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THE EFFECT OF CUSTOMER RELATIONSHIP MANAGEMNET ON BANK'S PERFOMANCE (THE CASE OF GADAA BANK)

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Addis Ababa, Ethiopia

THE EFFECT OF CUSTOMER RELATIONSHIP MANAGEMNET ON BANK'S PERFOMANCE (THE CASE OF GADAA BANK)

(A thesis submitted to college of business and economics, department of management Addis Ababa University in Partial Fulfillment of the Requirements Degree of Executive Master of Business Administration)

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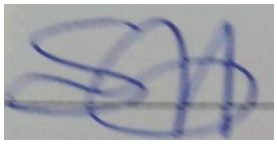
Declaration

I declare that the research entitles **"The Effect of customer relationship management on bank's performance (The case of Gadaa Bank)** is my original work and I would like to confirm that this study has not been presented in Addis Ababa University or other University. In addition to that, all source of material used for the research have been duly acknowledged.



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Letter of Certification

This is to certify that Sebasegel Seyoum Gemeda has carried out this thesis on the topic entitled **"The Effect of customer relationship management on bank's performance (The case of Gadaa Bank)"**

This work is original in nature and is suited for submission for the award of Executive Masters of Business Administration.

_____

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Abbreviation/ Acronyms

GB= Gadaa Bank

CRM= Customer relationship management

PDPP= Personal Data Protection Proclamation

GDPR= General Data Protection Regulation

KM= Knowledge management

CEM= Customer experience management

CIB= Corporate and Institutional Banking

P& SME = Personal and small and medium Enterprise.

IMF= International Monetary Fund

FCY= Foreign Currency

Abstract

The objective of this research is to examine the effect of CRM (data management, interaction management, knowledge management, and technology-based CRM and customer experience) on bank performance in the case of Gadaa Bank. To examine how the foreign currency floatation moderates the CRM and bank performance. Customers and staff of Gadaa Bank provided both quantitative and qualitative data, and a combination of approaches was used in the research. The study took total 469 bank employees and customers samples size for this research.

The study examined the relationship between CRM dimensions namely; data management, interaction management, knowledge management, technology-based CRM, and customer experience moderator influence of foreign currency on bank performance. According to the study's findings, CRM significantly affect the bank performance and the results of a moderated multiple linear regression analysis showed that there was a significant relationship between CRM dimensions namely interaction management, knowledge management, technology- based CRM and customer experience on bank performance and the bank needs to give focus on these findings to enhance its customer relationship as its main mission.

Key words: *Customer Relationship Management, Data management, interaction management, knowledge management, technology-based CRM and Customer experience, Bank performance*

INTRODUCTION

CHAPTER ONE

This chapter deals with background of the study, statement of the problem, research questions, research objectives, significance of the study, scope of the study, limitation of the study and organization of the study and operational definition all are discussed under this chapter.

1.1. Background of the study

The global banking industry's environment has transformed dramatically during the last few decades. With increased competition, regulatory restrictions, and quickly changing consumer expectations, banks throughout the world are prioritizing Customer Relationship Management as critical strategic efforts. CRM refers to the systematic management of a bank's contacts with existing and potential customers. Implementing a CRM system properly can provide many benefits for both the customer and the business. Banks have many customers and in order to meet the needs of their customers most of the banks have adopted CRM systems. CRM involves new and advanced marketing strategies that not only retain existing customers but also acquire new customers (Tambunan, Reza & Susanti, 2021).

The concept of Customer relationship management began in the 1990. Galbreath & Rogers (1999) CRM is a new management idea and method for customer management. Managing technology, procedures, information resources, and personnel is essential to establishing an atmosphere that enables a company to have a comprehensive understanding of its clientele. CRM environments necessitate organizational change and a new perspective on customers and businesses in general due to their inherent complexity. From the beginning, CRM dominated became a recognized field of scholarly study, and piqued the interest of the international business and research community. The CRM is only a strategy that was developed in response to the need to establish a new corporate environment that enables more efficient management of customer interaction. The concept of Customer Relationship Management (CRM) became popular in the

late nineties. CRM helps to retain old customers and create new customers. The understanding of customer relationship is becoming more and more important due to the emerging competitive world (Reinartz, W., et al., (2004).

Assimakopoulos, Papaioannou, Sarmaniotis, & Georgiadis (2015) CRM is a management philosophy and strategy which enables a company to optimize revenue and increase customer value and service quality through understanding and satisfying the individual customers' needs. The CRM concept is as old as business itself and therefore, throughout time, the idea of CRM has changed dramatically, moving from conventional customer care method and simply from the marketing term to more advanced, tech-driven strategies and customer related relationship. CRM procedures in the 1980s were mostly focused on customer service desks and manual record-keeping (Payne & Frow, 2016).

The number of individual retail consumers that banks deal with is high. CRM's analytical capabilities are what they desire in order to improve cross-selling success and manage customer attrition (churn) rates. Identifying which customers are most likely to defect, how to win them back, which customers are good candidates for cross-selling offers, and the most effective way to present those offers may all be done with data mining tools. Banks want to increase their share-of-wallet, or the portion of money that customers spend on financial services. Many banks have started shifting their operational CRM services to contact centers and online in an attempt to cut costs, despite strong opposition from some clientele groups (Buttle & Maklan, 2019).

