-researched fact that investments in customer satisfaction, customer relationships and service quality leads to profitability and market share. Put differently, customer satisfaction leads to customer loyalty and this also leads to profitability. If customers are satisfied with a particular high quality service offering after its use, then they can be expected to engage in repeat purchase and even try line extensions and thus market share can be improved (Shahidan, Yap, & Ramayah, 2012).

2.2 Empirical Review

Innovation assists firms to adapt to the global market and to provide customized solutions to consumers. A glance at recent trends of pioneer organizations show that innovation is a necessity for long-term success, growth, sustainable performance, and to survive as the firm's industry (Doyle, 1999; Patel, 1999; Cottam et al., 2001).

(Totterdell, Leach, Birdi, & Wall, 2002) found in their research a significant association between innovation and perceived customer benefits. (Hu & Huang, 2011) also found that innovation capability has a positive effect on customer satisfaction in Taiwanese air cargo services.

(Roselyn & Nigumi, 2013) Conducted a study on influence of bank innovations on income of commercial banks in Kenya and concluded that bank innovations have a moderate influence on the income of commercial banks in Kenya. Since technological innovation is aggressively and continuously adopted in Kenya the government should innovation is aggressively more incentives for research and development to researchers to continue investing their time skills in

discovering more innovations. These authors recommended that the government should pursue a strategy to provide incentives for technology transfer from more developed economies in order to promote the adoption of world class innovation.

According to (Prabhakaran & Satya, 2003), higher the level of satisfaction, higher is the level of retention. Several types of research have shown that if the customers have greater satisfaction level, they remain loyal to the firms (Formell, Anderson, & Rust, 1997). Thus, more and more firms are putting greater efforts on managing and increasing customer satisfaction (Prabhakaran & Satya, 2003). In the views of (Spreng & Mackoy, 1996) satisfied customers create sustainable advantages for the firms in the competitive environments. (Anderson, Formell, & Lehmann, 1994) Argue that "investing in customer satisfaction is like taking out an insurance policy. If some hardship is temporarily befallen the firm, customers will be more likely to remain loyal". According to Patterson et al., (1997), customer dissatisfaction is defined as the difference between an individual's pre-purchase expectations and post purchase performance of the service or product. Ranaweera and Neely (2003) argues that earlier the researchers focused more on customer satisfaction as a measure to determine service quality. However, nowadays, customer retention cannot be determined by simply studying only customer satisfaction, now companies also have to consider customer behavior such as their repurchase habits. They feel that companies need to start with customer satisfaction to retain a customer, but it is not the only influencing factor. (Richard & Sullivan, 2000), in his research, argue that there are chances that even a satisfied customer can drift towards other service provider and sometimes even a dissatisfied customer will remain loyal to the firm.

According to (Harry, 2015) the differences between product, process and organizational innovation processes are surprisingly few and appear to be strongly related to the type of innovation developed or adopted. He also states that most important one is that organizational innovation seems to require much more internal diffusion than does product innovation, with process innovation lying somewhere in between.

According to (Fang & Tian, 2010) states Commercial banks should strengthen technological innovation, grasp the development opportunities of block chain technology, and actively set up relevant organizations or alliances, strengthen the exchange of financial interbank and block industry applications. Banks can absorb learning and use of Internet technology to promote the efficiency of financial services for a significant increase.

The introduction financial innovation began in late 2001, when the largest state owned; commercial bank of Ethiopia (CBE) introduced ATM to deliver service to the local users and followed by Dashen bank. By the end of 2008.

The impact of e-banking service on customer satisfaction was studied by (Sintayehu, 2015). The study was undertaken on selected private and public commercial banks in Addis Ababa. The Primary data which was collected by using 5-point Likert-scale questionnaire and interview with branch managers and customer service supervisors was analyzed by multiple linear regressions models. The study concluded that service quality dimensions, reliability, customer support and ease of use have strong influence one- banking user's satisfaction level in both public and private commercial banks in Addis Ababa.

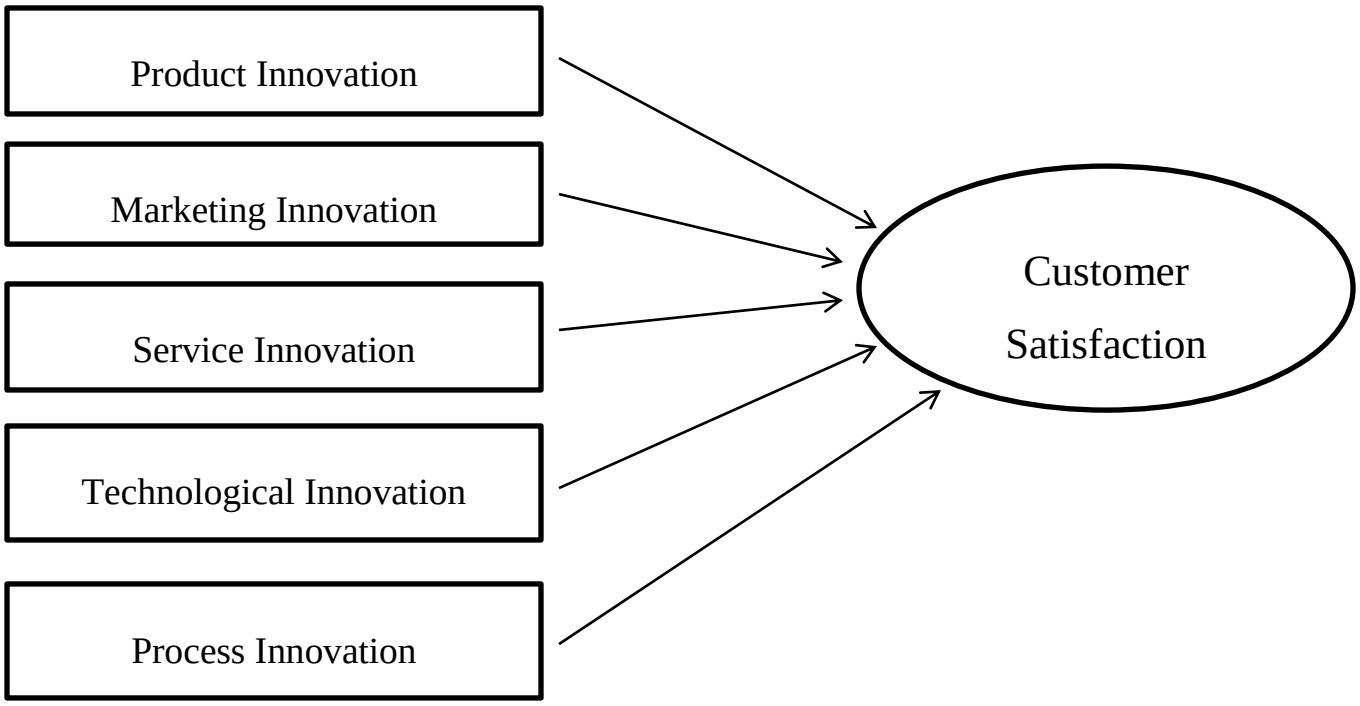
In general, banks in Ethiopia are trailing behind in acquiring the required quality of banking services to effectively compete in the global market. ATM, Credit Card and debit card services, internet banking, mobile banking and other electronic payment systems are at infant stage. The most dominant innovation channel among those banks, which are currently providing the service, is ATM card. (Ayana, 2012) and (Rahel, 2015) Concluded that the benefits of technological innovation are well known to the banks and represent a formidable force to drive adoption and implementation of the system. High customers demand, improvement in the banking habit of the society, late adopter of E-banking in technology in Ethiopia, commitment of the government to facilitate the expansion of ICT infrastructure and commitment of the government to strengthen the banking industry are among the major existing opportunities for the adoption and growth of E-banking technology in the country. (Kassahun, 2016)

2.3 Conceptual framework

According to (Lin, Chen, & Chiu, 2010) they Proposed the five key dimensions of innovation capability such as product innovation, process innovation, marketing innovation, service

innovation and administrative innovation. This study adopts the frameworks proposed by Lin, Chen and Chiu, (2010) and modified by changing administrative innovation with technological innovation to provide a blueprint for the implementation of innovation in the banking sector.

The following diagram shows the conceptual framework designed by the researcher



Source: adopted from (Lin, Chen, & Chiu, 2010) and modified by the researcher

2.4. Research Hypotheses

This study, thus, draws on prior literature and tests the following hypotheses:

H1: product innovation has a direct positive significant relationship with customer satisfaction.

H2: marketing innovation has a direct positive significant relationship with customer satisfaction.

H3: Service innovation has a direct positive significant relationship with customer satisfaction.

H4: technological innovation has a direct positive significant relationship with customer satisfaction.

H5: process innovation has a direct positive significant relationship with customer satisfaction.

CHAPTER THREE

RESEARCH METHODOLOGY

In this chapter, the researcher discuss about the research approach, research method, research design, population, sampling technique, procedure of data collection and method of data analysis to be used by the study.

3.1 Research Approach

A research approach is the arrangement of conditions for collections and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. In fact, the research approach is the conceptual structures with in which research is collected; it constitutes the blue print for the collection, measurement and analysis of data (Sellitiz, 1966). Hence this study on the Effect of banking innovation on customer satisfaction has followed a deductive form of scientific research approach because at this level building theory is very difficult and beyond the capacity of the researcher.

