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**EXPLORING THE MEDIATING EFFECT OF BANKING INNOVATION
IN THE RELATIONSHIP BETWEEN CUSTOMER RELATIONSHIP
MANAGEMENT PRACTICE AND PERFORMANCE OF COMMERCIAL
BANK OF ETHIOPIA**

BY

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**A THESIS SUBMITTED TO ADDIS ABABA UNIVERSITY, COLLEGE OF BUSINESS
AND ECONOMICS DEPARTMENT OF MANAGEMENT IN REQUIREMENTS FOR
MASTER OF BUSINESS ADMINISTRATION (MBA)**

OCTOBER, 2019

ADDIS ABABA, ETHIOPIA

ADDIS ABABA UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
DEPARTMENT OF MANAGEMENT

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DECLARATION

I, the under signed, declare that this thesis is my original work and all sources of materials used for this thesis have been duly acknowledged. The paper has never been presented in this or any other university for the award of any academic degree, diploma or certificate.

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ENDORSEMENT

This thesis has been submitted to Addis Ababa University, College of Business and Economics Department of Management for examination with my approval as a university advisor.

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October, 2019

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Acknowledgement

First and Foremost, I thank the almighty God who gave me the passion and strength to have done this paper.

Then, I would like to express my sincere gratitude to my amazing advisor Dr. Lakew Alemu for his continuous support, for his patience, motivation, enthusiasm and immense knowledge. His guidance helped me in all time of research and writing of this thesis. I could not have imagined having a better advisor and mentor.

In that challenging period of mine you were there for me in every situation, thank you so much my husband this work is yours too. And thank you for my lovely daughter who give me unconditional love which gave me the strength to achieve my dream and become a best mom.

Finally, I would also thank my families and friends who encourage me for the success of this paper. I wouldn't be here without your valuable suggestions, so thank you all.

Abstract

The main purpose of this study was to examine the mediating effect of banking innovation on the relationship between customer relationship management and performance of commercial bank of Ethiopia. The researcher used the ongoing activities of components of CRM i.e. focusing on key customer, organizing around CRM and incorporating CRM-based Technology as independent variables to examine their effect on both banking innovation and performance. The researcher was applied explanatory research design to meet the research objectives. In this research purposive sampling and then random sampling techniques was applied to get appropriate representative sample from the population of the study which was employees of 287 branches of CBE located in Addis Ababa. The researcher collected data from 64 branches of north districts of CBE located in Addis Ababa city using self-administered questionnaire. A total of 300 questionnaires were distributed to target respondents and out of the total 162 questionnaires were collected (54 %). The collected data was analyzed using statistical package for social science (SPSS) version1.0. The descriptive statistics (mean, standard deviation) and inferential statistics (correlation and regression) were used to described demographic characteristics of the respondents, to test hypothesis and to answer research questions. The statistical result revealed that banking innovation mediates the relationship between CRM and performance of CBE. The finding also exposed that not all dimensions of CRM has significant effect on the relationship; only focusing on key customer and incorporating CRM-based Technology dimension of independent variable has significant effect on banking innovation and performance.

Keywords: Customer relationship management (CRM), banking innovation, performance

Chapter One

1. Introduction

This chapter begins with research background that intends to give an idea about the area of the paper to the reader. This is followed by the statement of problem, the formulated research questions, objectives, significance of the study, scope of the study and finally organization of the paper.

1.1. Background of the Study

The banking industry is facing an ever-increasing level of competition around the world as the dynamics of the business change. In fact, the industry plays an important role on all other sectors of the economy. According to Tekliaye (2017) the sector is known to be highly customer interactive industry where customer relationship management (CRM) is realized and more applicable. In this competitive sector, customers are looking for better service with recent technologies in effective and efficient way. Thus, Banks have realized the need to focus on customer-centric marketing and the adoption of new technologies to gain advantage in the competition. According to Pokharel (2011) CRM is the strategy which enables banks to analyze the customer profiles, to detect their needs and potential profitability areas and establish the necessary actions to achieve customer satisfaction, competitive advantage and thus the profitability since there is a direct link between the customer satisfaction and the profitability.

CRM is defined by Kumer and Reinartz (2012) as a strategic process of selecting customers that the firm can most profitably serve and shaping interaction between a company and these customers. The ultimate goal is to optimize the current and the future value of customers for that company. Buttle (2004) also indicated the rationale for CRM is that it improves business performance by enhancing customer satisfaction and driving up customer loyalty. As many researchers concluded (e.g, Rostami, Valmohammadi and Yousefpoor (2014), Tekliye, (2017), and Ampoful, (2012) CRM has positive impact on the performance of banking industry.

Many researchers applied the four dimensions of CRM (i.e, focusing on key customer, organizing around CRM, managing knowledge and incorporating CRM-based technology). Therefore, the present study also adopted these dimensions of CRM as independent variable. Focusing on key

customer is all about providing exceptional care for important customer. The organizing around CRM dimension is referred to the organizational structure and culture which support customer centered strategy of an organization. The practice of acquiring knowledge about customers in order to know the customers wants and needs is included in the managing knowledge dimension. And finally incorporating CRM-based technology is the application of technologies which are in favor with the customer-centered strategy of business.

The other variable included in this particular research study is innovation. Innovation can be defined as a process that begins with an idea, proceeds with the development of an invention, and results in the introduction of a new product, process, or service to the marketplace. The impact of innovativeness on firm's performance is huge. Specially, in competitive business environment like banking; innovativeness is crucial to stay competent in the business. Otherwise, the rival banks will take over the business by providing new product and better service to customer. According to Batiz-Lazo and Woldesenbet(2006) ATM, mobile banking, credit/debit card, internet banking and POS are some of the examples of banking innovations. This days, all mentioned examples of banking innovations are accomplished by commercial bank of Ethiopia. Thus, this particular study also encompassed the effect of banking innovation as a mediating variable.

Therefore, considering the lack of adequate knowledge on the area and specifically considering the fact that there is no or little previous research which explore the mediating effect of banking innovation on the relationship of CRM and performance of commercial bank of Ethiopia in Addis Ababa, this research proposed to assess how the independent variable (i.e., focusing on key customer, organizing around CRM, managing knowledge and incorporating CRM-based technology) affects dependent variable (i.e., performance of CBE) and how the mediating variable (i.e., banking innovation) affect the relationship. Thus, the present research will contribute knowledge that has not been yet acquired in the related literatures. More specifically, the knowledge from this paper will assist CBE in achieving its vision.

1.2. Organizational Background

In Ethiopia, there are about 17 commercial banks participating in the sector. Among them, commercial bank of Ethiopia is the only commercial bank owed by the government of Ethiopia. CBE has been contributing significant roles on the development of the country since it was legally established as a share company in 1963. The bank is known as a Pioneer to introduce modern

banking like introduction of ATM to local users and introduction of western union money transfer service for the first time in the country. Currently it has more than 1,340 branches across the country. CBE is the leading African bank with assets of 646.69 billion Birr. Presently, (As on march 31, 2019) CBE has more than 20 million account holders and the number of Mobile and Internet Banking users reached more than 1,736,768 as of June 30th 2018. Active ATM card holders also reached more than 5.2 million. As of march 31,2019 there are about 2524 ATM machines and 9384 POS were available. The bank has opened four branches in South Sudan and also has been working with 50 renowned foreign banks.

1.3. Statement of the Problem

Recently, most businesses have been focusing on a strategy which emphasis on customer care and retention. Researchers stated that customers are a back bone of firms, no customers no business. Hence, as a competitive advantage most firms have adopted latest technologies and strategies to attract, maintain and retain customers. Mosad (2005) indicated the key ways to building competitive position are through CRM.

In Ethiopia the banking industry became very competent as a result of the emergence of private commercial banks. CRM strategy serves as a means of improving those banks competitiveness and profitability while keeping customers satisfied and loyal. The pioneer bank in implementing this customer- centric strategy is CBE. The has been intensively working on CRM strategies in order to achieve customer satisfaction and loyalty.

Many research findings suggested that there is a positively significant relationship between CRM and performance of an organization. For example; Tekliye, (2017) investigated the effect of CRM on profit performance of development bank of Ethiopia. The researcher concluded that the four dimensions of CRM (i.e key customer focus, CRM organization, customer knowledge management and CRM based technology) have positive effect on the performance of the case bank. Moreover, among these four dimensions CRM based technology has highest influence on profit performance. Using similar CRM constructs, Ampoful, (2012) also studied the effect of CRM on profitability in Takoradi Branches, Ghana. The finding confirmed that there is significantly positive effect of CRM on performance of the bank.

Along with the effect of CRM on firm performance, innovation has also undeniable positive effect on the overall performance of firms. There are many researchers who stated the causal-effect relationship of innovation and performance of firms. Particularly in banking industry, studies suggested there is significant positive relationship between innovation and performance of banks. Sujud& Hashem, (2017) Muiruri et al. (2014) and Abou-Moghli et al. (2012) conducted a research that revealed there is a significant positive impact of innovations on banking performance.

Similarly, previous literatures exposed that CRM capability has positive effect on innovation capability of firms both in manufacturing and service industries .Al-Hawary et. Al (2016) conducted research study based on the impact of CRM on innovation capability in Kuwait airways. Using five dimensions of independent variable (i.e. information sharing, customer involvement, long-term relationships with customers, joint problem-solving and technology-based CRM) and the dependent variable innovation has four variables (i.e. aesthetical innovation, marketing innovation, technological innovation, and innovation in administrative affairs) which were adopted from previous studies with some modification. The result suggested that all independent variables have positive impact on innovation capability.

The research finding by Lin et al(2010) from the investigation of the impact of CRM on innovation capability based on Taiwan computer manufactures was different from the research finding of Al-Hawary et. Al (2016). Even though, both researches adopted almost similar construct for the independent and dependent variables, the result was not the same. The study which was based on Taiwan computer manufactures stated that not all the five variable have significant positive impact on innovation capability. Only technology-based CRM has significant positive effect on all dimensions of innovation and Ghafari, Karjalian, Mashayekhnia (2011) also investigated a research in similar area and concluded that CRM has significant impact on innovativeness of firms.

To sum up from the above evidences, we can say that CRM can be antecedent for innovation and likewise, innovation can be antecedent for performance in an organization.

Regarding the mediating effect of innovation on the relationship of CRM and firm performance, there is a study conducted by Moustafa and Mohamed (2010). The study used relation orientation, customer information and configuration as CRM constructs, innovation as single constructs and financial and marketing performance as scales of business performance. and their research concluded that there is indirect effect of CRM on firm performance through innovation capability.

In other word, innovation capabilities can mediate the effect of CRM on firm performance. However, Moustafa and Mohamed (2010) used the three dimensions of CRM as independent variable in their study. But the present study used four dimensions of CRM, three of them have similar concept with the CRM dimensions employed by Moustafa & Mohamed and one important construct which was missed by them is included in our study. They missed incorporating CRM-based technology dimension of CRM which is important construct in working concurrently with the other three dimensions to the successful implementation of CRM (Yim et al. (2013).

Beside the above difference, the present research also focused on the mediating effect of banking innovation while Moustafa & Mohamed studied the innovative capability of firms as a mediating factor on the relationship of CRM and firm performance. According to Batiz-Lazo & Woldeesenbet (2006), there was a misconception on the understanding of banking innovation in the previous literatures. Furthermore, their finding revealed that innovation in financial institutions has different concept from other manufacturing as well as service industry's innovation and they also identified innovations that have been practiced by banks are mainly classified as product and process innovations.

In fact, many researchers would agree with the effect of intervening variables either strengthen the relationship or carries the effect between independent and dependent variables while conducting most social science studies. Among many intervening variables, this research would like to test the effect of CRM practice on performance of CBE though banking innovation since there is no research study concerning this area previously.

Therefore, considering the research gap which specifically focus on the mediating effect of banking innovation, the present research study intended to explore the mediating effect of banking innovation on the relationship of CRM and performance of commercial bank of Ethiopia in Addis Ababa. Using CRM as independent variable (i.e., focusing on key customer, organizing around CRM, managing knowledge, incorporating CRM-based technology and banking innovation (example; ATM, debit card, mobile banking, POS and internet banking) as mediating variable. Thus, performance will be dependent variable.