3.2 Research Method

Quantitative researchers favor methods such as surveys and experiments, and will attempt to test hypotheses or statements with a view to infer from the particular to the general. Therefore the student researcher was carried out quantitative research to describe the effect of banking innovation on customer satisfaction the case of commercial banks' in Addis Ababa, Ethiopia by collecting quantitative data from customers of the banks'. In addition the effect of the independent variables banking innovation which are product innovation, marketing innovation, service innovation, technological innovation and process innovation on dependent variables, i.e. customer satisfaction is quantitatively measured by this study. In this study, the researcher applied a survey technique by distributing self-administered questionnaire to gain feedback from respondents.

3.3 Research Design

The research design is the conceptual structure within which research is conducted. It constitutes the blueprint for the collection, measurement and analysis of data (Kothari, 2004). They are classified into three categories: exploratory, descriptive, and causal (Burns & Bush, 2003). Accordingly, this study employed descriptive and explanatory research designs. With descriptive design, respondents' responses on their basic profiles, bank relationships and the existence of banking innovation in terms product, marketing, process, service and technological innovations were studied and presented. In addition to descriptive design, as the primary aim of the current study was to assess the effect of banking innovation on customers' satisfaction, explaining the relationships among variables for the study population was its primary task By employing explanatory research design, hypotheses were tested in connection with the effect of banking innovation on customers' satisfaction and the relationships between variables were also explained using correlation and regression analysis. Accordingly, test of correlations, regression analyses and analyses of variance between the dimensions of banking innovation (namely product, marketing, process, service and technological innovations) and customers' satisfaction on these innovations were tested and interpreted as well.

3.4 Population of the Study

This study has focused on four districts namely South Addis Ababa District (SAAD), which has composed of 121 branches found in the area. The target population of the study was customers of CBE found in 10 sampled branches under South Addis Ababa Districts. These sample branches were selected from among the sampling frame using purposive/judgmental sampling design.

3.5 Sample Size and its Determination

Determining sample size is very important issue because samples that are too large may waste time, resource and money. While samples that are too small may lead to inaccurate results. The data will be gathered from customers of CBE in south Addis Ababa district which is numerous in number it is difficult to determine the size of the population for this study. According (Buglear,

2003), when it is difficult to determine sample size, maximizing P(1-P), where p is population proportion can yield the safest sample size using the following expression. By taking this into consideration making sample proportion p=0.5 to can maximize P(1-P), then;

$$\text{Error} = z_{\alpha/2} \times \sqrt{\frac{p\,(1-p)}{n}}$$

Based on this assumption the expression for the sample size n is;

$$n = \left(\frac{z_{\alpha/2}}{2 \times \text{error}}\right)^2$$

Therefore, for the purpose of this study the 5 percent of the population proportion with a 95 percent degree of confidence the sample size is calculated as follows:
At 95% degree of confidence, Zα/2=1.96

Error=0.05

For the error to be 5 per cent:

$$n = \left(\frac{1.96}{2 \times 0.05}\right)^2 = 19.6^2 = 384.16$$

The sample size for this study will be 385 customers.

Generally, from 10 branches and 385 sample customers were proportionally selected and included in the study. Sample sizes drawn from each are also depicted in table 3.1 below.

Table 3.1: Customer sample size by their branch

Name Of The Branch	Number Of Target Population	Number Of Sample Respondents
Mexico Branch	31,619	34
Nefas Silk Branch	118,020	127
Temenja Yaj Branch	63,753	68
Yoseph Branch	35,801	38
Saris Addis Sefer Branch	26,450	28
Gotera Branch	23,125	25
Beklobet Branch	9,877	11
Kera Branch	8,730	9
Lafto Branch	35,797	38
Stadium Branch	5,325	6
Total	**358497**	**385**

3.6 Sampling Technique

Sampling techniques provide a range of methods that enable one to reduce the amount of data needed for a study by considering only data from a sub-group rather than all possible elements (Saunders, Lewis, & Thomhill, 2009). Probability sampling technique, i.e. quota sampling to make sure that each were used by virtue of its appropriateness to involve customers of CBE in the south Addis Ababa districts of found in the city . A convenience sampling method was used to reach sampled customers.

3.7 Data Collection Tools

Data capture instrument is the item used to collect data for a research project (Agbor, 2011). This could be a questionnaire or a personal interview. In this case, data were collected from primary sources using questionnaire that will be distributed to customers of the bank during the data

collection time. The questionnaire developed by the researcher is 5 point likert scale rating from 1 (strongly disagree) to 5 (strongly agree).

Data were gathered using two major tools; namely self-administered questionnaire and document analysis. Self-administered questionnaire (Annex 01 English Version, Annex 02 Amharic version) was used to gather data from sample customers, whereas document analysis were utilized to further complement the data with reports and available assessments on the subject and to have deep insight about the subject area. Accordingly, data for literature review part and questionnaire preparation were gathered using document analysis. This questionnaire was designed to gather data from primary sources i.e. from sample customers about their own personal experience and attitudes toward the effect of banking innovation on their satisfaction in CBE. It is composed of descriptive questions and five point likert scale questions. Descriptive questions were used to gather respondent customers'basic profiles and their relationship with the bank. Likert scale questions were utilized to collect the very important part of data about the effect of banking innovation on customers' satisfaction in CBE. The questionnaire used for this study was prepared by the researcher from literatures based on five major dimensions namely product, marketing, process, service and technological innovations. A total of 29 likert scale questionnaire items were developed and used under these mentioned five dimensions and customer satisfaction (dependent variable).

3.8 Data Analysis

Data analysis consists examining, categorizing, tabulating, or otherwise recombining the evidence, to address the initial proposition of a study (Kothari, 2004). The data analysis were conducted by using the Statistical Package for the Social Sciences (SPSS v10) computer program. Regression analysis is applied to analyze the empirical date and Pearson Product Moment Correlation will be added to conclude the regression analysis. These statistical measures contributed to test the research model validity.

The data analysis of this research is based on descriptive statistics such as frequency, percentage, mean and standard deviation and inferential statistics multiple regression. The descriptive statistics used mainly to understand the customers' profiles demographic concentration. In order to explain the relationship between the variables of the study, correlation and multiple

regressions is used. Moreover, tests of, multicollinearity were conducted and distributions of data were checked.

3.6 Reliability

Reliability refers to a degree to which measurements used can yield suitable results because they are free from errors. According to (Hair, Black, & Babin, 2010) reliability is the assessment of the degree of consistency between multiple measurements of a variable. This study used the Cronbach's alpha to assess the reliability of the variables. According to Field (2005) and Tan &Teo, (2000), Cronbach's alphas of the sub-scales ranged from 0.690 to 0.925 which indicate an acceptable internal consistency and reliability measures for the questionnaire meaning that if the results exceed the minimum alpha of 0.7 the constructs measures will be deem reliable. In this study the measures has been taken as reliable when the cronbach's alpha value is found to be 0.7 or above.

Table 3.2: Overall coefficient of Cronbach's Alpha

Reliability Analysis of Variables		
Variables	**N of Items**	**Cronbach's Alpha**
Product Innovation	5	0.926
Marketing Innovation	5	0.828
Service Innovation	4	0.919
Technological Innovation	5	0.860
Process Innovation	4	0.860
Customer Satisfaction	6	0.902
Overall	**29**	**0.908**

Source: *Own Survey, May 2020*

More specifically, coefficients of alpha for particular dimensions of an independent variable and for the dependent variable were tested. Therefore, since all alpha values are above 0.7, they are considered of acceptable and good levels.

3.7 Validity

Validity is the ability of an instrument to measure what it is designed to measure; the degree to which the researcher has measured what he has set out to measure' (Smith, 1991). (Babbie, 1989) wrote in his book that, 'validity refers to the extent to which an empirical measure adequately reflects the real meaning of the concept under consideration'). Often, when discussing the validity of a questionnaire, researchers refer to content validity, criterion-related validity (predictive validity) and construct validity. Content validity refers to the extent to which the measurement device, in our case the measurement questions in the questionnaire, provides adequate coverage of the investigative questions (Saunders, Lewis, & Thomhill, 2009). For this research, validity of the questionnaire was assured in two ways. First, samples of questionnaire papers were delivered to colleagues who also working their thesis, and we had discuss on the ability of the questionnaire items to reflect what was intended and what is intended to measure.

Secondly, pilot test was conducted to check whether items were clearly understandable by target respondents to respond without defect. In doing that, before administering the major data collection task, twenty-five questionnaires were distributed for customers to test its validity and to correct any defects. After appropriate corrections were made, based on pilot respondents' comments, data were gathered.

3.8 Ethical Consideration

As this study require the participation of human respondents, specifically Commercial Bank Of Ethiopia, customers, certain ethical issues like consent and confidentiality will be considered. In order to secure the consent of the selectee participants, all important details of the study, including its aim and purpose relayed. By explaining these important details, the respondents are able to understand the importance of their role in the completion of the research. With this, the participants are not force to participate in the research. The confidentiality of the participants also ensure by not disclosing their names or personal information in the research. Only relevant details that help in answering the research questions will include. Finally, ethical consideration of proper and due referencing and acknowledgement also made during the entire research process.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

In this chapter, the results of data analyzed using Statistical Package for Social Sciences (SPSS version 20.0) were discussed. Accordingly, survey response rate, respondents' profile, and validity and reliability measures are presented. Results of descriptive statistics analysis of the survey, distribution tests, and correlation and regression analyses are also covered in this chapter. Finally, proposed hypotheses were tested and presented.

4.1. Data Screening and Cleaning

For the purpose of ensuring the accuracy of the study, the researcher screened and cleaned the data prior to analysis. Before entering in to analysis software, data collected from respondents were screened for missing values and checked for completeness. In doing so, questionnaires returned incomplete were excluded from analysis and missing values with acceptable levels were also managed properly. Accordingly, out of 384 distributed questionnaires 366 of them were found free of defects and used for the study analysis.

4.2. Survey Response Rate

Response rate for the study is presented in table 4.1 below and discussed as follows.

Table 4.2: **Response rate for the study**

S.N	Name Of The Branch	# of questionnaires distributed	# of questionnaires Returned	Response Rate
1	Mexico Branch	34	32	94%
2	Nefas Silk Branch	127	121	95.3%
3	Temenja Yaj Branch	68	65	95.6%
4	Yoseph Branch	38	37	97.4%
5	Saris Addis Sefer Branch	28	26	92.9%
6	Gotera Branch	25	25	100%

7	Beklobet Branch	11	11	100%
8	Kera Branch	9	9	100%
9	Lafto Branch	38	34	89.5%
10	Stadium Branch	6	6	100%
	Total	**385**	**366**	**95.06%**

Source: *Own Survey, May 2020*

4.3 Respondents' Demographic and Socio-Economic Characteristics

Table 4.2 shows respondents' profile by their gender and age group. As shown in table 4.2, majority (61.7%) of sample respondents are males and the remaining 38.3% are females. The same table depicts respondents' age by their respective age group as below 18 years, between 19 to 35 years, between 36 to 60 years, and above 60 years. Accordingly, majority, about 52.5% of respondents are aged between 19 to 35 years. Around 67% of them are aged less than 35 years.

Table 4.2: Summary of Respondents by Sex and Age Group

Item	**Category**	**Frequency**	**percentage**	**Cumulative percentage**
Gender	Male	226	61.7	61.7
	Female	140	38.3	100
	Total	**366**	**100**	
Age	Below 18	53	14.5	14.5
	From 19-35	192	52.5	66.9
	From 36-60	98	26.8	93.7
	Above 60	23	6.3	100
	Total	**366**	**100**	

Source: *Own Survey, May 2020*

Table 4.3 shows summary of respondents by their maximum education level achieved. High school diploma and first degree holders constitute the highest share comprising 39.1% and

28.4%, respectively. Below high school comprise about 24.3% followed by those with above first degree holders (8.2%). Thus, significant portion of respondents are those attended high school levels.

Table 4.3: Summary of Respondents by Educational Level

	Frequency	Percent	Valid Percent	Cumulative Percent
Below high school	89	24.3	24.3	24.3
High school diploma	143	39.1	39.1	63.4
First degree	104	28.4	28.4	91.8
Above first degree	30	8.2	8.2	100.0
Total	**366**	**100.0**	**100.0**	

Source: *Own Survey, May 2020*

Respondents' length of years since banked in CBE is analyzed and, as shown in table 4.4, majority of respondents' which is 32.8% have banking relationship for 2-5 years, while about 31.1% have banking relationship for 6-10 years. And remarkably 23.8% respondents' have banking relationship over 10 years, finally 12.3 % respondents' have banking relationship less than 2 years.

Table 4.4: Respondents' Length of relationship with the Bank

	Frequency	Percent	Valid Percent	Cumulative Percent
Below 2 years	45	12.3	12.3	12.3
From 2-5 years	120	32.8	32.8	45.1
From 6-10 years	114	31.1	31.1	76.2
Above 10 years	87	23.8	23.8	100.0
Total	**366**	**100.0**	**100.0**	

Source: *Own Survey, May 2020*

4.4 Descriptive analysis for Dimensions of Banking Innovation

Product, process, service, marketing and technological innovations are dimensions selected for testing the effect of banking innovation on customer satisfaction. Means and standard deviations of responses on each dimension are discussed as follows.

4.4.1 Product Innovation

As it can be seen from the table 4.6 banking innovation has a mean score of 4.11 and standard deviation of 1 .1026 out of the five statements used to measure the product innovation of CBE. Usefulness of New products introduced by the bank score the highest mean 4.17 and standard deviation of 1.293 followed by I recommend new banking products to my friend with a mean value of 4.26 and standard deviation 1.1294 out of the four statements the price of the product is good indicator of its quality score 3.55 mean value and 0.994 standard deviation relatively lower than the other statements. However, compared to the mean scores, responses are slightly diversified. This implies that respondents are almost agreed about the existence of product innovation in CBE.

Table 4.6: Descriptive Statistics of product innovation

Product innovation	**Mean**	**Std. Deviation**
My bank always introduce new banking products to the customer	4.01	.955
New products introduced by my bank are always useful to me	4.17	1.293
There is new banking product in my bank which doesn't exists in other banks	4.14	.724
I can easily differentiate new products from existing products	3.96	1.247
I recommend new banking products to my friend	4.26	1.294
Average	**4.11**	**1.1204**

Source: *Own Survey, May 2020*

4.4.2 Marketing Innovation

Table 4.7 reveals that respondents are well aware of marketing innovation introduced by CBE (Mean = 4.4, SD = 0.5931).

Table 4.7: Descriptive Statistics of marketing innovation

Marketing Innovation	Mean	Std. Deviation
I like the way my bank advertises its services/products	4.45	.829
There is always new ways of promotion strategy in my bank	4.43	.775
My bank delivers prize linked promotion scheme	4.20	.670
I can get CBE branches anywhere in the city	4.42	.856
I am always satisfied with new marketing innovations introduced by my bank	4.50	.709
Average	**4.4**	**0.5931**

Source: *Own Survey, May 2020*

4.4.3 Service Innovation

As we can see from the table 4.8 below there are four statements presented for respondents to evaluate service innovation. Of the four statements "My bank always expands types of service products through time " has the highest mean score 4.25 and standard deviation 1.491 and " I like my bank how it deliver banking services to me " score the lowest mean 3.55 and standard deviation of 1.021. Over all service innovation has a mean score 3.85 and standard deviation 1.1368.

Table 4.8: Descriptive Statistics of service innovation

Service Innovation	**Mean**	**Std. Deviation**
My bank always introduce new services to the customer	3.90	1.468

I like my bank how it deliver banking services to me	3.55	1.021
My bank always expands types of service products through time	4.25	1.491
I am satisfied with the current services rendered by CBE	3.69	1.034
Average	**3.85**	**1.1368**

Source: *Own Survey, May 2020*

4.4.4 Technological Innovation

Table (4.9) shows that technological Innovation has a mean score of 4.12 and standard deviation 0.81940. Technological Innovation is the adoption of creation of new banking technologies that can enhance banking service. Out of the four statements "My bank uses electronic banking services " has the higest mean score 4.25 and standard deviation 0.971, I am happy with the technologies my bank uses when providing services to me has the seconds highest mean score 4.24 and standard deviation 0. 927. This indicates that technological Innovation is important for improving customers' satisfaction in CBE.

Table 4.9: Descriptive Statistics of technological innovation

Technological Innovation	Mean	Std. Deviation
I am happy with the technologies my bank uses when providing services to me	4.07	1.053
My bank offers good services using different technologies	3.90	1.033
Electronic banking has made banking services easier for me	4.12	.936
My bank uses electronic banking services	4.25	.971

I am happy with the technologies my bank uses when providing services to me	4.24	.927
Average	**4.12**	**.81940**

Source: *Own Survey, May 2020*

4.4.5 Process Innovation

Table (4.10) shows that Process Innovation has a mean score of 4.08 and standard deviation 1.05238 which implies significant effect of process innovation on affecting satisfaction with slightly dispersed responses among respondents. Out of the four statements " I am happy with the process when providing services to me " has the highest mean score 4.42 and standard deviation 1.05238, My bank give me improved customer relation and support has the seconds highest mean score 4.30 and standard deviation 1.098.

Table 4.10: Descriptive Statistics of technological innovation

Process Innovation	Mean	Std. Deviation
My bank gives improved quality of operations	3.89	.788
My bank give me improved customer relation and support	4.30	1.098
I can easily understand the process when I enter to the branch	3.75	.852
I am happy with the process when providing services to me	4.42	2.875
Average	**4.0888**	**1.05238**

Source: *Own Survey, June 2020*

4.4.5 Customer Satisfaction

As can be seen from table 4.11, mean score and Standard Deviations are measured on six questionnaire items of five scale and results shown mean score of items ranges between minimum of 3.93 with SD 0.833 and maximum of 4.67 with SD 0.726. while the statement “Overall, I am satisfied with the services I receive from my bank” scored the highest mean. Overall mean and SD on customer satisfaction is 4.32 and 0.68784, respectively. Therefore, it is

decided that banking innovation effect on customer satisfaction using descriptive analysis. However, further analysis conducted using correlation and regression has clarified this issue.

Table 4.11: Descriptive Statistics of customer satisfaction

Customer Satisfaction	Mean	Std. Deviation
My bank always delivers on its promises	4.41	.634
I am happy doing business with my bank	3.93	.833
My bank understands my personal needs	4.22	.971
I am satisfied with the services/products I receive from my bank	4.37	.802
I am satisfied with the way my bank answers my queries solve my problem	4.35	.997
Overall, I am satisfied with the services I receive from my bank	4.67	.726
Average	**4.3242**	**.68784**

Source: *Own Survey, June 2020*

4.5 Tests of Assumptions

Statistical assumptions that must be met for the analysis of correlation and regression are tested and the results are presented in this section. Accordingly, basic assumptions, multi collinearity were checked and found acceptable and their results are discussed as follows.

4.5.1. Multi – collinearity Test

Multi-collinearity is an unacceptably high level of inter-correlation among the independents, such that the effects of the independents cannot be separated (Garson 2012). Under multi-collinearity, estimates are unbiased but assessments of the relative strength of the explanatory variables and their joint effect are unreliable. The two known techniques for collinearity

diagnostics are variance inflation factor (VIF) and tolerance. The VIF indicates whether a predictor has a strong linear relationship with the other predictor(s).