1.4. Research Questions

Based on the above research problem, the following questions are for further investigation of the topic:

- Does CRM practice affect banking innovation of CBE in Addis Ababa?
- Does banking innovation affect performance of CBE in Addis Ababa?
- Does CRM practice affect performance of CBE in Addis Ababa?
- Which dimensions of CRM affect performance of the bank?
- Does banking innovation mediate the relationship between CRM and performance of CBE in Addis Ababa?

1.5. Research Objectives

General objectives

- The general objective of this study is to explore the mediating effect of banking innovation on the relationship of CRM and performance of CBE in Addis Ababa.

under the above general objective there are a list of specific objectives that this paper would test the relationship between variables.

- To examine the effect of CRM on banking innovation in CBE in Addis Ababa.
- To test the effect of banking innovation on the performance of CBE in Addis Ababa.
- To inspect the effect of CRM on the performance of CBE in Addis Ababa.
- To identify which dimensions of CRM affect performance of CBE.
- To determine whether banking innovation mediates the relationship between CRM and performance of the bank.
- To provide valuable suggestion and recommendation for commercial bank of Ethiopia concerning the area of banking innovation and CRM.

1.6. Significance of the Study

Certainly, the contribution of the current research will be significant. The finding of this research will fill the research gap on the area that can be helpful to academicians and future researchers. Beside its contribution to theoretical knowledge, the case bank decision makers can get some useful insights from the conclusion and recommendation of the study.

Since improving performance is the ultimate goal of an organization, there should be enough knowledge to achieve it. This study is very important because it assesses how CRM practice affect performance of the bank and how performance of CBE is affected by both CRM and banking innovation simultaneously. Since CRM has multi-dimensionality characteristic, researchers can assess about this variable with varies dimensions in order to explore the relationship with other variables which is interesting for researchers and helpful to practitioners. Accordingly, the current study mainly explores the mediating effect of banking innovation on the relationship of CRM practice and performance of commercial bank of Ethiopia. Besides, the present study examined which dimensions of CRM (i.e. focusing on key customers, organizing around CRM, managing knowledge and incorporating CRM-based technology) have positively significant effect on banking innovation and performance. The finding mainly supports executive managers of the case bank and decision makers to realize the objective of the bank.

1.7. Scope of the Study

The study was limited to exploring the mediating effect of banking innovation on the relationship between CRM practice and performance of commercial bank of Ethiopia located.

Conceptual scope

The positive effect of CRM on organizational performance is revealed by many researchers. Since CRM has a multi-dimensionality characteristic many researchers measure it with varies dimensions. Accordingly, this particular research adopted the relevant four dimension of CRM as independent variable from previous literature. This was because, these four dimension of CRM are an ongoing activity for successful implementation of CRM in an organization is directly linked to the practice of CRM and the present study concerned on the effect of CRM practice. Thus the adoption of these dimensions was reasonable. Besides, the current study comprised banking innovation as a mediating variable and performance as dependent variable. Therefore, the current research will focus on exploring the mediating effect of banking innovation on the relationship between CRM practice and performance of commercial bank of Ethiopia located in Addis Ababa city.

Geographical scope

The present study conducted in branches of CBE belong in north district of Addis Ababa only. This was due to time and budget constraints. Besides, the mode of operation in all the branches of the case bank is the same therefore, there is no need to include all of population the study.

Methodological scope

In order to answer the research questions and to test the hypothesis, the current study applied quantitative research strategy. And collected the primary data by using self-administered questionnaire survey method.

1.8. Organization of the Study

The paper consists of five chapters. The first chapter deals with introductory part which contains background of the study, statement of the problem, research question, objectives of the study, significance of the study and scope of the study. The second chapter encompassed review of related literature and findings. The third chapter deals with research methodology. The fourth chapter presented the results of the analysis. Finally, based on the analysis and interpretation, conclusions and recommendations is presented.

Chapter Two

2. Review of Related Literature

Literature review is the most important section of research paper which present already existing knowledge to the current study area. Reviewing literatures enables the readers to update themselves on what is happening and what is the knowledge gap on that specific area of study.

This chapter included theoretical model of the research that shows how the overall research is conducted and how theories concerning this area support cause and effect relationship of the variables. Then followed theoretical literature of the variables participated in the study from broader knowledge of the overall area to the specific relationship of the variables and its dimensions. Theoretical literature is a type of literature review which pointed out an already existing theories, concepts, issues and relationships of phenomena. Having this in mind, in the subsection of this chapter the independent variable (CRM), the dependent variable (performance) and the mediating variable (banking innovation) was briefly discussed on what is already known about them and their relationship based on previously studied research papers.

The section also encompassed the hypothesis based on the theory or knowledge already existing. The hypothesis stated the effect of independent variable and its dimensions on both mediating variable and dependent variable and also the effect of mediating variable on dependent variable; based on the research findings which revealed these variables have significant relationship among them.

Furthermore, we comprised the simple mediation model adopted from (Andrew,2009) in the section. The purpose of the model was to show how the variables are related each other and how the overall research paper talks about.

2.1. Theoretical Model

The main purpose of this research is to test the mediating effect of banking innovation in the relationship between CRM practice and performance of the case bank. The research is conducted based on theories and facts about each variable involved in the study and the cause and effect relationship among them.

The dimensions of CRM variable adopted from previous research (i.e. focusing on key customer, organizing around CRM, managing knowledge and incorporating CRM-based technology) as independent variable work concurrently for successful implementation of CRM. In other word, it is essential to practice all these four activities together without missing one of them.

In fact, theories related to the study area specified that when an organization has an organizational structure and culture that support customer-centered business strategy, then there is a good chance of existing more motivated employees who can provide better care and product for customer. Likewise, there will be enough knowledge about customer in the organization database which enable the firm to satisfy customers want and needs. These three customer- centric activities of CRM that are providing exceptional care for customers, customer focused organizational strategy and acquiring customer data are realized by recent technologies on the area.

It is clear that a firm who can provide better product and service based on the information about its customer will definitely maintain a good relationship with customers. That means organization can achieve customer satisfaction which is directly linked with customer retention and loyalty. Therefore, successful implementation of CRM has significant effect on customer retention and loyalty. And this is proved by many researchers in the literature.

Moreover, studies also disclosed that there is a significant positive effect of CRM practice on performance of an organization. This is true because satisfied customers become loyal without spending too much money for marketing expenses and also loyal customers can bring another customer. This can directly enhance the performance of a firm.

The other variable involved in this research is banking innovation. This variable has both cause and effect relationship with the other variables in the study. That is CRM has positive impact on innovation and also banking innovation by itself has significant effect on performance of an organization.

The ultimate goal of a firm that follow customer-centered strategy is to attract, maintain and retain the most profitable customers which enable the firm better performance. If that is the case, innovation is one way to attract and maintain a good relationship with customers by providing better products and services. This will increase the performance of an organization with the same logic.

Many researchers in the social science stream stated that mostly there are intervening variables while conducting relationship study. They are either moderating or mediating variables.

Based on these facts, the current research investigated the direct effect of each dimensions of CRM on banking innovation and performance variables. Furthermore, the research revealed the effect of banking innovation as a mediating factor based on the simple mediation model adopted from Andrew (2009).

2.2. Theoretical Literature

2.2.1. Concept of CRM

CRM is a recent concept which arise as a result of internet booming. The flourishing of internet has caused customer's sophistication on their demand which impulse firms to change their old product-centered marketing strategy to the new customer-centered one. Shaon and Rahman (2015) stated CRM is derived from the word "contract management" which emerged in the 1980s about preserving customer details for further contact with customers. Furthermore, they defined CRM as a strategic marketing process whose purpose is to predict, understand and manage the demand of customers.

Buttle (2004) stated, there are three levels of CRM, strategic, operational and analytical CRM. Strategic level CRM focus on the development of customer-centric business culture; the culture includes allocating resource for creating customer value, collecting customer information and reward system that promote employee's behavior which enhance customer satisfaction. The operational level is concerned with the automation of customer-facing part of business. Different CRM software applications enable the marketing, selling and service functions to be automated. According to Invest Northern Ireland (2019) CRM software are broadly categorized as four types namely; outsourced, off-the-shelf, bespoke and managed solutions. Outsourced CRM software includes web-based CRM solutions that are widely used in most Ethiopian businesses. Whereas, analytical level of CRM is focused on exploiting customer's data such as sales data, financial date and marketing data. Using customer's data, operational level CRM can understand customer requirement to customize and meet customer expectation via recent technologies.

Now a day, most successful organizations agreed on customer focused business to achieve in order to gain their competitive advantage (Kotler & Armstrong, 2002). According to Yim, Anderson,

and Swaminathan (2013) there is no consensus on the definition of CRM. However, Broader perspectives tend to see CRM as an overall mix of marketing strategy, organizational structure and processes, and technology which all centered around customer data that enables executives to better manage their companies. Sin, Alan & Yim, (2005) also defined CRM as a set of business practices to identify, verify, acquire, develop and maintain sustainable profitability and customer loyalty through providing appropriate product and services, in due time.

Nguyen and Waring (2013) specified the importance of CRM in the creation of stakeholder value through the development of customer relationship with a firm, stated CRM identify customer data and synthesize customer value through the integration of people, process and technology. Rahimi (2017) defined CRM as the building of a customer oriented culture by which a strategy is created for acquiring, enhancing the profitability and retaining customers that is enabled by an IT application, for achieving mutual benefits for both the organization and the customers.

Every organization seeks to maintain and use critical information regarding the needs, expectations and choices of customers to make them satisfied and loyal (Shaon & Rahman,2015). Companies generate better results when they manage their customer base in order to identify, satisfy and retain their most profitable customers which are a key objective of CRM strategies. Improving customer retention rates has the effect of increasing the size of the customer data base which implies directly on the knowledge management dimension of CRM practice Buttle (2004).

As mentioned earlier, CRM is a combination of people, processes and technology, and an integrated and holistic approach between these three components are required for a successful CRM implementation Rahimi (2017). The process component of CRM, which is termed as operational level CRM in some other researches, tries to focus on individual customers and uses business process re-engineering (BPR) to shift the direction of organizations' processes from product-centric to customer-centric. According to Buttle (2004) in operational level CRM, all organization's marketing activity will be automated to provide better service for clients. Rahimi (2017) stated the technology component of CRM should be seen as key in implementing the CRM strategy and to assist with there –design of the business; without Technology it is impossible to realize the strategic (people component) and operational level of CRM. Therefore, to implement CRM successfully, there should be a successful integration of those three components of CRM.

CRM as a strategy can be applied in any industry. From previous literature, CRM strategy helps both manufacturing and service providing firms as one of rare and an imitable resource over rivals.

The four dimensions of CRM practice

Focusing on Key Customers

In fact, it is essential to focus on key customers in the successful implementation of CRM in an organization. Key customer focus is a business strategy that requires the participation of both management and employees to focus on the changing wants and needs of its customers (Kebede & Tegegne, 2018). The ultimate goal is to achieve deep customer relationships through which the seller organization becomes indispensable to its most profitable customers (Yim et al.2013; Tekliye, 2017). Focusing on key customer simply means providing meticulous care for most profitable or key customers of an organization.

Organizing Around CRM

For CRM success, there must be an organization wide commitment of resources including organizational structure, culture and employee's commitment which cultivate the relationship with customers. According to Azzam (2014) an organization should take serious of actions on service quality, behavior of employees and working environment while developing relationship with customers. Such as appropriate employee reward system, customer-satisfaction tracking and complaints management systems and providing staff with the modern tools & technologies (Kebede & Tegegne, 2018).

Managing Knowledge

Talet (2012) defined knowledge management as reusing customer information as a knowledge to improve organizational effectiveness by providing the appropriate knowledge to those that need it when it is needed. Successfully implemented CRM is based on effectively transforming of customer information to customer knowledge (Yim et al.2013). Using the knowledge, an organization can improve its efficiency to meet customer needs and wants.

Incorporating CRM-Based Technology

As Buttle (2004) described the above mentioned operational level activities of CRM such as knowledge management and focusing on key customers cannot be practiced without involving

latest technologies. Technology enhances the efficiency and smartness of customer relationship management to a large extent (Al-Hawary & Aldaihani,2016).