Although there are no hard and fast rules about what value of the VIF should cause concern, there are some general guidelines: If the largest VIF is greater than 10 then there is cause for concern (Bowerman & O'Connell, 1990; Myers, 1990 cited in Field, 2013). If the average VIF is substantially greater than 1 then the regression may be biased (Bowerman & O'Connell, 1990 cited in (Field, 2013). VIF may be used in lieu of tolerance as VIF is simply the reciprocal of tolerance. The rule of thumb is that VIF > 4.0 when multi-collinearity is a problem. If the tolerance value is less than some cutoff value, usually 0.20, the independent should be dropped from the analysis due to multi collinearity. Tolerance below 0.1 indicates a serious problem. Tolerance below 0.2 indicates a potential problem (Menard, 1995, cited in (Field, 2013).

Table 4.12: Tolerance and variance inflation factor (VIF)

Model		Collinearity Statistics	
		Tolerance	VIF
	Product	.753	1.329
	Marketing	.556	1.799
	Service	.846	1.182
	Technological	.583	1.714
	Process	.870	1.150

Dependent Variable: Customer Satisfaction
***Source**: Own survey and SPSS v20.0 (May, 2020)*

As shown in table 4.12, multicollinearity among independent variables is tested and results reveal that there is no problematic level multicollinearity among variable in target. All tolerance levels are above 0.4 and VIF found to be less than cutoff level. Regarding this study the tolerance value ranges from 0.556 to 0.870 and the values of VIF for all the independent variables are below 4 showing no indications of multi-collinearity. Hence it is verified that all dimensions of an independent variable can be included in regression analysis.

4.5.2. Test for Normality

The normality of the population distribution forms the basis for making statistical inferences about the sample drawn from the population (Kothari, 2004). A common test for normality is to run descriptive statistics to get skewness and kurtosis. Skewness should be within -2 and +2 range while kurtosis to fall within -3 and +3 if the data is normally distributed according to (Garson, 2012; George & Mallery, 2010). Based on Garson's suggestion, the skewness and kurtosis as indicated on table 4.18 shows that all variables fall within the ranges suggested. The data used for the research are normally distributed.

Table 4.13: Normality test: Skewness and Kurtosis

N= 366	**Skewness**	**Kurtosis**
Product innovation	-0.955	2.268
Marketing innovation	-1.147	2.255
Service innovation	1.343	1.094
Technological innovation	0.533	2.290
Process innovation	-0.848	2.674
Customer satisfaction	-0.678	1.724

4.6. Correlation Analysis

This study employs the correlation analysis, which investigates the strength of relationships between the studied variables. A correlation coefficient expresses quantitatively the magnitude and direction of the liner relationship between two variables (either positive or negative) and the intensity of the relationship (-1 to 1. General guidelines for correlations, correlation level of .10 to .30 are considered small, correlations of .30 to .70 are considered moderate correlations of .70 to .90 are considered large, and correlations of .90 to 1.00 are considered very large. The researcher used one of the most commonly used types of correlation coefficient which is Pearson correlation coefficient methods because of the statistical accuracy that usually results from this method and the result is presented in the table below.

As it can be seen from the table 4.3 below all banking innovation dimensions (product, marketing and technological have significant and positive correlation with customer satisfaction

with the range of .532 to .744 and process innovation has moderate with 0.304 and service innovation has small correlation which is 0.223 at a significant level of P=0.01.

Table 4.14: correlations between variables

Correlations

		product	marketing	service	technological	process	satisfaction
product	Pearson Correlation	1					
	Sig. (2-tailed)						
marketing	Pearson Correlation	.420**	1				
	Sig. (2-tailed)	.000					
service	Pearson Correlation	.069	.344**	1			
	Sig. (2-tailed)	.000	.000				
technological	Pearson Correlation	.437**	.595**	.315**	1		
	Sig. (2-tailed)	.000	.000	.000			
process	Pearson Correlation	.213**	.347**	.156**	.264**	1	
	Sig. (2-tailed)	.000	.000	.000	.000		
satisfaction	Pearson Correlation	**.532****	**.668****	**.223****	**.744****	**.304****	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
**. Correlation is significant at the 0.01 level (2-tailed).							
Listwise N=366							

***Source**: Own survey and SPSS v20.0 (May, 2020)*

4.6.1 Relationship between Product Innovation and Customer Satisfaction

From the above table 4.12 we can see that product innovation is positively correlated with customer satisfaction (r=.532) at a significant level less than P<0.01.This indicates that product innovation is moderately correlated with customer satisfaction in the case of commercial bank customers in south Addis Ababa district. So introducing new banking products can help to satisfy CBE customers.

4.6.2 Relationship between Marketing Innovation and Customer Satisfaction

Regarding Marketing Innovation the correlation is positive and moderate with the value R=.668 at a significant level less than P<0.01. Of all the independent variables emotional value has the second highest correlation value with customer satisfaction considering commercial bank customers.

4.6.3 Relationship between Service Innovation and Customer Satisfaction

Service innovation has small correlation with the value R=.223 at a significant level less than P<0.01. This indicates that service innovation has the lowest correlation value for customer satisfaction in CBE customers in south Addis Ababa district.

4.6.4 Relationship between process Innovation and Customer Satisfaction

Regarding Technological Innovation the correlation is positive and significant with the value R=.774 at a significant level less than P<0.01. Of all the independent variables Technological Innovation has the highest correlation value with customer satisfaction considering commercial bank customers.

4.6.5 Relationship between Process Innovation and Customer Satisfaction

Process Innovation the correlation is positive and moderate with the value R=.304 at a significant level less than P<0.01. Of all the independent variables emotional value has the second highest correlation value with customer satisfaction considering commercial bank customers.

4.7 Multiple Regression Analysis

Regression analysis can be used to predict the values of a dependent variable given the values of one or more independent variables by calculating a regression equation (Saunders, Lewis, & Thomhill, 2009). Multiple regression is used when we want to predict the value of a dependent variable (target or criterion variable) based on the value of two or more independent variables (predictor or explanatory variables). Multiple regression analysis allows us to determine the overall fit (variance explained) of the model and the relative contribution of each of the predictors to the total variance explained (Kothari, 2004). Hence, for the purpose of examining the effects of the dimensions of banking innovation (independent variable) on customers' satisfaction in CBE (dependent variable), multiple regression analysis is employed, and the results are presented and interpreted in this section.

4.7.1. Model Summary

In this model, the coefficient of determination ($R2$) indicates the degree of the goodness of fit for the estimated multiple regression equation. It can be interpreted as how good a predictor the multiple regression equation is likely to be (Saunders, Lewis, & Thomhill, 2009). According to (McDaniel & Gates, 2013), the adjusted $R2$ statistic is preferred by some researchers as it helps to avoid overestimating the impact of adding an independent variable on the amount of variability explained by the estimated regression equation. Thus, the adjusted R2 value tells us the proportion of variance in the dependent variable (customer satisfaction) accounted for predictors (the dimensions of Banking innovation) (Field, 2013).

Table 4.13 shows the model summary of the study. The model summary shows that the adjusted R2 value is 0.660. This implies that 66.0% of the variation in customers' satisfaction can be explained by the dimensions of banking innovation (namely product, marketing, service,

technological and process value) i.e., independent variables. The remaining 34.0% of variation is due to other variables that are not included in this study.

Table 4.15: Model Summary of the Study

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.816[a]	.665	.660	.40080

***Source**: Own survey and SPSS v20.0 (May, 2020)*

4.7.2 ANOVA of the Study

ANOVA tests whether the model is significantly better at predicting the outcome than using mean as a "best guess" (Field, 2013); and it also shows the main and interaction effects of categorical independent variables. Put it in other words, ANOVA tells us whether the model, overall, is acceptable from a statistical perspective i.e. whether the independent variables are in a significantly good degree of prediction of the outcome variable (Hair, Bush, & Ortinau, 2004). In multiple regression analysis, the *t*-test is used to find out the probability of the relationship between each of the individual independent variables and the dependent variable occurring by chance (Saunders, Lewis, & Thomhill, 2009). In contrast, the *F*-test is used to find out the overall probability of the relationship between the dependent variable and all the independent variables occurring by chance (Saunders, Lewis, & Thomhill, 2009). If F test is greater than one, F>1, and larger enough, the variable under study is considered significant (Field, 2013).

Table 4.15 shows the result of the Analysis of Variance (ANOVA). It indicates the F value of 143.005 with significance level of 0.000 which imply that the dimensions of the banking innovation (independent variable) significantly predict the customers' satisfaction to save (dependent variable). Since the F-test result of the study is 143.005 which is by far greater than one with significance of p=0.000<0.05, the probability of these results occurring by chance is less than 0.05 i.e. the variation that is explained by the model is not simply by chance. Therefore the overall regression model is significant.

Table 4.16: ANOVA Result

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	114.862	5	22.972	143.005	.000[b]
	Residual	57.830	360	.161		
	Total	172.692	365			

a. Dependent Variable: satisfaction

b. Predictors: (Constant), process, service, product, technological, marketing

***Source**: Own survey and SPSS v20.0 (May, 2020)*

4.7.3 Coefficients of the Regression

Despite the fact that ANOVA is a useful test of the model's ability to explain any variation in the dependent variable, it does not directly address the strength of that relationship (Hair, Bush, & Ortinau, 2004). Thus it is better to see coefficients of the regression line to explain the strength of relationship among each dimensions of banking innovation and customer satisfaction. The sign of the coefficient indicates whether the predicted response increases or decreases when the predictor increases, keeping all other predictors constant (Hair, Bush, & Ortinau, 2004). As per Field (2013), beta values indicate the individual contribution of each predictor to the model. Similarly, standardized coefficient (beta value) indicates the degree of importance of each of independent variables dimensions i.e. product, marketing, service, technological and process innovation, customer satisfaction in CBE.

Table 4.17: Coefficient of Regression

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.638	.161		3.950	.000
	product	.115	.022	.187	5.309	.000
	marketing	.353	.047	.305	7.449	.000
	service	-.033	.020	-.055	-1.644	.000

	technological	.410	.034	.488	12.224	.000
	process	.025	.021	.038	1.157	.248
a. Dependent Variable: *customer satisfaction*						

***Source**: Own survey and SPSS v20.0 (May, 2020)*

According to table 4.17, the regression result shows that technological innovation dimension of banking innovation is found to be the largest predictor (β=0.488) of customer satisfaction followed by marketing innovation (β=0.305) and product innovation (β=0.187). This is interpreted as, other variable remaining constant, a one unit increase in technological innovation increases satisfaction by 0.488units. The data also shows that product innovation is the relatively least positive contributor with β=0.187 significant at P=0.000<0.05. Contrary to these service innovation has a negative contributor to customer satisfaction as (β= -0.055) with significant level of P=0.000<0.05 and process innovation dimension of banking innovation is the not statistically significant to interpret the result (β=0.038) with significant to level of P=0.248 which is p value is greater than 0.05.

4.8. Hypothesis Testing and Discussion of Results

To this end of this chapter, hypothesis testing and its results is presented and discussed. In the beginning, five hypotheses were proposed to test the effect of banking innovation on customers' satisfaction in CBE, and based on the analysis conducted so far these hypotheses are tested and results are discussed as follows.

Table 4.18: Table of Hypotheses Tested

Hypothesis	**Beta**	**p<0.05**	**Result**	**Reason**
H1: product innovation has a direct positive significant relationship with customer satisfaction.	0.187	0.000	Supported	β=0.187; p<0.05

H2: marketing innovation has a direct positive significant relationship with customer satisfaction.	0 .305	0.0000	Supported	β=0.305; p<0.05
H3: Service innovation has a direct negative significant relationship with customer satisfaction.	-0.055	0 .000	Rejected/ Not Supported	β= - 0.055; p<0.05
H4: technological innovation has a direct positive significant relationship with customer satisfaction.	0.410	0.000	Supported	β=0. .410; p<0.05
H5: process innovation has a direct positive but not significant relationship with customer satisfaction.	0.025	0.248	Rejected/ Not Supported	β=-0.025; p>0.05

Source: *Own Survey, May 2020*

H1: Product innovation has a direct positive significant relationship with customer satisfaction;

Banking product innovation, with standardized Beta value of β= 0.187 at p<0.05, is proved to have significant positive effect on customer satisfaction. This implies that, other variables held constant, a one unit increase in product innovation improves customers' satisfaction by 0.187% units. In other words, as banking innovation increases or decreases by 1%, customer satisfaction increases or decreases by 0.187%. Thus, banking innovation is a significant and positive predictor of customers' satisfaction in CBE. Thus, *hypothesis 1 is statistically supported.*

H2: Marketing Innovation Has a Direct Positive Significant Relationship with Customer Satisfaction;

With a beta value of 0 .305, p0.000<0.05, marketing innovation is found to have a significant and positive effect on customer satisfaction in Commercial Bank of Ethiopia. This confirms that, controlling other dimensions, an increase in the marketing innovation by one unit can enhance

customer satisfaction by 0.305 units. Put it differently, if marketing innovation improved by 100%, customer satisfaction improves by 30.5%. Hence, *hypothesis 2 is statistically supported*.

H3: Service innovation has a direct positive significant relationship with customer satisfaction;

The hypothesis was formulated that Service innovation has positive and significant effect on customer satisfaction. However, statistical regression analysis showed that Service innovation as a negative effect of $\beta = -0.055$ at $p=0.000<0.05$ customer satisfaction. This also implies that an improvement in Service innovation negatively affects the effectiveness of banking innovation in customer satisfaction. These are not surprising effects taking into account some results found by (Pan & Zinkhan, 2006) who found that the willingness to innovate of a company did not necessarily turn into positive customer satisfaction and customer retention results. However most studies conducted by (Dotzel, Shankar, & Berry, 2013), (Benjamin & Gustavo, 2017) and (Agolla J.E & Van Lill, 2016) proves service innovation has a direct effect on customer satisfaction.As banking innovation become more and more focused on service innovation, customer satisfaction reduces significantly, other things kept constant. Put it differently, Service innovation is found to have significant but negative effect on customer satisfaction. Therefore, *hypothesis 3 is not supported.*

H4: Technological Innovation Has a Direct Positive Significant Relationship with Customer Satisfaction;

Among the dimensions included in the study, Technological Innovation is found to have the highest beta value of $\beta=0.410$ at $p<0.05$. Other sub variables held constant, a one unit improvement in Technological Innovation advances customer satisfaction by 0.410 units. In other words, if the level of Technological Innovation can be increased by 100%, customers' satisfaction to save will increase by 41.0%. Thus, it is proved to have significant positive effect on customer satisfaction and because of that *hypothesis 4 is supported* in this study.

H5: Process Innovation Has a Direct Positive Significant Relationship with Customer Satisfaction;

The hypothesis was formulated that Process Innovation has positive and significant effect on customer satisfaction. However, process innovation dimension of banking innovation is the not statistically significant to interpret the result (β=0.038) with significant to level of P=0.248 which is p value is greater than 0.05. Therefore, *hypothesis 5 is not supported.*

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter summarizes major findings of the study, concludes them and, based on these findings and conclusions, forwards some appropriate recommendations. Finally, limitations of the study and areas for future research are also highlighted.

5.1. Summary of Major Findings

The primary aim of the study was to assess the effect of banking innovation on customer satisfaction in Commercial Bank of Ethiopia. For this study questionnaire was used to collect data from sample customer respondents, and out of 385 questionnaire papers distributed to 10 randomly selected branches in south Addis Ababa districts, 366 of them were returned and found usable for analysis and the collected data was analyzed using SPSS version 20 software.. Overall reliability test shows Cronbach's alpha of 0.908, and other assumptions, like, linearity, multicollinearity and homoscedasticity tests that were necessary for correlation and multiple linear regression analysis were checked and confirmed acceptable. Based on the analyses, the following major findings are summarized:

Of the respondents in the sample 226 (61.7%) were male and the remaining 140 (38.3%) are female. The demographic profile of the respondents tells us that the respondents are comprised of different age, education and income groups. By comparing the mean value of each item it was found that respondents gave highest aggregate mean score (4.4, 4.12, and 4.11) for marketing innovation, technological innovation, and product innovation respectively.

The result of inferential statistics indicates that three variables product, marketing, and technological innovations have a positive and moderate correlation with customer satisfaction in CBE south Addis Ababa district. Of this technological innovation has the highest correlation coefficient followed by technological and product innovation respectively. Service innovation found to have a negative correlation to customer satisfaction whereas process innovation is statistically insignificant. The result of hypothesis indicates that three proposed hypothesis variables product, marketing, and technological innovations does positively affect customer satisfaction was accepted.

5.2. Conclusion

This study has demonstrated that the dimensions of innovation can predict customer satisfaction, at least in the Commercial Bank of Ethiopia specifically South Addis Ababa District. Therefore, this study has proved that customer can be satisfied by paying a close attention to issues of product innovation, marketing innovation and technological innovation.

Result from Pearson correlation analysis revealed that all of the dimensions used to measure the effect of banking innovation were found to be positively correlated to customers' satisfaction with varying degrees of correlation. Marketing innovation and technological innovation value dimensions were found to have strong positive correlation with customer satisfaction, whereas product, service and process innovation dimensions were confirmed to have significant moderate positive correlation with customer satisfaction. Therefore, it is concluded that banking innovation is positively correlated with customers' customer satisfaction.

From multiple linear regression analysis, it is revealed that three of the proposed banking innovation dimensions have positive and significant effect on customers' satisfaction in CBE. Accordingly, three of the five dimensions proposed, namely, product innovation, marketing innovation and technological innovation dimensions of banking innovation are concluded to be positive contributors to banking innovation effectiveness and this in turn positively affects customers' satisfaction. Service innovation concluded to be the negative contributor to customer satisfaction. And process innovation dimension found to be statically insignificant based on multiple regression analysis.

5.3. Recommendations

Based on the findings from the study, the discussion that followed and the conclusion drawn in line with the study objectives, the following points are recommended for commercial bank of Ethiopia to its customers in the growing market both in demand and competition.

- It is suggested that managers should adopt innovative marketing strategies to enhance customer satisfaction, especially with regard to optimizing perceived product and technology to meet and exceed customers' expectations.
- It is recommended that the management should pursue a strategy to provide incentives for technology transfer from more developed economies in order to promote adaptation of world class banking innovations which will boost the technological innovations that improve customer satisfaction in the commercial bank of Ethiopia.

- Since marketing innovation was found to be the most important determinant of banking innovation success, it will be very fundamental to revise the marketing program under study to make it more acceptable by the public in terms of promotion, convenience and prize linked marketing program by aligning social, cultural and religious values of the country.
- Service innovation dimension was found to have negative effect on customer satisfaction through banking innovation. However most studies conducted by (Dotzel, Shankar, & Berry, 2013), (Benjamin & Gustavo, 2017) and (Agolla J.E & Van Lill, 2016) proves service innovation has a direct effect on customer satisfaction.
- As for the managerial implications, management of CBE who desire to improve on customer satisfaction should invest much of the company's resources into product innovation, marketing innovation and technological innovation.