Indeed, most CRM applications take great advantage of technology innovations with their ability to collect and analyze data on customer patterns, develop prediction models, respond with timely and effective customized communications, and efficiently deliver personalized value offerings to individual customers (Yim et al.2013).

2.2.2. CRM in Banking Industry

Following the fast growing of technology and globalization, the importance of adopting CRM as a strategy is becoming very vital in almost all types of firms. Specifically, banking industry has to implement CRM to ensure its competitive advantage. Zineldin (2005) said Banking has traditionally operated in a relatively stable environment for decades. However, recent experience of the industry is changed to a highly competent environment. Since the sector is highly customer interactive, it is necessary to implement CRM as a strategy to enhance the overall performance. Those banks that ignore modern technologies and practices in such violently competent industry will become out of the competition.

In the Ethiopian context, banks are also experiencing high competition as a result of development of many commercial banks. The competition is not only to attract new customer or stealing customer from another rivals but also winning employees from each other. Currently, to ensure their competitive advantage many banks in Ethiopia are practicing CRM as a strategy by using different technologies and techniques. These include different software which help in automating customer service practice and relationship managers(RM)s who follow up customer's interaction with their bank.

2.2.3. Innovation

Alike CRM, Innovation has also a multi-dimensionality characteristic. It involves different construct depending on the concerning area or industry. As a result, many definitions of innovation have been proposed by different researchers. For example, Innovation is defined as a process that begins with an idea, proceeds with the development of an invention, and results in the introduction of a new product, process, or service to the marketplace (Thornhill, 2006). On the other hand,

Thomas (2004) described innovation as the introduction of new processes, products, or ideas in the organization. Innovation usually involves something new. It involves doing new things or finding new ways of doing things to change the rules of the game (Keskin, 2006).

Lin et al (2010) classified types of innovation into two broad groups. These are degree innovation and scope innovation. Again degree innovation further classified into radical and incremental innovation. The first one is an innovation which brings dramatic breakthrough in new product, market and technology whereas the second one is all about modifying current product/service and technologies to improve efficiency and performance. Scope innovation also classified into two technical innovation and administrative innovation. Technical innovations include product, marketing, service and technology. Administrative innovations focus on organizational structure and activities. In addition to Lin et al (2010) research, Hii (2000) showed the broad classifications of innovation by adding the key dimensions of innovation. These are product, process and organizational innovation.

There is a misconception on the occurrence of innovation as it is only appearing in high-tech environment. However, Hii (2000) stated the dimensions of innovation (i.e. product, process and service) can appear in all sectors of the economy including agriculture, service and manufacturing industries.

Types of Banking Innovations

As Batiz-Lazo and Woldesenbet (2006) clarified innovations in financial institutions are different from other service or manufacturing industry innovation. Moreover, they stated types of Banking innovation mainly lays either under product or process innovation. Some of banking innovations are ATM, Debit/credit cards, internet banking, mobile banking and POS.

ATM is an abbreviation for automatic teller machine and this machine enables banks to provide a better service regarding time conception. Besides this technology brings safety for customer in minimizing the attempt of robbery. In Ethiopia, ATM is first introduced by commercial bank of Ethiopia.

Debit card is a payment card that enables the consumer to make payment easily just by using the card. This kind of innovation is most popular in developed countries. Debit cards eliminate the need to carry cash or physical checks to make purchases.

Recently, internet banking is becoming popular and suitable technology in using financial transaction. This banking innovation has valuable contribution in the development of a country even better than other type of innovations. It is very time efficient and convenient, just by using internet from home or office we can pay bills, transfer money and so on.

Like internet banking mobile banking is also the most effective way of manipulating our financial transactions. It has similar features with internet banking the only difference is the device used while transacting our money. For mobile banking we just use cellular device where in case of internet banking we use laptop or desktop.

The other thing that can be mentioned as banking innovation is Point of sale terminal(POS). The POS terminal is computerized telecommunications device that provides the customers with access to financial transactions in a public space. Lately, financial institutions provide their service using POS terminals on selected locations like hotels, restaurants and supermarkets. This machine accepts gift and payroll cards in addition to credit and debit cards which makes it very important in maximizing the life time of physical cash and minimize the cost of government for damaged cash

2.2.4. Innovation in Banking Industry

Many researchers develop a framework of innovation based on manufacturing organizations. As a result, there are no enough knowledge concerning on service industry like financial mediators. Considering the previous little understanding on innovative behavior on service organizations, Bátiz-Lazo et al (2006) conducted a research by using interpretative approach in UK commercial bank. One of their objectives was to list out innovation constructs in banking sector. And the finding indicated product/service and process innovation were the main constructs of banking innovation. The researchers defined product innovation as new products or services introduced to meet external user or market need whereas process innovation is defined as new elements introduced into the organization's service operations to render a service. Additionally, Sujud & Hashem (2017) classified debit & credit cards and ATM as an example of product innovation and accessing information via computers and telecommunications, electronic payments and record-keeping, sale of financial services, securitization loans etc. as process innovation.

These banking innovations play an important role in the development of a country. For example, some banking innovation like internet banking and mobile banking can minimize the cost of a country that spent for printing physical money. Moreover, banking innovations are less time consuming and make societies life easy.

2.2.5. Performance

Organizational performance is classified into two main types that are financial performance and market performance. Financial performance is determined by profitability and return on investment. Whereas: market performance can be expressed by Market share, Customer satisfaction, Customer retention and Sales growth.

Dietrich and Wanzenried (2009) used return on average assets (ROAA) as main measure to evaluate bank profitability. The ROAA is defined as net profits of average total assets and is expressed in percent. As an alternative profitability measure, they use the return on average equity (ROAE), i.e., the net profits over average equity, expressed in percent. The ROAA reflects the ability of a bank's management to generate profits from the bank's assets.

Every year, commercial banks in Ethiopia have made their financial statement public. In recent fiscal year commercial bank of Ethiopia is the most profitable bank among seventeen banks. (Addisbiz, 2018) listed the rank of banks in terms of their gross profit and net profit in the fiscal 2017/2018

However, the present research study conducted based on the case bank employees' perception to measure the performance of the bank.

2.3. Research Hypotheses

According to Jalali and Sardari (2015) there are researchers who classified CRM as internal and external strategies. The internal strategy emphasis on the organizational culture, structure and knowledge concerning the relationship with customers. Whereas, the external strategy focuses on collection of customer data and manipulation. Yim et al. (2013) analyzed CRM literatures and also interviewed experienced marketing managers to reveal that CRM implementations usually encompass four ongoing activities. Which are focusing on key customers, organizing around CRM, managing knowledge and incorporating CRM-based technology. There are researchers who applied these dimensions of CRM (example; Tekliye, 2017, Ampoful, 2012 and Kebede &

Tegegne, 2018) in their research study. The present study also adopted these four measures as dimensions of CRM practice at commercial bank of Ethiopia in Addis Ababa.

The other variable in this study was banking innovation as a mediating variable. From previous literature innovation capabilities had been measured by five dimensions including product and process innovation. However, this research used only product and process innovation together as banking innovation to be the dimensions of innovation because Batiz-Lazo & Woldesenbet, (2006) categorized 51 innovations that were generated from UK archival between the year 1960 and 2003 as product or service innovation, process innovation or common to both product and process innovation. Accidentally, the innovations which are adopted by CBE (i.e. internet banking, ATM, debit card and POS) were listed under common to product and process section. Therefore, unlike other related literatures which applied five or six innovation dimension, we used one innovation dimension as “banking innovation” for this particular research study.

Research Evidence on CRM and Innovation

The direct effect of CRM on innovation has been investigated in previous research studies. Al-Hawary et al. (2016) conducted research study based on the impact of CRM on innovation capability in Kuwait airways. The research emphasized on the external strategy of CRM dimensions that are information sharing, customers' involvement, long-term relationships with customers, joint problem-solving and technology-based CRM as independent variable and the dependent variable innovation had four variables (i.e. aesthetical innovation, marketing innovation, technological innovation, and innovation in administrative affairs) which were adopted from previous studies with some modification. The finding suggested that all independent variables involved had positive impact on innovation capability.

The research finding by Lin et al. (2010) from the investigation of the impact of CRM on innovation capability based on Taiwan computer manufactures was different from the research finding of Al-Hawary et Al. (2016). Even though, both researches adopted almost similar dimensions to measure their independent and dependent variables, the result was not the same. The study which was based on Taiwan computer manufactures stated that not all the five variable have significant positive impact on innovation capability. Only technology-based CRM has significant positive effect on all dimensions of innovation capability. The variation of the result

may arise due to the difference of the study sector that, one was on manufacturing industry while the other was on service sector.

Ghafari et al. (2011) also conducted a research to investigate the effect of CRM on innovation capabilities of Melli bank of Iran. The researchers used the above mentioned five dimensions of CRM and four dimensions of innovation capabilities (i.e. product, process, administrative affairs and marketing innovation). They concluded that dimensions of CRM significantly affect the innovation capabilities of Melli bank of Iran.

Generally, from the above evidences we can conclude that CRM has significant positive effect on innovativeness of firms.

Hypothesis1: CRM has significantly positive effect on innovation of CBE in Addis Ababa.

H1a: Focusing on Key customer has significantly positive effect on innovation of CBE in Addis Ababa.

H1b: Organizing around CRM has significantly positive effect on innovation of CBE in Addis Ababa.

H1c: Customer knowledge management has significantly positive effect on innovation of CBE in Addis Ababa.

H1d: CRM based technology has significantly positive effect on innovation of CBE in Addis Ababa.

Research Evidence on Innovation and Performance

There is a direct link between innovation and performance. In fact, successfully implemented innovative ideas can enhance the performance of an organization by facilitating new and effective way of management process and by providing new product for customer with low minimized marketing and production cost.

According to Atalay, Anafarta and Sarvan (2013) product innovation and process innovation has significant positive effect on organizational performance. In their study, the four innovation dimensions were applied as independent variable dimensions to investigate the effect on firm performance. As the result product and process innovation was determined as innovation

dimensions which can positively affect firm performance whereas, organizational and marketing innovation had no significance on performance of an organization.

Sujud and Hashem (2017) studied the effect of banking innovation on profitability and ROA of commercial banks in Lebanon. The research used banking innovation as explanatory variable (i.e. ATM, point of sale terminals, internet banking, debit and credit cards, and electronic funds transfer) while, the explained variable is profitability in commercial bank of Lebanon. The conclusion stated that banking innovation has a direct positive significant effect on financial performance in the case study.

Similarly, Muiruri and Ngari (2014) conducted a research to study a relationship between financial innovation and financial performance in commercial bank of Kenya. The result showed that all dimensions of financial innovations that were mobile banking, credit card, internet banking and agent banking were significantly affect the overall performance of commercial bank in Kenya. And agent banking was not as significant as other factors because of the reason that the number of banks which had agent banking was few.

Hypothesis 2: banking innovation has significantly positive effect on CBE performance in Addis Ababa.

Research Evidence on CRM and performance

Many research findings suggested that there is a positively significant relationship between CRM and overall performance of an organization. for example; Tekliye (2017) investigated the effect of CRM on profit performance of development bank of Ethiopia and the researcher concluded that the four dimensions of CRM (i.e. key customer focus, CRM organization, customer knowledge management and CRM based technology) have positive effect on the profitability of the case bank. Moreover, among these four dimensions CRM based technology has highest influence on profit performance.

Using similar CRM constructs, Ampoful (2012) also studied the effect of CRM on profitability in Takoradi Branches, Ghana. The finding confirmed that there is significantly positive effect of CRM on profitability. On the other hand, Thomas et al. (2018) conducted a research which investigates the impact of CRM on organization's profitability by using different dimensions of CRM from the above two researcher studies (i.e. process fit, customer information quality and

system support) as dimensions of independent variable. The result pointed out that CRM has partial impact on financial performance of an organization while the effect of customer information quality and system support is positive yet process fit has no direct effect on profitability. According to Reinartz, Krafft, and Hoyer (2004). there is a direct positive relationship between CRM implementation and firm performance; higher implementation of CRM result higher marketing performance which have direct link with financial performance of firms.

In general, the main purpose of CRM is to enhance performance of an organization by means of customer satisfaction and loyalty (Buttle ,2004). Although it has been proved that CRM has positive impact on performance, not all dimensions of CRM have always significant effect on performance (Reinartz, Krafft, & Hoyer 2004). For example; in the research study of ElKordy (2014) CRM technology, CRM process, CRM organization and customer orientation were the dimensions involved as independent variable to examine their impact on performance. As the result, the finding stated CRM organization was the only dimension which affect performance significantly while the other three were insignificant.

Hypothesis 3: CRM has significantly positive effect on performance of CBE in Addis Ababa.

H3a: Key customer focus has significantly positive effect on performance.

H3b: Organizing around CRM has significantly positive effect on performance.

H3c: Customer knowledge management has significantly positive effect on performance.

H3d: CRM based technology has significantly positive effect on performance.

The Mediating Effect of Innovation

There are researchers who studied innovation as a mediating variable (e.g.: Uz Kurt et al.,(2013), Durmuş-Özdemir & Abdulkhoshimov (2018)). However, there is no sufficient evidence on the mediating effect of innovation specifically on the relationship of CRM and performance of an organization rather than the study of Moustafa and Mohamed (2010) which revealed that innovation capability of firms mediates the relation between CRM capability (i.e. relation orientation, customer information and configuration) and firm performance. Innovation capabilities are positively influence process and product innovation (Rajapathirana & Hui ,2018).

Hypothesis 4: banking innovation has a mediating effect on the relationship of CRM and performance of CBE.

H4a: banking innovation has a mediating effect on the relationship of focusing on key customer dimension of CRM and performance of CBE.

H4b: banking innovation has a mediating effect on the relationship of organizing around CRM dimension of CRM and performance of CBE.

H4c: banking innovation has a mediating effect on the relationship of managing knowledge dimension of CRM and performance of CBE.

H4d: banking innovation has a mediating effect on the relationship of incorporating CRM-based technology dimension of CRM and performance of CBE.

2.4. Conceptual Framework

The main objective of this research is to explore the mediating effect of banking innovation in the relationship of CRM and performance of CBE in Addis Ababa.

This study developed a model based on (Andrew,2009) to guide how the whole research was conducted and to show the direct connections of independent variable dimensions (i.e. focusing on key customers, organizing around CRM, managing knowledge and incorporating CRM-based technology) and dependent variable(performance). Additionally, the model indicated the indirect relationship between independent and dependent variable in the existence of mediating factor.

As figure1 shows, “a” and “b” represents the direct effect of CRM practice on banking innovation and banking innovation on performance, respectively. Likewise, “c” denotes the direct effect of CRM on performance of CBE.

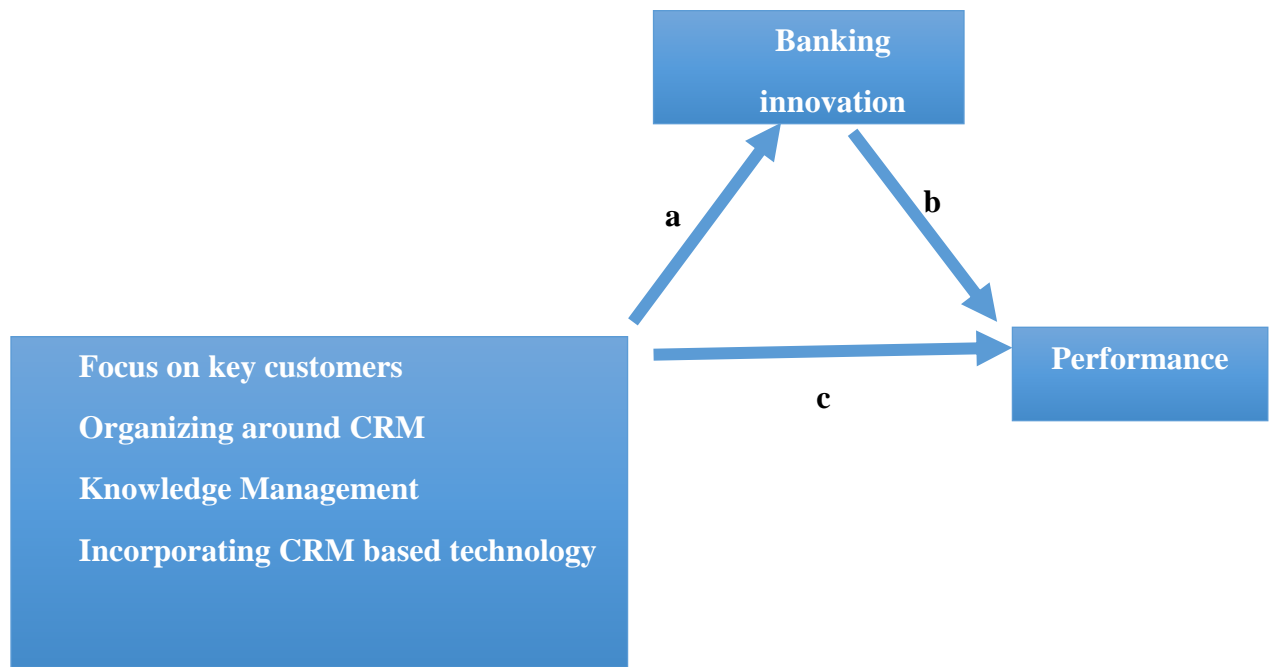


Figure 1: Conceptual Framework

Source: Andrew (2009)

Chapter Three

3. Research Design and Methodology

This section presents the data collection and analysis approaches used in the study. Specifically, the section described the research design, study population, sampling technique and sample size, collection methods of data and research techniques, data analysis and presentation of the results techniques.

3.1. Research Design

According to Mark, Philip and Adrian (2009) research design is the overall plan and procedure of the research. In order to identify the appropriate combinations of procedures and methods to collect and analyze data, we reviewed a number of related literatures to the current study area. Accordingly, first we decided on the nature of research approach which has major influence on the choice of appropriate research design where a deductive research approach led us to the quantitative research design. Survey research strategy is also associated with deductive approach that is why we used a questionnaire data collection technique to collect the quantitative data which allowed us to perform both descriptive and inferential statistics.

Descriptive statistics refers to the conversion of raw data into useful information. As the name indicates this type of statistical method allow us to describe and compare variables numerically mark et al (2009). This research used both descriptive and inferential statistics to analyze and describe the demographic characteristics of the respondent using frequency and percentage of the data. We also employed inferential statistics method to analyze data that are included in the second part of the questionnaire representing the perception of employees about CRM practice, innovation and performance in their organization. so that we could interpret and draw a conclusion about the output.

Additionally, we used an explanatory research strategy which was appropriate to answer the research questions and achieve the stated objectives. As it is clearly indicated in chapter one all research questions are designed to examine the effect of CRM practices on the bank performance both directly and indirectly. Thus, explanatory research design is appropriate design to study the cause and effect relationship of variables. According to mark et al (2009) explanatory research strategy discover and measure cause and effect relationships among variables.

The current research also used cross-sectional time horizon while collecting the data because this study intended to explore the relationship of the variables at current situation in CBE. Besides the study has time constraints since it is conducted in order to fulfill the requirement of masters degree. This type of time horizon directly links with survey data collection technique.

3.2. Population

Population represents the group or the individuals to whom the survey applies. In other words, populations contain every group or individuals who are in a position to answer the questions and to whom results of the survey apply.

CBE is a pioneer bank in the use of banking innovation. The bank has been adopted different kind of innovation technologies to improve its service for better customer care while achieving its competitive advantage. The bank has been always known as the most profitable bank among all competitor commercial banks in the county.

Considering the fact that CBE is the best financial performer in the country and the bank has been working on recent marketing strategy which is customer-centric (CRM) and moreover, the bank is working intensively on banking innovations ; the present research study chose commercial bank of Ethiopia to be the case bank in the study which is believed to be the best representative of the issues raised to show how CRM practices affect performance and how banking innovation affect this relationship in these bank.

Accordingly, the population size of the study consisted of the number of case bank's branches existing in Addis Ababa. At the time of data collection, the branches of CBE located in Addis Ababa was 287 branches. Thus this research study took the all employees of the case bank in 287 branches of CBE located in Addis Ababa as a population size of the study.

3.3. Sampling method and Sample size

Mostly a large population of the study area could not be taken as a size of respondent to collect data because of the reason that taking the total population of the study area is very expensive and difficult in terms of time and money. (mark et al., 2009)

Since the questionnaire needs knowledgeable respondents who have enough knowledge on the overall activities of the bank, this research had to use purposive sampling technique. Therefore,

the target respondents were the employees who were in the position of managerial level. Subsequently, we know that there is a uniform mode of operation, organizational culture and structure throughout all branches of CBE. Therefore, we came to the conclusion that there is no need to include all the four districts of the bank located in Addis Ababa. Thus, we used simple random (lottery based) sampling technique to select only one district that represent all the others. The randomly selected district was the north Addis Ababa district which had 64 branches located in the city.

Each districts of the bank have classified their branches into (1 – 4) grade. Depending on the grade they have, branches have different number of managerial level position. For grade one and two, the bank assigned four managers each and for the grade three and four there were 6 managers each. Accordingly, our sample size were 300 respondents. There result of this analysis is presented in chapter four.

3.4. Source of Data

Both primary and secondary sources will be used to investigate this research. Primary sources are respondents who will give their perception on the questionnaire. Thus primary data are the most relevant data in investigating the effect of banking innovation on the relationship of CRM and performance of CBE. For the purpose of this study secondary data were also used from the bank's website to get the necessary inputs, specifically to gather some information about the organization background and its vision and mission. According to Mark et al. (2009) the advantage of using secondary data is to minimize usage of resource like time and money. In addition, secondary data are more likely to be higher-quality data than the one obtain by the researcher her-self.

3.5. Data Collection Instruments

According to mark et al. (2009) among many different types of data collection techniques, questionnaire is usually preferable for descriptive or exploratory research approach. And since the present research design employed exploratory research design then it was an appropriate choice to use self- administered questionnaire while collecting the data. The questionnaire has two parts including general information of the respondents. The first part comprised demographic variables of the respondent. Then, there are twenty questions adopted from (Yim, 2004) based on CRM practice which followed by six questions with some modifications from the study of Lin et al

(2010) about innovation. And finally the questionnaire included five items about the perception of the managers on the performance of the bank from (Tessa, Greta and Malte ,2011). The first twenty items used six point Likert scale and the rest used seven point Likert scale to rate them.

All the items included in the questionnaire were already passed through the pilot test procedure by previous researchers. This means all the questions were appropriate in terms of length, clarity and some other measurement to the target respondents.

3.6. Procedures of Data Collection

First, we received a support letter from Addis Ababa university college of business and economics department for concerning CBE office. Then After receiving permission from the director of north Addis district, it was vital to explain why this research study will be conducted by giving details about the objective of the study and how the study relates to the selected organization to respondents. This was done to achieve the respondents clear understanding on how important the research is in providing better applicable knowledge to their bank. As a result, most of the respondents who were available at the time of data collection were willing and concerned to give correct information about their perception on each question.

Generally, the data collection time took about three weeks to totally collect the responded questionnaires. Because some of the respondents needed an appropriate time to fill the questionnaire while this period of time we were on following the status of the questionnaire on the phone. Subsequently, the verification of the collected questionnaires was performed. Finally, the data was manually entered to computer in order to analyze it by using SPSS software package.

3.7. Data analysis

The researcher collects data on four dimensions of CRM from managerial position employees of commercial bank of Ethiopia to examine the mediating effect of banking innovation in the relationship between CRM and performance of the bank. After collecting the data through questionnaire, the process of analysis was begun. Analysis of data in this research was done by using statistical tools like frequency analysis, multiple linear regression and step-wise regression analysis. The multiple regression analysis was applied to analyze the direct effect or CRM dimensions on dependent variable. And step-wise regression was conducted to test the mediating effect of banking innovation. The demographic data was analyzed by using frequency analysis.

Correlation analysis was executed to measure the strength of the association between each dimensions of independent variable and dependent variable (performance). Before conducting the above listed analysis, validity and reliability test also performed. Data analysis was performed by using SPSS software version 20.