5.4. Limitation and Area of Future Research

This research assessed the effect of banking innovation on customers' satisfaction in Commercial Bank of Ethiopia. The study focused on assessing the demand side perception (customer side perception) on the subject and hence supply side analysis is not included. Thus one of its limitations is its single sidedness. The second limitation is associated with the representativeness of the study area. It was focused on branches located in and around south region of Addis Ababa city and may not be generalized to the whole country. The third limitation emanates from the complexity associated with exactly measuring the effects of banking innovation on bank's performance, customer attraction, and retention. And also other innovation variables such as organizational innovation and administrative innovation factors interfere and contribute alongside.

Future researches may focus on both side analyses which are from both management and customer's perspectives. Similar studies may also be done by incorporating the influence of gender, occupation, and other demographic variables on customers' attitude.

Further research could also be conducted to a different marketing category, such as customer attraction, attitude and retention expanded to a larger sampling size or geographical area so that the result can generate higher outcomes of the confidence level.

Reference

Agbor, J. (2011). *The relationship between customer satisfaction and service quality*. Umea school of Business.

Agolla J.E & Van Lill, J. (2016). An empirical investigation into innovation drivers and barriers in puplic secter organizations. *International journal of innovaion science*.

Akova, b., Ulusoy, G., Payzin, E., & Kaylan, A. (1998). New product development capabilities of the Turkish electronics industry. *Fifth International product development management conference*.

Anderson, E., Formell, C., & Lehmann, D. (1994). Customer satisfaction market share and profitability. *Finding from sweeden journal marketing*.

Atalaya, M., Anafarta, N., & Sarvanc, F. (2013). The relationship between innovation and firm performance:An empirical evidence from Turkish automotive suplier industry. *Technology and innovation management*, 226-235.

Ayana, G. (2012). Adoption of electronic banking system in Ethiopian banking industry. *Thesis Addis Ababa university*.

Babbie, E. (1989). *Survey Research Methods (2nd ed.).* Belmont, CA: Wadsworth.

Benjamin, L., & Gustavo. (2017). Independent boards and innovation. *Journal of Financial Economics*, 123,536-557.

Bersali, m., & Guermat.c. (2014). Loyalty and innovation evidence from Algerian mobile service providers. *International journal of technology management and sustainable develpment*.

Buglear, J. (2003). *A Guid to Business statstics.* business and economics.

Burns, A., & Bush, R. (2003). Marketing research:online. *Prentis*.

CBE Website, & Fortune, r. (2013). website. *Website, Commercial bank of Ethiopia; Fortune, reporter*.

Christopher, G. (2006). A Logit analysis of electronic banking in new zealand. *International journal of bank market*.

Clemes M.D, G. C. (2007). Customers swiching behavior in the New Zealand banking industry. *Banks and bank systems*.

Cronon, J., & Tayler, S. (1992). Measuring service quality: a re-examination and extention. *The journal of Marketing*.

Dabholkar. (1994). Consumer evaluations of new technology based service option. *Inetrnational journal of research in marketing*.

Damanpour, F. (1991). Organizational innovation; a mera analysis of effects of determinants and moderators. *Acadamy of management journal*.

Damanpour.F., & Evan.W.E. (1984). Organization innovation and performance the problem of organizational lag. *Administrative scienve quarterly*.

Daniel, C., & Berinyuy, L. (2010). Using the SERVQUAL Model to asses service Quality and Customer Satisfaction:An emprical study of grocery stores in Umea. *School of Business,Master Thesis*.

Dotzel, T., Shankar, V., & Berry, L. (2013). Service Innovativeness and Firm Value. *Journal of Marketing Research*, 259-276.

Fageberg, J., Mowery, D., & Nelson, R. (2004). The oxford handbook of innovation. *oxford university press usa*.

Fang, W., & Tian, X. (2010). Does stock liquidity enhance or impede firm innovation. *Rutgers university*.

Field, A. (2013). Discovering Statistics Using IBM SPSS Statistics. *Sage Puplications,New Delhi*.

Formell, C., Anderson, E., & Rust, R. (1997). Customer satisfaction, productivity, and profitability:Differences between goods and services. *Marketing science*.

Freeman, c. (1994). The diffusion of information and communication technology. *London sage puplication inc*.

Gardachew. (2010). Electronic banking in ethiopia practices, opportunities and challenges. *Journal of internet banking and commerce*.

Hair, J., Black, W., & Babin, B. (2010). *Multivariate data analysis.* Prentice Hall.

Hair, J., Bush, R., & Ortinau, D. (2004). *Marketing Resarch.*

Hall, J., Fergusen, C., & Pinnuck, M. (2010). Speculation and e-commerce: The long and the short of IT. *International center for Monetary an banking studies*, 42-104.

Harry, B. (2015). Innovation, what innovation:a comparison between product, process and organizational innovation.

Harvey, C. (1995). Constraints on sustained recovery from economic disaster in africa. *Macmillan*.

Higgins, C., & Howell, J. (1990). champions of technological innovation. *Administrative science Quarterly*, 317-341.

HonW.K, & Millard. (2018). Bankign use of cloud service. *computer law and security review*.

Hu, K., & Huang, M. (2011).) Effects of Service Quality, Innovation and Corporate Image on Customer's Satisfaction and Loyalty of Air Cargo Terminal. *IJOR 8*.

Huiban, J., & Bouhsina, Z. (1998). Innovation and the quality of labour factor. french food industry.

Johannessen, J. (2008). Organizational innovation as part of knowledge manegement. *International journal of information manegement*.

Kassahun. (2016). Challenges and opportunities of electronic banking in ethiopian banking industry. *Thesis Addis Ababa university*.

Kirim, A. (2007). Model innovation system. *Yayincilik Istanbul*.

Kline, S., & Rosenberg, N. (1986). *The chain linked model of Innovation.*

Kothari, C. (2004). Research methology: methods and tecniques. *New age internatinal publesher Ltd.*

Kotler, P. (1991). *Principles of Marketing* . NJ: Prentice Hall.

Liao, S., & Chen, C. (2007). Knowledge sharing,absorbtive capacity and innovation capability: an emprical study of Taiwan's knowledge-intensive industries. *Journal of information science*.

Lin, R., Chen, R., & Chiu, K. (2010). customer relationship managemnt and innovation. *industrial Managemant & Data Systems*.

Lovelock, C., & Wright, L. (1999). *Principles of Service Marketing and Management.* Edinburgh Business School Heriot-Watt University Edinburgh, UK.

Martin. (2010). Cultivating client loyalty. *The Micro banking Bulletin*, 20-24.

Mattewos. (2016). Challenges and prospect of E banking in Ethiopia. *Thesis Addis Ababa university*.

Mbama, C. &. (2018). Digital banking customer experience and bank financial performance . *International journal of bank marketing*.

McDaniel, C., & Gates, R. (2013). *Marketing Research. 9th ed.* John Wiley and Sons Singapore Pte.Ltd.

Mohammed, S., & Sreekumar, S. (2009). Service quality evaluation in internet banking:An emprical study in India. *International journal of Indian culture and business management*.

MUllen, J. B. (2017). Bank adoption of mobile banking stakeholder perspective. *Internaltional journal of bank marketing*.

OECD. (2005). Enhacing the performance of service sector. *PECD manual*.

Oliver, R. (1980). A Cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 17:460-469.

Padachi. (2007). Analyzing the factors that influence the adoption of internet banking in Mauritius.

Pan, Y., & Zinkhan, G. (2006). Detrminants of retail patronage:a meta-analytical perspective. *Journal of retailing*.

Patel. (1999). Localised production of Technology for global market. *journal of economics*.

Prabhakaran, S., & Satya, S. (2003). An insight into service attributes in banking sector. *Journal of service research.*

Rahel, M. (2015). Barriers and benefits of electronic banking system in Ethiopia. *Thesis Addis Ababa university.*

Richard, J., & Sullivan, S. (2000). How has the adoption of internet banking affected performance and risk at banks. *Federal reserve bank of kansas USA.*

Richard, P. (1968). Economics and social innovation during the last years of Emperer Melelii's life and short reign of Lij Eyasu. *International conference of Ethiopian studies*.

Rogers, E. (2003). *Diffusion of Innovation 5rd edition.* New York: the free press.

Roselyn, G., & Nigumi, P. (2013). Do bank innovation influence profitability of commercial bank in kenya. *Prime Journal of Social Science*.

Rubera, B., & Kirca, A. (2012). Firm innovetiveness and its performance outcomes. *SAGE Journal*.

Rukiya, T. (2018). The effect of financial innovaion on financial performance of commercial bank of ethiopia. *Thesis Addis Ababa university*.

Saunders, M., Lewis, P., & Thomhill, A. (2009). *Research methods for Business students 4th edition.* London: Prentice Hall.

Schumpeter, J. (1995). Capitalism, socialism and democracy. *harper*.

Seetanah Padachik, &. R. (2008). Analyzing the factors that influence the adoption of internet banking in Mauritius. *Computer science and It education conference*.

Sekaran, U. (2000). *Research Methods for Business: A skills Building Approach 3rd edition.* New York: John Wiley & Sons.

Sellitiz, C. (1966). Research Methods In Social Science: Criteria For The Life History. *Yale University Press, Newyork.*

Shahidan, W., Yap, B., & Ramayah, T. (2012). Satisfaction and trust on customer loyality:a PLS approach. *Business Strategy Series*, 154-167.

Sintayehu, Y. (2015). The impact of e-banking services on customer satisfaction:the case of selected commercial banks in Addis Ababa. *Thesis Addis ababa university*.

Smith, H. W. (1991). *Strategies of Social Research (3rd ed.),*. Orlando, FL, Holt,Rinehart and Winston.