3.8. Ethical Consideration

Every person involved in the study was given to the right of privacy and dignity of treatment, and no personal harm was caused to subjects in the research. Information obtained was held in strict confidentiality by the researcher. All assistance, collaboration and other sources from which information were drawn is acknowledged.

Chapter Four

4. Result and Discussion

4.1 Introduction

This chapter of the research included data analysis and interpretation of the statistical result of both the descriptive and inferential statistics. Both statistical methods were conducted through the help of SPSS software version (20) package.

In this chapter we encompassed summary of collected data, demographic variables of the respondents, reliability analysis, factor analysis, the five assumptions of multiple regression and hypothesis testing using regression analysis.

4.2 Survey Summary

Among 300 participants, there were only 162 respondents who filled the questionnaire correctly. Regarding the remaining 138 questionnaires, some of them were rejected due to not fully answered and most of target respondents were not available at the time of data collection. However, the response rate of the questionnaire was above the recommended rate that is about 54 % of the total respondents. The result of this analysis is presented in chapter four.

Table 1: Survey Summary

No of participants	Not correctly filled	Unavailable respondents	Collected questionnaires	Response rate(%)
300	11	90	162	54

Source: Own Survey, 2019

4.3 Demographic Variables of the Respondents

In the present study we included some demographic factors of the respondents like gender, age, marital status, educational level, and work experience. In fact, all these variables have their own impact on performance on an organization. In general, regarding gender there is a belief that says women are more organized and procedural than men and men are less responsible in raising

children. These two beliefs will definitely affect the performance of an employee which directly link to the performance of a firm. Table 2 below shows the summary of demographic data. As we can see from the table, 120 (74.1%) of the respondents were male and the remaining 42 (25.9%) of them were females this shows gender distribution in the sample branches was not equal.

Age is also another factor that can affect the performance of an organization. Most young employees have the energy to do their job. However, younger people have no experience in making important decisions and most of the time they don't settle at one company which affects the performance of a firm in terms of time and cost. Similarly, the older employees also affect performance both positively and negatively such that; they are slow, lack of motivation on creativity. They are good decision maker and so on. Regarding the age of the respondents, the result shows most of the managers were belong in the age between 26– 30 years and between 31– 40 years that was 69(42.6) ,72 (44.4%) respectively. There were 3 respondents in the age range of 25 years or less (1.9%) of the total respondents. While 12 (7.4%) of the respondents were found under the age range of, 41-50 years and 6(3.7%) in the age range of 51 and above. From this we can observe that in the sampled branches employees found in their productive age.

In general trend, most married people are well organized and responsible. Therefore, they are more punctual and well behaved employees at work place which directly affect the performance of an organization. In relation to marital status, from the total respondents 105(64.8%) were married. Whereas 55 (34%) of them were single. As we could see from the table most of the respondents were responsible, disciplined and stable to be committed and productive in their job.

Educational level and work experience have also impact on firm's performance. As Kotur and Anbazhagan(2014) revealed educational level affect performance inversely whereas work experience affect directly. Basically the more someone learn the more he knows and the more he performs. But in some jobs like laborer employee who has better educational background wouldn't perform well. Kotur and Anbazhagan(2014) studied their research focused on low level employees and the finding stated that the better employees learn the lower their performance. and their finding may arise from the literate people have lack of interest on low level job due to the need for challenges. Nonetheless, most of the time employees who have better educational level give positive thoughts for the development of their firm. The result shows there were almost equal number of respondents who were degree and master's holders. That was 82 (50.6) were degree

holders and 80(49.4) were masters holders which indicated good capability of the respondents while performing their job.

The last demographic variable encompassed in this frequency analysis was work experience. As a matter of fact, experienced employees contribute a lot for the better performance of their organization. Table 2 indicates that the majority, 104(64.2%) of the respondents had been working in the bank for the last 6 to 10 years. The other 22(13.6%) and 21 (13%) of them are working in CBE for the year between 11 to 15 and 1 to 5years, respectively. The rest 15 individuals have been working in the bank more than 16 years.

Table 2: Demographic Characteristic

No	Demographic factor	Classification	Frequency	Percentage(%)
1	Sex	Male	120	74.1
		female	42	25.1
2	Age	25 years or less	3	1.9
		Between 26– 30Years	69	42.6
		Between 31– 40Years	72	44.4
		Between 41–50 Years	12	7.4
		Above 51 years	6	3.7
3	Marital status	Married	105	64.8
		Single	55	34.0
		Divorced	1	0.6
		Widowed	1	0.6
4	Educational level	Certificate	0	0
		Diploma	0	0
		Degree	82	50.6
		Masters and above	80	49.4
5	experience	Less than 1 year	0	0
		From 1 year – 5 years	21	13.0
		From 6 – 10years	104	64.2
		From 11 – 15 Years	22	13.6
		16 & Years More	15	9.3

Source: Own Survey, 2019

4.4 Reliability test

Before going to further analysis we should have an instrument that is consistent and accurate in measuring what it ought to measure. Accordingly, we evaluated the psychometric properties of the scales in order to maintain reliable items that measure the dimensions of CRM practices, banking innovation and performance. We computed reliability test using Cronbach's Alpha tool to measure the internal consistency of the items in the instrument we adopted. As table 3 shows all the dimensions of CRM have Cronbach's Alpha (0.714 – 0.814), banking innovation has 0.844 and performance (0.872). The result implied all the items in the questionnaire were consistent to measure the dimensions since the output indicated Cronbach's Alpha above the threshold (0.7).

Table 3: Item Reliability Test

Variables	No of items	Cronbach's Alpha
Focus on key customer	5	0.804
Organizing around CRM	7	0.744
Managing knowledge	3	0.714
Incorporating CRM based technology	5	0.814
banking innovation	6	0.844
Performance	5	0.872

Source: Own Survey, 2019

4.5 Factor analysis

Subsequently, we performed exploratory factor analysis (EFA) using principal components analysis with Varimax rotation to maintain clean item structure that represent the dimensions of the variables by means of trail & error method. According to Yong and Pearce (2013) it is vital to reduce too much number of factors to avoid undesirable error of variance while extraction of variable dimensions by using criteria like eigenvalues, scree plot test and Kaiser's criterion. These are the techniques which help to decide the number factors to retain. As a result, some items were excluded from CRM dimensions due to low factor loadings and also the whole managing knowledge dimension removed from further analysis. Thus, we have got three component solution

for the CRM variable and one factor solution for innovation and one factor solution for the dependent variable. This was because of the reason that the dimensions of CRM items originally included in managing knowledge dimension had similar concept with the items in the technology dimension of the variable in the context of CBE. Therefore, we rejected the managing knowledge dimension as most of the items loaded on the incorporating CRM-based technology dimension.

As table 4 shows three- factor solution were achieved for the independent variable CRM, that were incorporating CRM-based technology, focusing on key customers and organizing around CRM which together explained 64.941% of the total variance. The Kaiser-Meyer—Olkin measure of sampling adequacy(KMO) value was 0.804 which is acceptable and significant. One component factor was achieved for the mediating variable loaded from (0.695-0.859) which explained 64.677% of the total variance; the KMO was 0.859, which is acceptable and significant. Finally, performance variable loaded to one-factor solution (0.689 – 0.774) which explained 66.621% of the total variance. The KMO for performance was 0.856 which is acceptable and significant. All the results of factor analysis were in the acceptable range (Yong & Pearce 2013).

Table 4: Results of factor analysis for the independent variable (CRM)

Items No	Incorporating CRM-based technology	Focusing on key customer	Organizing around CRM
16	0.772		
17	0.825		
18	0.840		
19	0.666		
1		0.854	
2		0.877	
4		0.745	
10			0.677
11			0.731
12			0.568
Eigenvalue	3.872	1.610	1.012
Percentage	38.72	16.10	10.117

of variance			
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Source: Own Survey, 2019

4.6 Correlation analysis

Correlation analysis is referred to a technique used to analyze the strength and direction of a relationship between two variables. Correlation only measures the strength of relationship between variables and it doesn't necessarily imply a causal relationship (Sharma,2007). But is one of the criteria to establish causal relationship between variables. Among many methods of analyzing correlation, Karl Pearson's coefficient of correlation method is the most common one. the correlation coefficient is a numerical number that lies between -1 to 1 which summarizes the magnitude and direction of association between two variables.

When the value of the correlation coefficient becomes close to -1 or 1, it is an indication of a perfect relationship between them. That means the two perfectly correlated variables are almost identical which we don't want to see in the correlation matrix for the purpose of conducting causal relationship or regression analysis. In other word, there is no need to include two exact similar variables to test the effect of variables on the outcome variable. That is the reason why correlation analysis is important before conducting regression analysis.

In fact, when we regress two perfectly correlated variables, the p value for both variables would not be significant. This implies each perfectly correlated variables offers nothing uniquely in terms of predicting the explained variable.

As table 5 indicated all the variable are significantly correlated. Besides, the correlation coefficients are not highly correlated. Therefore, the variables that were included in this study were appropriate for the next analysis that is multiple regression analysis.

Table 5: Correlation Matrix

	1	2	3	4	5
1 CUSTOMER	1				
2 ORGANIZING CRM	.421**	1			
3 TECHNOLOGY	.330**	.406**	1		
4 INNOVATION	.513**	.358**	.422**	1	
5 PERFORMANCE	.368**	.209**	.302**	.436*	1

** correlation is significant at 0.01, *significant at 0.05

N = 162

Source: Own Survey, 2019

4.7 Assumptions

Before conducting linear regression analysis, it is important to examine the five common prerequisite assumptions. These assumptions test are mainly examined in order to avoid Type I and Type II error, hence we can get unbiased result from our regression analysis. The five assumptions are namely; linearity, homoscedasticity, multi-collinearity, normality and autocorrelation. The assumptions are tested using SPSS software package as follows.

Test for Linearity

It is very important to test the non-linear property of a data before conducting correlation and regression analysis. We can test linearity of residuals using visual inspection of scatterplot or using residual statistics table from regression output. Generally, if standard deviation of the dependent variable exceeds the standard deviation of the residual then it indicates that there is a linear relationship between predictor and explained variables.

Figure2 below shows the output of scatterplot on the relationship of independent variables (focusing on key customer, organizing around CRM, incorporating CRM-based technology and banking innovation) and dependent variable(performance). the output designates that there is no

indication of non- linear relationship between each independent variable dimensions and the outcome variable.

Likewise, table 6 Shows standard deviation value of dependent variable has greater value than residual which implies that there is a linear relationship.