Spielman, D. (2010). How innovative is your agriculture? Using innovation indicators &benchmarks to strengthen national agricultural innovation system. *Documents & Reports*.

Spreng, R., & Mackoy, R. (1996). An emprical examination of a model of perceived service quality and satisfaction. *Journal of Retailing* .

Tayler, S., & Baker, T. (1994). An assesment of the relationship between service quality and customer satisfaction in the formation of consumer purchase interntions. *Journal of retailing*, 163-646.

Tekabe, S. a. (2016). Challenges and opportunities of E-pament in ethiopia banking industry. *International journal of scientific and research puplications*.

Therrien, P. D. (2011). Innovation novelty and commercial performance in the service secter. *a canadian firm analysis*.

Totterdell, P., Leach, D., Birdi, K., & Wall, T. (2002). An investigation of the contents and consequences of major organiztional innovations. *International journal of innovation Mnagement*, 343-368.

Vigoda Gadot, E. S. (2005). Puplic sector innovaion and the post managerial promises and realities in globalishing puplic administration. *International puplic management journal*.

Yap, B. (2012). Satisaction and trust on customer loyality. *business strategy series*.

Zaleska.M. (2014). Puplic Policy studies. *The polish banking studies*.

Annex - 01: Questionnaire

ADDIS ABABA UNIVERSITY
School of Commerce
Department Of Marketing Management

Questionnaire to Be Filled By Commercial Bank of Ethiopia Customers

Dear Respondent

I would like to share your wonderful insights on this questionnaire with regards to your banking experience you have had in the past within Commercial Bank of Ethiopia. The questionnaire is designed to measure banking innovation within the sampling area and the consumption is purely for academic research purpose for partial fulfillment of a post graduate program in marketing management at Addis Ababa University School of Commerce. Thank you for sharing your valuable time in filling this questionnaire.

The questionnaire has 2 parts each referring to your actual experience and ideal thought of an excellent banking service provider.

Part 1 personal information

This first part inquires your personal information so please mark √ in the box exactly fits with your back ground

1. Gender Female ☐ Male ☐

2. Age Below 18 years ☐ From 19-35 years ☐ From 36-60 years ☐ Above 61 years ☐

3. Educational Level Below High school ☐ High school Diploma ☐

First Degree ☐ Above First Degree ☐

4. For how many years you are customer of Commercial Bank of Ethiopia

Below 2 years ☐ From 2-5 years ☐ From 6-10 years ☐ Above 10 years ☐

PART 2 Basic research questions

Please select the degree of agreement/disagreement **1=strongly disagree, 2= disagree, 3= neutral, 4= agree and 5= strongly agree** with the following statements associated with banking innovations towards commercial bank of Ethiopia. Please **TICK (√)** in the appropriate boxes below**.**

	Product innovation	***5***	***4***	***3***	**2**	**1**
1	My bank always introduce new banking products to the customer					
2	New products introduced by my bank are always useful to me					
3	There is new banking product in my bank which doesn't exists in other banks					
4	I can easily differentiate new products from existing products					
5	I am always satisfied with new banking products introduced by my bank					
	Marketing innovation					
6	I like the way my bank advertises its services/products					
7	There is always new ways of promotion strategy in my bank					
8	My bank delivers prize linked promotion scheme					
9	I can get CBE branches anywhere in the city					
10	I am always satisfied with new marketing innovations introduced by my bank					
	Service Innovation					
11	My bank always introduce new services to the customer					
12	I like my bank how it deliver banking services to me					
13	My bank always expands types of service products through time					
14	I am satisfied with the current services rendered by CBE					

	Technological Innovation					
15	I am happy with the technologies my bank uses when providing services to me					
16	My bank offers good services using different technologies					
17	Electronic banking has made banking services easier for me					
18	My bank uses electronic banking services					
19	I am happy with the technologies my bank uses when providing services to me					
	Process Innovation					
20	My bank gives improved quality of operations					
21	My bank give me improved customer relation and support					
22	I can easily understand the process when I enter to the branch					
23	I am happy with the process when providing services to me					
	Customer Satisfaction					
24	My bank always delivers on its promises					
25	I am happy doing business with my bank					
26	My bank understands my personal needs					
27	I am satisfied with the services/products I receive from my bank					
28	I am satisfied with the way my bank answers my queries solve my problem					
29	Overall, I am satisfied with the services I receive from my bank					

END OF THE QUESTIONNAIRE!

አዲስ አበባ ዩኒቨርሲቲ

የንግድ ስራ ትምህርት ቤት፣ ድህረ ምረቃ ፕሮግራም

ማርኬቲንግ ሜኔጅመንት ትምህርት ክፍል

ለደንበኞች የቀረበ ማጠይቅ

ወድ መላሽ፣ በመጀመሪያ ይህንን ማጠይቅ ለመመላት ፈቃደኛ በመሆንዎ በጣም አመሰግናለሁ። የማጠይቁ ዋና አላማ በአዲስ አበባ ዩኒቨርሲቲ ንግድ ስራ ኮሌጅ ለማርኬቲንግ ሜኔጅመንት ድህረ ምረቃ ፕሮግራም ማሟያ የሚሆል "የኢትዮድያ ንግድ ባንክ የ"ይቆጥቡ ይሸለሙ መሪሃ ግብር በደንበኞች የቁጠባ ልምድ ላይ ያመጣዉ ወጤት" ("The Effect of Banking innovation on Customers' satisfaction case study in CBE") በሚል ርእስ ለሚከሄደዉ ጥናት እንደ ግብአት የሚያገለግል መረጃ ለመሰብሰብ ሲሆን በጉዳዩ ላይ እርስዎ የሚሰጠኝ መረጃ ለጥናቱ ስኬት ወሳኝ ነዉ።

በመሆኑም ከተሰጠት አማራጮች መካከል ሃሳቤን በትክክል ይገልፅልኛል ብለዉ ባሰቡት አማራጭአጠገብ የ "√" ምልክት በማድረግ እንዲመልሱ እየጠየኩኝ የሚሰጠኝ ማንኛውም መረጃ በሚስጥር የሚያዝ መሆኑን ለመገለፅ እወዳለሁ።

የእግዜሩ በለጠ አጥኚ ተመራቂ ተማሪ

ቅርንጫፍ_____

ክፍል አንድ፤ የግል ሁኔታ

1. ፆታ፤

    1. ወንድ
    2. ሴት

2. እድሜ

1. ከ18 በታች

2. 18 – 35

3. 36 – 60

4. ከ60 በላይ

3. የ ትምህርት ደረጃ ፤

1. ከሀይስኩል በታች

2. የ ሀይስኩል ዲፕሎማ

3. የ መጀመሪያ ዲግሪ

4. ከአንድ ድግሪ በላይ

ክፍል ሁለት፤ አብይ ጥያቄዎች

ለሚከተሉት ዓረፍተ-ነገሮች ከተሰጠው ከ ፣ እስከ 5 ካሉት አማራጮች መካከል ሃሳቤን በትክክል ይገልፅልኛል ብለዉ
የ ሚያምኑት አማራጭቁጥር ስር የ "√" ምልክት ያድርጉ። ቀጥሎ ያለዉን ስኬል ይጠቀሙ።

በጣም እስማማለሁ	እስማማለሁ	ገለልተኛ	አልስማማም	በጣም አልስማማም
5	4	3	2	1

	የ ፕሮዳክት ፈጠራ	***5***	***4***	***3***	**2**	**1**
1	የኔ ባንክ ሁልጊዜ አዳዲስ ፕሮዳክቶችን ለ ደንበኞቹ ያስተዋውቃል					
2	በንግድ ባንክ የ ተዋወቁ አዳዲስ ፕሮዳክቶች ሁልጊዜ ለኔ ጠቃሚናቸው					
3	በሌሎች ባነኮች የ ሚገኝ አዲስ ፕሮዳክት በንግድ ባንክ ይገኛል					
4	ባንኩ የ ሚያስተዋውቃቸውን አዲስ ፕሮዳክቶች ከሌሎች ፕሮድችቶች በቀላሉ ለያቸዋለው					
5	ባንኩ በሚያስተዋውቃቸውአዳዲስ ፕሮዳችቶች ደስተኛ ነኝ					
	የ ማርኬቲንግ ፈጠራ					

6	ባንኩ አገልግሎቶቹን ለሚስተዋወቅ በሚጠቀመውየ ሚስታወቂያ መንገድ ተመቾቶኛል					
7	ባንኩ ሁልጊዜ አዳዲስ የ ሚስታወቂያ መንገዶችን ይጠቀማል					
8	ባንኩ የ ይቆጥቡ ይሸለሙ ሞሚሃ ግብር					
9	የ ንግድ ባንክን ቅርንቻፎች በአወቅራቢያዬ አገኛለው					
10	ባንኩ በሚጠቀመውበሚጠረውየ ሚስታወቂያ መንገድ ደስተኛ ነኝ					
	የ አገልግሎት አሰጣጥ ፈጠራ					
11	ባንኩ ሁልጊዜ አዳዲስ የ አገልግሎት አሰጣጥ ፈጠራዎችን ይሰጣል					
12	ባንኩ በሚሰጠውየ አገልግሎት አሰጣጥ ደስተኛ ነኝ					
13	ባንኩ በየ ጊዜውየ አገልግሎት አሰጣጥ አይነቶችን ሚስፋፊያ ያደርጋል					
14	ንግድ ባንክ አሁን ላይ በሚሰጠውአገልግሎት ደስተኛ ነኝ					
	የ ቴክኖሎጂ ፈጠራ					
15	ባንኩ ለአገልግሎት አሰጣጥ በሚጠቀመውቴክኖሎጂ ደስተኛ ነኝ					
16	በንኩ በተለያዩ ቴክኖሎጊዎች የ ተሻለ አገልግሎት ይሰጣል					
17	ኤሌክትሮኒክ ባንኪንግ የ አገልግሎት አሰጣጡን ቀላል እርጎታል					
18	My bank uses electronic banking services					
19	ንግድ ባንክ አሁን ላይ በሚጠቀመዉቴክኖሎጂ ደስተኛ ነኝ					
	የ ስራ ሂደት ፈጠራ					
20	ባንኩ በተሻለ የ አሰራር ጥራት አገልግሎት ይሰጣል					
21	ባንኩ የ ተሻለ የ ደንበኞች ግሉኝነት እና ድጋፍ ይሰጠኛል					
22	ወደ ባንኩ ቅርንጫፎች ስሄድ የ ባንኩን አሰራር በቀላሉ እረዳለው					