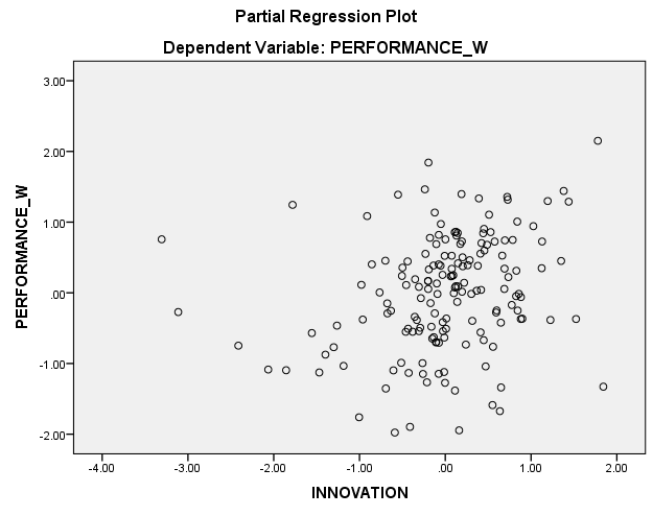
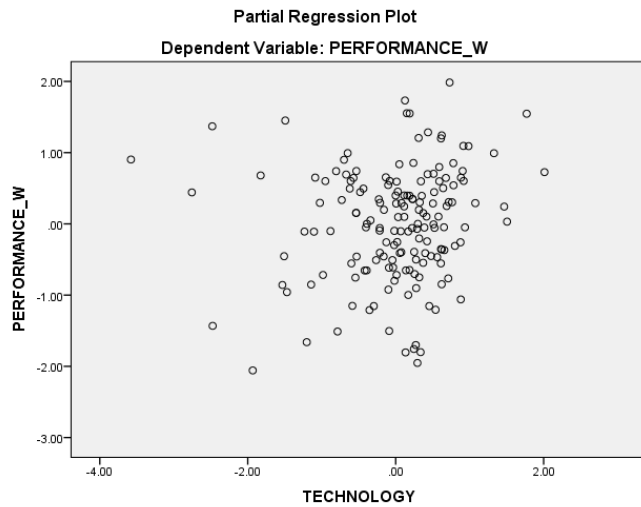
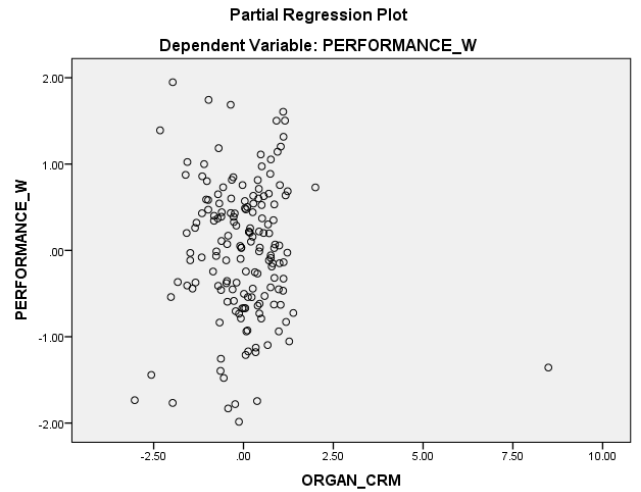
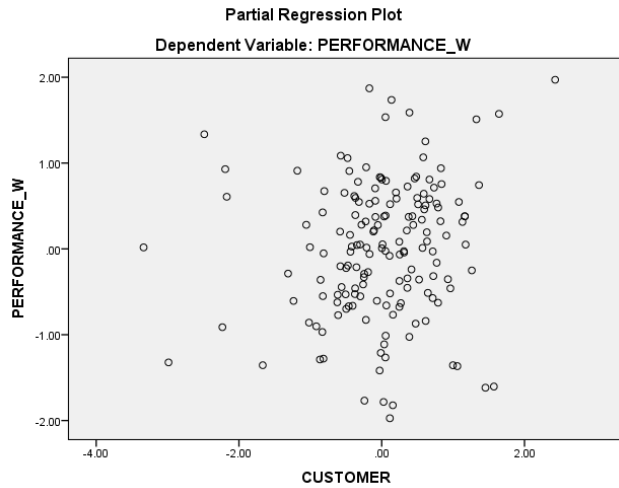


Figure 2: Linearity Plot

Source: Own Survey 2019

Table 6: Linearity Test

Residuals Statistics ^a					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.7066	6.0191	5.3605	.39739	162
Residual	-1.98873	1.89447	.00000	.78496	162
Std. Predicted Value	-4.162	1.657	.000	1.000	162
Std. Residual	-2.502	2.383	.000	.987	162

a. Dependent Variable: PERFORMANCE_W

Source: Own Survey 2019

Test for Normality

There are two major methods of examining this particular assumption. These are graphical and numerical method which leads to similar conclusion and supplement each other. For that reason, we applied both methods to examine the normal distribution of dependent variable and the variation of residuals. The output indicated that the dependent variable data are not normally distributed. However, considering the fact that conducting parametric statistics has much better advantage than the non-parametric one, we used a technique called Winsorizing which transform outlier data to the nearest normally distributed data that assistances to correct skewed and kurtotic data. As a result, the output of winzorized dependent variable data indicated -1.649 for skewness and -1.506 for kurtosis which belonged in the acceptable range to conduct regression analysis. Besides, the commonly known Kolmogorov-Smirnov test depicted that the significance of the data is less than 0.05 which is also the indication for normally distributed data.

Additionally, we tested the normality of the data using histogram and normality plot. As the figure 3 shows roughly bell shaped curve with a little Leptokurtic as the frequency curve more peaked than the normal one. The output also indicates that the frequency is a little skewed to negative.

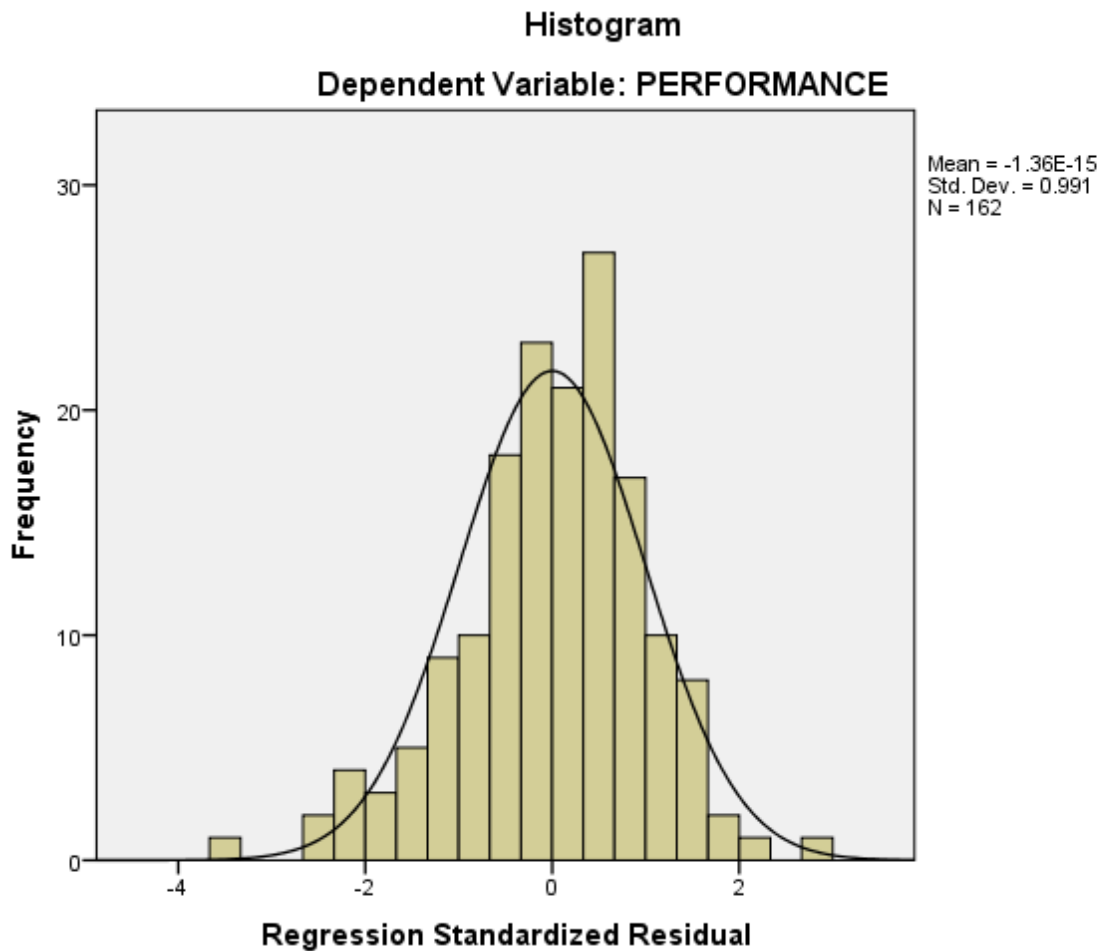


Figure 3: Normality Test

Source: Own Survey 2019

Multicollinearity test

The other major assumption was test of multicollinearity. Multicollinearity refers to the situation in which the independent/predictor variables are highly correlated. As we discussed briefly under the correlation analysis section, when independent variables are multicollinear, there is “overlap” or sharing of predictive power.

As Raykov and Marcoulides (2006) described we need to check that there are no highly correlated variables and also the relationship between variables result > 0.1 tolerance value, < 10 VIF and have < 15 condition index while testing multicollinearity. Tolerance is an indicator of how much of the variability of the specified independent variable is not explained by the other independent variables in the model and is calculated using the formula $1-R^2$ for each variable. If this value is

very small (less than 0.10), it indicates that the multiple correlation with other variables is high, suggesting the possibility of multicollinearity.

Accordingly, as table 7 demonstrates the tolerance value for all independent variables is greater than 0.1, which implies that there is no multicollinairity problem in connection with tolerance. Variance Inflation Factor (VIF) which calculates the influence of correlations among independent variables on the precision of regression estimates. The VIF factor are all exceed 10. Therefore, the result from table 7 implies that there is no sign of multicollinearity

Table 7: Multi-collinearity Test

No	variable	Unstandardized Coefficients β	Collinearity Statistics	
			Tolerance	VIF
1	Focusing on key customer	0.138	0.670	1.493
2	Organizing around CRM	-0.027	0.736	1.359
3	Incorporating CRM-based technology	0.124	0.744	1.344
4	Banking innovation	0.266	0.659	1.516

Source: Own Survey 2019

Test for autocorrelation

Autocorrelation means when there is a pattern of residuals on scatterplot. This particular assumption states that each residual should be independent of each other. In other word, there should not be pattern of group of residuals on the scatterplot. Beside checking on plot method, there is a statistical technique called Durban-Watson(DW) which enable us to test residuals that they are uncorrelated or they are independent. This statistic value can vary from 0 to 4. The acceptable Durban-Watson is a number closer to two. But if the value deviates from 2 the assumption will be violated.

As the model summary below on table 8 indicates the value of DW is 1.965 which is very close to 2. Therefore, there is no indication of autocorrelation. That means our data support the assumption.

Table 8 Autocorrelation Test

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.452 ^a	.204	.184	.79490	1.965

a. Predictors: (Constant), ORGAN_CRM, INNOVATION, TECHNOLOGY, CUSTOMER

b. Dependent Variable: PERFORMANCE_W

Source: Own Survey 2019

Homoscedasticity

Similar to other assumptions, there should be homoscedasticity check before running multiple regression analysis in order to avoid Type I error. Homoscedasticity refers to the variance of residuals are spread evenly and constantly across all levels of independent variables. According to Jason and Elaine (2002) this assumption can be checked by visual examination of a plot of the standardized residuals (the errors) by the regression standardized predicted value. Preferably, residuals are randomly scattered around 0 (the horizontal line) providing a relatively even distribution. Heteroscedasticity is occurred when there is uneven distribution of residuals across the line.

Figure 4 demonstrates that there is an evenly scattered residuals around the horizontal line (0). This infers that the data meet the assumption of homoscedasticity.

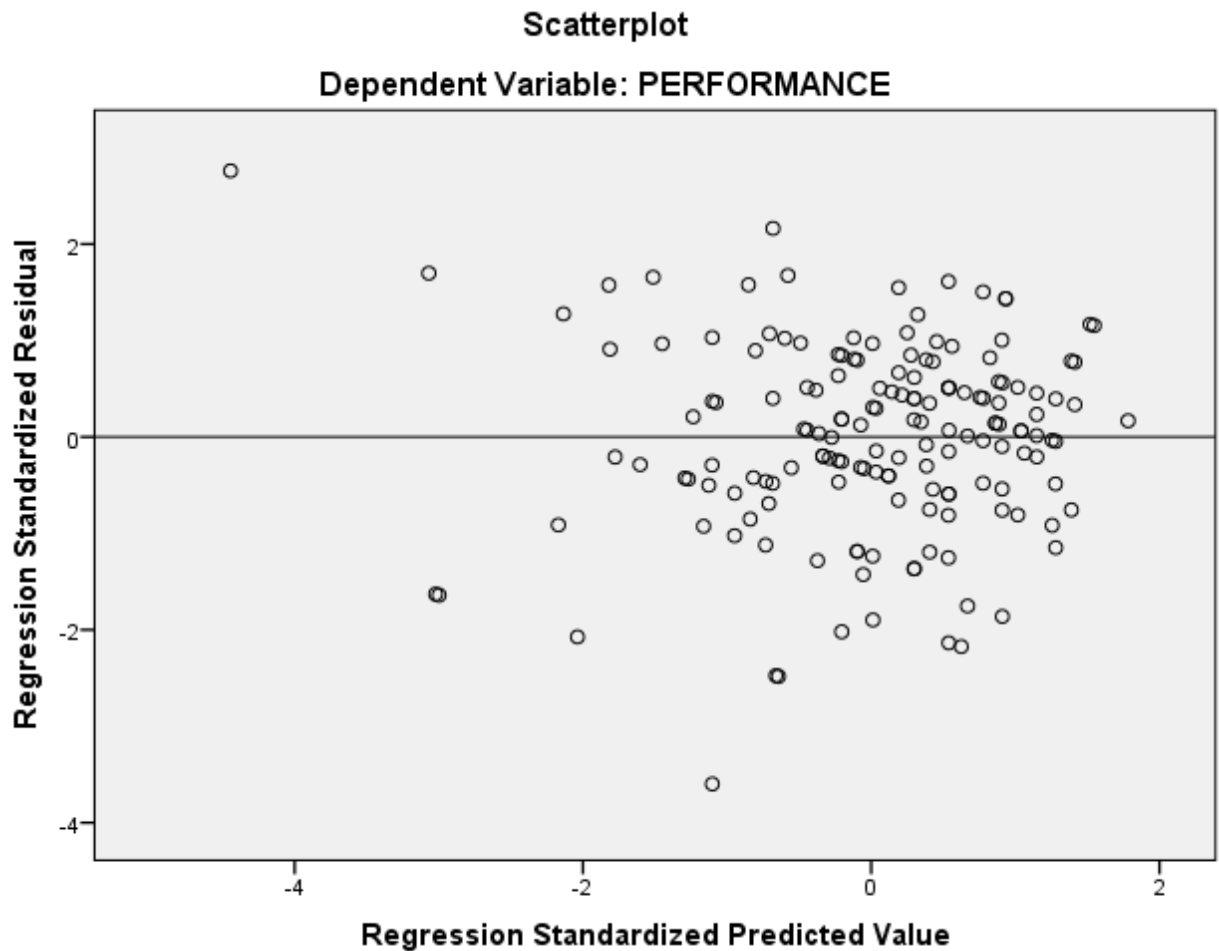


Figure 4 Heteroscedasticity Test

Source: Own Survey 2019

4.8 Regression Analysis

We proposed four hypotheses on the relationship of CRM practice, banking innovation and performance based on previous related literatures. The hypothesis stated that CRM has a significant positive effect on innovation and performance of CBE and also banking innovation has positive impact on performance of the bank. Furthermore, the hypothesis specified that banking innovation has a mediating effect on the relationship of CRM and performance of CBE which was the main premise of this research paper.

Accordingly, we conducted multiple-regression analysis in order to test the hypothesis 1 – 3 and stepwise regression analysis to test the mediation effect. Since this paper main objective was to test the mediating effect of banking innovation on the relationship of CRM and performance, we employed the simple mediation model specified by (Andrew,2009). This model was constructed based on the work of Baron and Kenny (1986) which stated that first there must be a direct significant relationship between predictor variable & mediator variable and predictor & dependent variable. Subsequently, we can regress both predictor and mediator variables simultaneously included as explanatory variable and if the regression coefficient (the P value) associated with the independent variable changed into insignificant one, then it is assumed that the mediating variable has a mediating role on the relationship. In our regression analyses, CRM was included as an independent variable while banking innovation was comprised as a mediator variable. The results are reported in the Table 9.

Table 9: Regression Analysis Table

Variable	Model 1			Model 2			Model 3		
	Unstanda rdized	Standa rdized	Sig. (P Value)	Unstanda rdized	Standard ized	Sig. (P Value)	Unstandar dized	Standard ized	Sig. (P Value)
Age	.100	.082	ns						
Marital Status	.116	.064	ns						
Educational level	.099	.051	ns						
Experience	-.128	-.103	ns						
Customer ¹	.380	.397	**						
Organ_CRM ²	.059	.079	ns						
Technology ³	.270	.260	**						
Dependent Variable: Innovation									
R² = .353									
Innovation ⁴				.377	.414	**			
Dependent Variable: Performance									
R² = .171									
Customer ¹							.237	.272	**
Organ_CRM ²							-.010	-.014	ns
Technology ³							.195	.206	**
Dependent Variable: Performance									
R² = .148									

1 Focusing on key customer; 2 Organizing around CRM; 3 incorporating CRM-based technology; 4 banking innovation.

** sig at 0.01, ns = not significant

Source: Own Survey 2019

As table 9 shows the result of the regression analysis at model1 displays that all the demographic variables were insignificant in the relationship with neither banking innovation nor performance where, the two dimensions of CRM that was focusing on key customers and incorporating CRM-based technology dimensions had significant and positive effect on banking innovation ($\beta = .380$, $p < 0.01$; $\beta = .270$, $p < 0.01$) respectively. However, organizing around CRM dimension had insignificant effect. ($\beta = .059$, $p > 0.05$). The result supports H1 partially where two dimensions of

CRM had strong effect on the banking innovation except the dimension that was organizing around CRM.

Likewise, focusing on key customers and incorporating CRM-based technology dimension had a significant positive effect on performance ($\beta = .237, p < 0.05$; $\beta = .195, p < 0.05$) respectively. As shown from model 3 in table 9, The effect of organizing around CRM dimension has remained insignificant on the dependent variable that is performance ($\beta = -.010, p > 0.05$). Accordingly, H2 is partially supported by the result that only organizing around CRM has insignificant effect while the other two dimensions of CRM have significantly positive effect on performance.

The third proposed hypothesis is fully supported by the result. As model 2 in table 9 displays banking innovation has a significant positive effect on performance ($\beta = .377, p < 0.001$).

Finally, after we examined and approved that there is a direct significant relationship between those three variables which is stated as the preconditions by Baron and Kenny (1986) to conduct a mediation test, we regressed the simultaneous effect of CRM and banking innovation on the performance of the bank by using step wise regression analysis. As a result, the regression output demonstrates that the two dimensions of CRM in model 2 of mediation table (Table 10) which had significant effect in the direct relationship of predictor and outcome variables have changed to insignificant one. This change directly indicates the full mediation of banking innovation in the relationship. The regression output shows the p-value of focusing on key customer dimension changed from $p = .001$ to $p = .081$. similarly, the incorporating CRM-based technology dimension $p = .013$ changed to $p = .131$ Where, the demographic variables and organizing around CRM dimension were excluded from this mediation analysis since they had no significant effect on the direct relationship. Consequently, the result supports hypothesis 4 since banking innovation fully mediate the relationship between CRM practice and the performance of CBE.

Table 10: Mediation Table

Variable	Model 1			Model 2		
	Unstand ardized	Standa rdized	Sig. (P Value)	Unstanda rdized	Standa rdized	Sig. (P Value)
Customer ¹	.233	.068	**	.128	.147	ns
Technology ²	.191	.073	*	.114	.120	ns
Innovation ³				.262	.288	**
Dependent Variable: Performance						
R² .148						
R² Change = .055						

1 Focusing on key customer; 2 incorporating CRM-based technology; 3 banking innovation.

** sig at 0.01, * sig at 0.05, ns = not significant

Source: Own Survey 2019

Chapter Five

5 Major findings, Conclusions and Recommendations

In this chapter, a discussion about major findings, a conclusions taken from the result of the analysis and some possible recommendations that can be helpful for practitioners and future researchers are presented as follows.

5.1 Major Findings

The main purpose of this study is to explore the mediating effect of banking innovation on the relationship between customer relationship management and performance of CBE in Addis Ababa city. As in the previous chapter detailed, there are some major findings that are discussed as follows.

The first major finding resulted from our research analysis was the extraction of variable dimensions using factor analysis. Basically we expected 4 component solutions for the independent variable. However, the output gave us only three solutions. this was because of the reason that the dimensions of CRM items originally included in managing knowledge dimension had similar concept with the items in the technology dimension of the variable in the context of CBE. Therefore, we rejected the managing knowledge dimension as most of the items loaded on the incorporating CRM-based technology dimension.

The other one is correlation analysis. As the outcome designated each independent variable dimensions (focusing on key customer, organizing around CRM, and CRM based technology), the (mediating factor) banking innovation and dependent variable (performance) were positively and significantly correlated with each other ($P < 0.01$). furthermore, the correlation matrix shows that the highest correlation coefficient was 0.513 which implies there is no highly correlated dimension. In other word, all dimensions involved in the analysis were independent of each other and all the dimensions of independent variable can uniquely predict the dependent variable.

Finally, a multiple regression analysis was conducted to test the proposed hypothesis on the direct relationship of the variables. The regression output indicated that all the demographic variables (gender, age, marital status, educational level and experience) have no significant effect on the dependent variable. As theorized in the first chapter, these variables could make a difference in the

performance of an organization directly or indirectly. Unfortunately, in this specific research all of them were insignificant.

On the other hand, the outcome also exposed that the focusing on key customer dimension of CRM construct had a significant positive effect on banking innovation with β coefficient 0.380 ($p < 0.01$). Similarly, the second dimension of CRM that has positive impact on innovation was incorporating CRM-based technology, $\beta = 0.270$ ($p < 0.01$). However, the third dimension (organizing around CRM) had no significant effect on banking innovation. This result implied that when the dimension of the independent variable (focusing on key customer) increased by one unit the banking innovation will increase by 0.380 unit in holding other variables constant. Likewise, holding other variables constant, when incorporating CRM-based technology dimension increased by one unit banking innovation will increase by 0.270 unit. As shown in the ANOVA table to model 1 was which attached at appendix II, the model was significant at p value < 0.01 and the model summary specified that constructs of independent variable (CRM) has explained 35.3% of the mediating variable (banking innovation). As premised on hypothesis 1, the result of multiple-regression analysis supported hypothesis H1a and H1d whereas, H1c was already excluded from further analysis and H1b was rejected.

Subsequently, the regression table 6 indicated (as model 2) the effect of banking innovation on performance of the bank and the result revealed that banking innovation has a positive significant effect on performance with β coefficient 0.377 which suggests if banking innovation increased by one unit performance of CBE will increase by 0.377 unit. The R square was 0.171 that means banking innovation only explain 17.1 percent of the dependent variable which is performance of the bank. Hypothesis two was accepted and consistent with previous research findings on the area (e.g.: (Atalay et al. 2013, Sujud & Hashem, 2017, Muiruri & Ngari, 2014).

Regarding, the direct effect of CRM on performance of CBE, the above two dimensions which have significant effect on banking innovation were also have a positive significant effect on the dependent variable (performance) while organizing around CRM remain insignificant on the relationship. Hence, when focusing on key customer increase by one-unit performance of the bank will increase by 0.237 unit by holding other variables constant. In case of incorporating CRM-based technology dimensions, performance will increase by 0.195 unit by holding other variables

constant. Collectively, CRM practice has explained 14.8% of variance from the total banking performance.

the analysis also accepted H3a and H3d while H3b was rejected which stated focusing on key customer and incorporating CRM-based technology have significant effect on performance of CBE and organizing around CRM has insignificant effect on performance of the bank, respectively. The finding partially supports the research study of (Tekliye, 2017 & Ampoful, 2012).

At last, based on Andrew (2009) model we performed step-wise regression analysis to test the mediating effect of banking innovation. As a result, the p-value of focusing on key customer and incorporating CRM-based technology dimensions recorded from the relationship of CRM and performance was changed from significant one to insignificant effect. This point out that there is a mediating effect of banking innovation on the relationship of CRM practice and performance of CBE. Furthermore, The R-square change is tested with an F-test (F-change) in SPSS software package. in our case, the model summary of mediation test result (Appendix II) indicates there is a value difference on R square change from .148 to .055 that infers focusing on key customer and incorporating CRM-based technology alone describe the explained variable by 14.8 % of total variance whereas when the mediating variable is included, they only explain 5% of the total variance of the dependent variable(performance). this means there is no improvement on the prediction value of independent variables when mediator variable is included. A significant F-change value also implies that there is a change where first there was a significant relationship at 99% confidence interval then changed to significance at 95 % confidence interval. These all changes led us to the conclusion of banking innovation mediates the relationship between CRM and performance of CBE.

Accordingly, H4a and H4d were accepted which propose that banking innovation mediate the relationship between focusing on key customer and performance of CBE. Likewise, banking innovation also mediate the relation between incorporating CRM-based technology and performance of the bank. Yet, organizing around CRM remained the same in the relationship.