23	ባንኩ አገልግሎት በሚሰጥበት ጊዜ ባለውየ ስራ ሂደት አሰራር ደስተኛ ነኝ					
	የ ደንበኛ እርካታ					
24	ባንኩ ሁል ጊዜ በገባውቃል ሚሰረት ይፈጽማል።					
25	ባንኩ አሰራሩን ከእኔ ፍላጎት ጋር በማጣጣም አገልግሎት ይሰጣል።					
26	ባንኩ አሰራሩን ከእኔ ፍላጎት ጋር በማጣጣም አገልግሎት ይሰጣል።					
27	ባንኩ በሚሰጠውየ አገልግሎት ፕሮዳክት ደስተኛ ነኝ					
28	ባንኩ ቅሬታዎቼን የ ሚመልስበት መንገድ በቂና ተመጣጣኝ ነው					
29	በአጠቃላይ ባንኩ በጠሰጠውአገልግሎት ደስተኛ ነኝ					

ለተደረገልኝ ትብብር እጅግ በጣምአመሰግናለሁ!

Annex 02: Population and Sample Size By Branches

Name Of The Branch	**Number Of Target Population**	**Number Of Sample Respondents**
Mexico Branch	31,619	34
Nefas Silk Branch	118,020	127
Temenja Yaj Branch	63,753	68

Yoseph Branch	35,801	38
Saris Addis Sefer Branch	26,450	28
Gotera Branch	23,125	25
Beklobet Branch	9,877	11
Kera Branch	8,730	9
Lafto Branch	35,797	38
Stadium Branch	5,325	6
Total	**358497**	**385**

Appendix 03: Statistical Output

Table 4.16: ANOVA Result

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	114.862	5	22.972	143.005	.000[b]

Residual	57.830	360	.161		
Total	172.692	365			

a. Dependent Variable: satisfaction

b. Predictors: (Constant), process, service, product, technological, marketing

Correlations

		product	marketing	service	technological	process	satisfaction
product	Pearson Correlation	1					
	Sig. (2-tailed)						
marketing	Pearson Correlation	.420**	1				
	Sig. (2-tailed)	.000					
service	Pearson Correlation	.069	.344**	1			
	Sig. (2-tailed)	.000	.000				
technological	Pearson Correlation	.437**	.595**	.315**	1		
	Sig. (2-tailed)	.000	.000	.000			
process	Pearson Correlation	.213**	.347**	.156**	.264**	1	
	Sig. (2-tailed)	.000	.000	.000	.000		
satisfaction	Pearson Correlation	**.532****	**.668****	**.223****	**.744****	**.304****	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	

**. Correlation is significant at the 0.01 level (2-tailed).

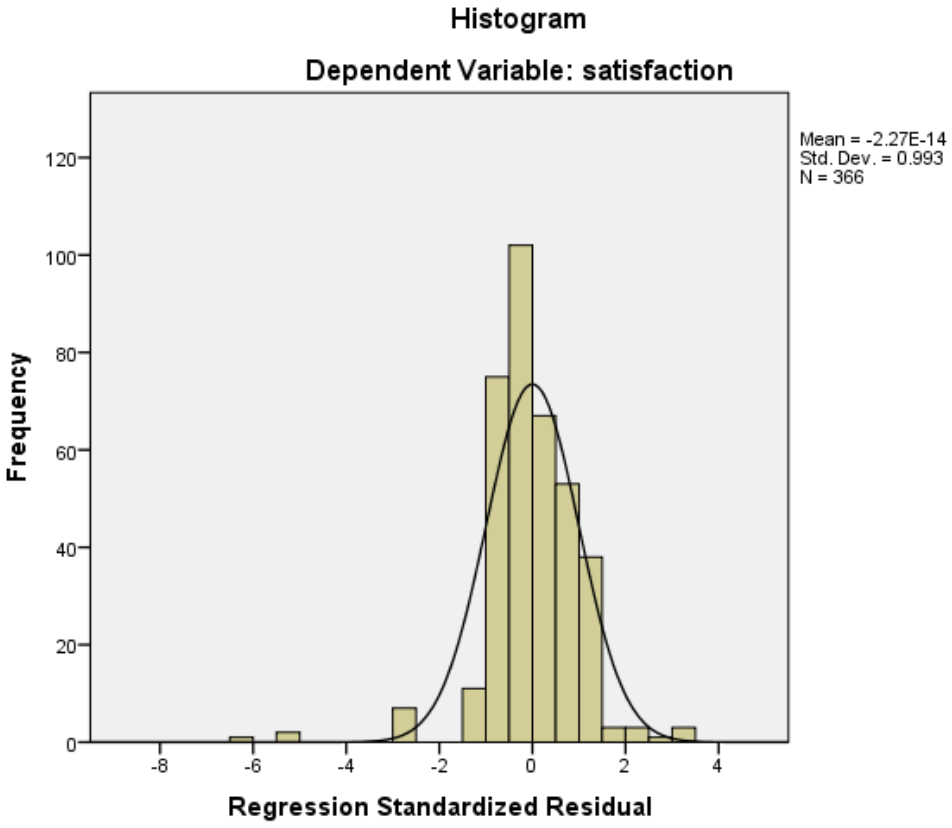
Listwise N=366

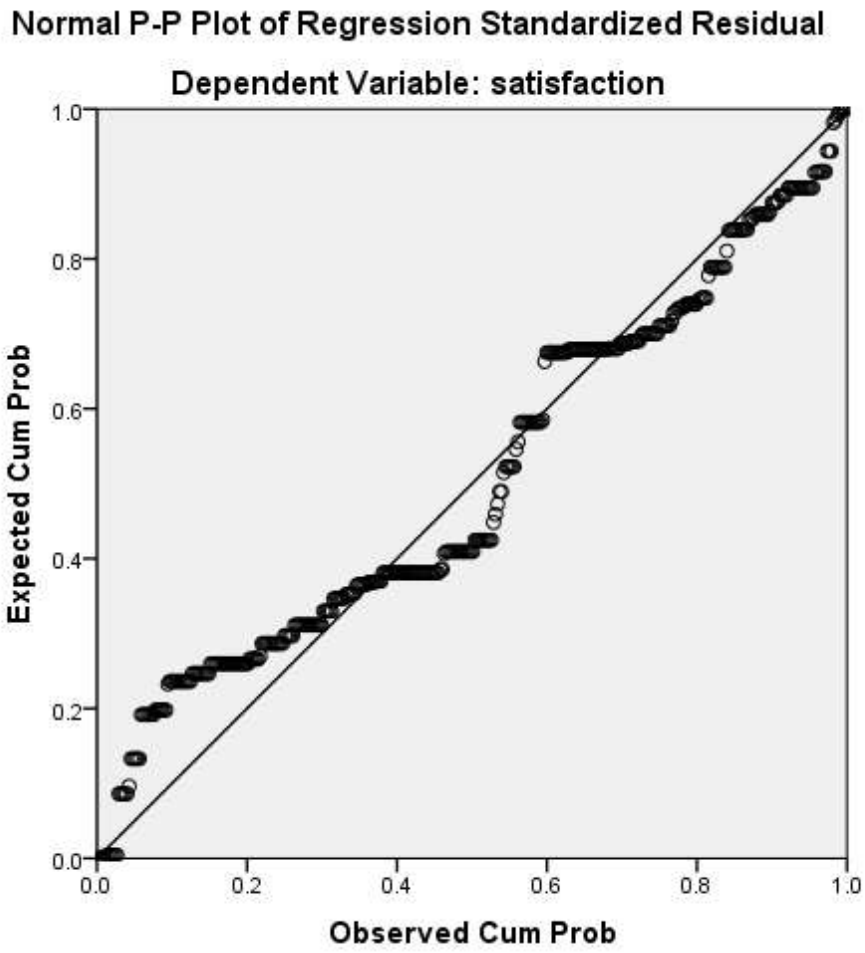
***Source**: Own survey and SPSS v20.0 (May, 2020)*

Coefficient of reggression

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.638	.161		3.950	.000
	product	.115	.022	.187	5.309	.000
	marketing	.353	.047	.305	7.449	.000
	service	-.033	.020	-.055	-1.644	.000
	technological	.410	.034	.488	12.224	.000
	process	.025	.021	.038	1.157	.248
a. Dependent Variable: *customer satisfaction*						

Model		Collinearity Statistics	
		Tolerance	VIF
	Product	.753	1.329
	Marketing	.556	1.799
	Service	.846	1.182
	Technological	.583	1.714
	Process	.870	1.150


Histogram
Dependent Variable: satisfaction
Mean = -2.27E-14
Std. Dev. = 0.993
N = 366
Frequency
120
100
80
60
40
20
0
-8
-6
-4
-2
0
2
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: satisfaction
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0