Summary of hypothesis test

Table 11: Summary of Hypothesis Test

Hypothesis	Statement of Hypothesis	Method of analysis used	Result
H1a	Focusing on Key customer has significantly positive effect on innovation of CBE in Addis Ababa.	Multiple regression	Accepted
H1b	Organizing around CRM has significantly positive effect on innovation of CBE in Addis Ababa.	Multiple regression	Rejected
H1d	Incorporating CRM-based technology has significantly positive effect on innovation of CBE in Addis Ababa.	Multiple regression	Accepted
H2a	Key customer focus has significantly positive effect on performance.	Multiple regression	Accepted
H2b	Organizing around CRM has significantly positive effect on performance.	Multiple regression	Rejected
H2d	CRM based technology has significantly positive effect on performance.	Multiple regression	Accepted
H3	banking innovation has significantly positive effect on CBE performance in Addis Ababa.	Multiple regression	Accepted
H4a	banking innovation has a mediating effect on the relationship of focusing on key customer dimension of CRM and performance of CBE.	Multiple regression	Accepted
H4b	banking innovation has a mediating effect on the relationship of organizing around CRM dimension of CRM and performance of CBE.	Multiple regression	Rejected

H4d	banking innovation has a mediating effect on the relationship of incorporating CRM-based technology dimension of CRM and performance of CBE.	Multiple regression	Accepted
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Source: Own Survey 2019

5.2 Conclusion

Recently most social science researchers consider the effect of intervening factors while conducting a research focusing on relationship between variables. This is because researchers suggest that there is usually another external influence on the direct relationship of variables. Having this in mind, the main objective of this research was to explore the mediating effect of banking innovation in the relationship between CRM practice and performance of Commercial bank of Ethiopia. The study was carried out in the case of CBE, since this bank is the most profitable bank in the country. Moreover, it is known as the pioneer bank in regard to adopting and customizing banking innovation.

As premised, the finding exposed that banking innovation mediates the relationship between CRM and performance of CBE. Thus, we can conclude that among many variables which can intervene the relationship between CRM and performance, banking innovation can be one of them as a mediator. Furthermore, the finding revealed that not all dimensions of CRM affect the relationship; only the focusing on key customers and incorporating CRM-based technology dimensions of CRM have direct significant effect on banking innovation and performance of CBE.

From the finding of this research, organizing around CRM dimension were insignificant in all tested hypothesis, even though the dimension was already examined and revealed its significant effect on innovation and firm performance by related literatures. Having insignificant effect on other variables doesn't mean that organizing around CRM dimension has no relationship with innovation or performance at all. Instead, it means this dimension of the variable doesn't affect significantly banking innovation or performance at this particular research in the context of CBE. This may be due to the reason that the organizational structure of the case bank doesn't support better implementation of CRM practice. For example; the employee training programs which are designed to develop the skills required for acquiring and deepening customer relationships is less

practiced in CBE. Likewise, the bank has less motivational rewarding system for employees who gave better service and have good interaction with key customers.

5.3 Recommendations and Future Research Directions

Recommendations

This research study permits us to make significant recommendations for decision makers of CBE in making positive changes in their organization. Since this study concerned on the issues that are CRM practice, banking innovation and performance of CBE, we listed some useful insights regarding these issues from the conclusion we made.

- From the above conclusion, we suggest that managers and executive managers of CBE need to revise the organizational structure of the bank to be more concerned on better implementation of CRM. Because insignificant effect doesn't mean that there is no relationship between the variables. Of course, organizing around CRM has effect on performance and it is already proved by many researchers. However, in this particular research study we identified that there is a gap on organizational structure in supporting CRM strategy. That is why the outcome showed differently or unexpectedly.
- Based on the significant effect of CRM dimensions, we recommend the bank to work hard in making good relationship with key customers which will help to gain some useful information directly from customers. This will allow the bank to be innovative in providing products and services to maintain customer satisfaction and loyalty. Since there is significant effect of focusing on key customer dimension of CRM on both banking innovation and performance of the bank.
- The adopting and customizing of product and process innovation in CBE has direct effect on performance of the bank. Therefore, decision makers should consider other types of banking innovation in order to gain the competitive advantage of their bank.
- We also recommend the bank should emphasis on providing appropriate training for employees of the bank in customer care and handling. Because customer facing employees needs to be trained to maintain a good relationship with customers.

- The bank should consider some kind of motivational bonuses which can enhance the employees' performance while providing services since best customer care is the way to be competent.

5.4 Limitation of the Study and Future Research Directions

The study may give a better result if some of the limitations won't be there. For example, the research used questionnaire method among many survey data collection techniques in cross-sectional time horizon which is less time consuming. However, there would have been better size of collected data if we have long time to convince some of target respondents who were not willing to fill the questionnaire due to busy working hour. Beside this, CRM has a multi-dimensional characteristic. In other word, it can be measured by many constructs. Yet, involving all the dimensions in one study won't be possible. The other limitation of this study was during data analysis we faced some outliers that affect the normality of the data which may result inappropriate regression outcome.

Unlike this research concern which focused on the mediating effect of banking innovation types, this research would like to recommend future researchers to study the mediating effect of innovation capability on the relationship between CRM capabilities and performance of CBE. Furthermore, it is recommended to conduct the relationship of these variables using both quantitative and qualitative methods of research design which was not applied in this research paper due to time constraint. future researchers can also study about the moderating effect of R&D budget on the relationship between CRM and performance of CBE and other private banks as well.

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Appendix I

Addis Ababa University
Department of Business and Economics
Post Graduate Program in Masters of Business Administration
Questionnaire to be filled by Employees

Objective: -This questionnaire is designed to collect data about the “The mediating *Effects of banking innovation on the relationship between Customer Relationship Management and profitability of selected private Banks in Addis Ababa*”. The information that you offer me with this questionnaire will be used as a primary data in my study, which I am conducting as a partial fulfillment of the requirements for the Masters of Business Administration (MBA) degree.

General Instructions

- No need of writing your name.
- In all cases where answer options are available please tick (√) in the appropriate box.

Confidentiality:-I want to assure you that this research is only for academic purpose authorized by College of Business and Economics, Addis Ababa University. No other person will have to access this collected data.If you have any queries concerning the questionnaire, please contact me:

Name: Melat Hailemariam

Phone Number: +251 966 927 261

Email: melihaile@gmail.com

Thank you for your cooperation!

Questionnaire

PART I: Demographic Information

1. Sex: Male Female

2. Age 25 years or less
 Between 26– 30 Years
 Between 31– 40Years
 Between 41– 50 Years
 51 and above years

3. Marital status:

Married Single Divorced Widowed

4. Education level:

Certificate Diploma Degree Masters and above

5. Experience:

Less than 1 year
 1 - 5 years
 From 6 – 10years
 From 11 – 15 Years
 16 & above Years More

PARTII: Please state your level of opinion for each given statement using the following scales

1= Strongly Disagree 2=Disagree 3= Slightly Disagree 4= Slightly Agree 5=Agree 6= Strongly Agree

No.	Questions	Agreement Scale					
		1	2	3	4	5	6
1	My bank provides customized services and products to our key customers.						
2	Through ongoing dialogue, we work with individual key customer to customize our offerings.						
3	When my bank finds that customers would like to modify a product/service, the departments involved make coordinated efforts to do so.						
4	My bank makes an effort to find out what our key customer needs are.						
5	All people in my bank treat customers with great care.						
6	Customer-centric performance standards are established and monitored at all customer touch points.						
7	My bank has established clear business goals related to customer acquisition, development, retention, and reactivation.						
8	My bank has the sales and marketing expertise and resources to succeed in CRM.						
9	My bank commits time and resources to managing customer relationships.						
10	Employee performance is measured and rewarded based on meeting customer needs and successfully serving them.						

11	Our employee training programs are designed to develop the skills required for acquiring and deepening customer relationships.						
12	Our organizational structure is meticulously designed around our customers.						
13	My bank provides channels to enable ongoing two-way communication between our key customers and us.						
14	Customers can expect exactly when services will be performed.						
15	My bank fully understands the needs of our key customers.						
16	My bank maintains a comprehensive database of our customers.						
17	My bank has the right hardware to serve our customers.						
18	My bank has the right software to serve our customers.						
19	My bank has the right technical personnel to provide technical support for the utilization of computer technology in building customer relationships.						
20	Individual customer information is available at every point of contact.						

1= Not at all 2=Low 3= Slightly 4= Neutral 5=Moderately 6= Very much 7= Extremely

No.	Questions	Agreement Scale						
		1	2	3	4	5	6	7
21	Our company launches new products.							
22	Our company extends numbers of product lines.							
23	Our company launches customized products according to market demands.							
24	Our company imports new process technology.							
25	Our company adopts advanced real-time process control technology.							
26	Our company imports advanced programmable equipment.							

1= Completely Dissatisfied 2=Mostly Dissatisfied 3= Slightly Dissatisfied

4= Neutral 5=Slightly Satisfied 6=Mostly Satisfied 7= Completely Satisfied

No.	Questions	Agreement Scale						
		1	2	3	4	5	6	7
27	How satisfied are you with the last year's growth in sales compared to your most important competitor?							
28	How satisfied are you with the last year's return on investment compared with your most important competitor?							
29	How satisfied are you with the last year's Operating profit margin compared with your most important competitor?							
30	How satisfied are you with the last year's Return on equity compared with your most important competitor?							
31	How satisfied are you with the last year's Customer retention compared with your most important competitor?							

Appendix II

Model summary table of model 1 (the effect of CRM on banking innovation)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.594 ^a	.353	.324	.79360	.353	12.025	7	154	.000

a. Predictors: (Constant), TECHNOLOGY, Marital Status, Educational level, Experience , CUSTOMER, ORGAN_CRM, Age

b. Dependent Variable: INNOVATION

ANOVA table of model 1 (the effect of CRM on banking innovation)

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	53.012	7	7.573	12.025	.000 ^b
1 Residual	96.989	154	.630		
Total	150.001	161			

a. Dependent Variable: INNOVATION

b. Predictors: (Constant), TECHNOLOGY, Marital Status, Educational level, Experience, CUSTOMER, ORGAN_CRM, Age

Model summary table of model 2 (the effect of banking innovation on performance)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	df2
1	.414 ^a	.171	.166	.80352	.171	33.027	1	154

a. Predictors: (Constant), INNOVATION

b. Dependent Variable: PERFORMANCE_W

ANOVA table of model2 (the effect of banking innovation on performance)

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.324	1	21.324	33.027	.000 ^b
	Residual	103.303	160	.646		
	Total	124.627	161			

a. Dependent Variable: PERFORMANCE_W

b. Predictors: (Constant), INNOVATION

Model summary table of model 3 (the effect of CRM on performance)

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.385 ^a	.148	.132	.81983	.148	9.141	3	158	

a. Predictors: (Constant), TECHNOLOGY, CUSTOMER, ORGAN_CRM

b. Dependent Variable: PERFORMANCE_W

ANOVA table of model 3 (the effect of CRM on performance)

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18.432	3	6.144	9.141	.000 ^b
	Residual	106.195	158	.672		
	Total	124.627	161			

a. Dependent Variable: PERFORMANCE_W

b. Predictors: (Constant), TECHNOLOGY, CUSTOMER, ORGAN_CRM

Model summary table for the mediation test

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.384 ^a	.148	.137	.81732	.148	13.783	2	159	.000
2	.450 ^b	.203	.188	.79296	.055	10.916	1	158	.001

a. Predictors: (Constant), TECHNOLOGY, CUSTOMER

b. Predictors: (Constant), TECHNOLOGY, CUSTOMER, INNOVATION

ANOVA table for the mediation test

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18.414	2	9.207	13.783	.000 ^b
	Residual	106.213	159	.668		
	Total	124.627	161			
2	Regression	25.278	3	8.426	13.400	.000 ^c
	Residual	99.349	158	.629		
	Total	124.627	161			

a. Dependent Variable: PERFORMANCE_W

b. Predictors: (Constant), TECHNOLOGY, CUSTOMER

c. Predictors: (Constant), TECHNOLOGY, CUSTOMER, INNOVATION