Consequently, Gadaa Bank emerged recently it is considered as a representative of Ethiopia's newly opened banks, which were founded with the goal of providing comprehensive and cutting-edge banking solutions with a customer-centric approach. The bank operates in a dynamic and constantly evolving financial environment. By concentrating on the unique requirements of its business, this study demonstrates the effect of CRM on bank performance (The case of Gadaa bank) and the study focused on closing the knowledge gap regarding the data management, interaction management, knowledge management, technology-based CRM and customer experience in specific context.

1.2. Statement of the Problem

In the competitive banking sector, especially for newly opened third-generation banks that place a high value on technology and customer-focused strategies, managing customer relationships well are now essential for outperforming competitors (Buttle & Maklan, 2019). The wide-ranging research problem includes a number of important concerns that affect the bank's capacity to use CRM efficiently for enhanced customer loyalty, satisfaction, and overall financial performance. Moreover, the core research problem is how Gadaa Bank's performance is affected by the use of CRM , and which dimension more contribute to CRM's ability to increase customer satisfaction, retention, and profitability in Gadaa bank as well as a third-generation banking setting.

Although customer relationship management (CRM) systems and approach have become widely used, little is known about the precise effects of the CRM dimensions on bank performance, particularly in developing markets such as those in which Gadaa Bank established and operates specifically Ethiopia . As Gadaa bank emphasis on customer-centricity makes it an excellent case study for researching this topic since it is one of the newly opened third generation banks that represent their heartbeat in terms of CRM implementation. Understanding the effect of CRM on bank performance can provide significant insights for financial institutions trying to improve customer satisfaction, loyalty, and, ultimately, bank performance by optimizing their approach (Suharto & Yuliansyah, 2023).

Based on the study of Ali, Ali, Ahmad & Nazish (2019) relationships with customers and customer relationship management are at the forefront of the corporate world that has recently gained popularity in the management field. Relationships have always been important to academics and business people. After many businesses began to pay attention, they invested heavily in CRM and customer relationship management programs. But because the outcomes fell short of expectations, it became necessary to review the anticipated benefits that businesses would receive from CRM and customer interactions. The true benefits of customer connections and their management, or CRM practices, as well as their anticipated benefits, such as customer happiness, customer loyalty, repurchases, and good references, must be further investigated in

this context and this study focus on the effect of CRM on bank performance regarding operational, financial and economic performance of the bank by implementing those five CRM dimensions (Ali et al., (2019).

Buttle & Maklan (2019) stated that a number of areas where researcher is scarce and out-of-date contribute to the knowledge gap on customer relationship management and its effect on bank performance due to the majority of CRM studies concentrate on general practices rather than strategies specifically designed for the banking industry, there are several crucial areas of the gap that require a thorough understanding of CRM practices through sector-specific methods. Due to the special characteristics of banking services, such as the intangible and trust-based character of financial products, because of the digital transition and the need for unique CRM strategy, despite the rise of fintech, mobile banking, and AI-driven customer care, little research has been done on how technology based-CRM systems impact conventional banking operations (Assimakopoulos et al., 2015, Liu & Yang, 2009).

In the case of specific banks like Wegagen and CBE, the research findings verify the notion that knowledge management, which supports CRM, has a major impact on market success (Gebeyehu, 2014). In order for the chosen banks to attain market performances, CRM must be used correctly and consistently as a crucial tool for acquiring a competitive edge and creating enduring and lucrative relationships with their clients.

According to Gebeyehu's (2014) research, CRM studies have been simulated in developing nations like South Africa, Ghana, and Nigeria as well as highly developed nations like the United States, Europe, and Asia, but Ethiopia has not been accessed. Ethiopia's economy is currently one of the fastest expanding country in the world, so companies must use CRM techniques to stay competitive in the global marketing industry.

Taking into consideration all of the previously mentioned research on the aforementioned nations, there are few researches concentrated on addressing studies on the CRM effect by Gebeyehu (2014) at Mekelle University and Tegegn (2016) in the market performance of particular commercial banks in Addis Ababa. Thus, the current study fills the gap in the literature

about their recommendations for further research by focusing on the effect of CRM on a particular bank performance, namely Gadaa Bank.

This study focused on addressing the above specifically mentioned gaps. As Gadaa bank is new entrant bank having this study helpful to save the customer churn easily and enhance customer retention, loyality and satisfaction as well as enhancing the bank performance. The results of this study gave a good insight to Gadaa Bank and other new entrant banks to optimize their strategies in order to improve bank performances. Therefore, this research attempts to address the gap specific to Gadaa bank by offering a complete examination of the relationship between CRM and bank performance by foreign currency floatation moderation. Furthermore, knowing how global best practices in CRM modified and used to the specific problems and possibilities faced by new entrants such as Gadaa Bank.

1.3. Research Questions

1. What is the current state of Gadaa Bank's CRM practice?
2. How does (data management, interaction management, knowledge management, technology based- CRM and customer experience) affect Gadaa Bank’s performance?
3. What is the effect of (data management, interaction management, knowledge management, technology based- CRM and customer experience) moderated by foreign currency floatation on bank performance?

1.4. Objectives of the study

1.4.1. General Objectives

To examine the effect of customer relationship management on the bank‘s performance and the moderation effect of foreign currency floatation in the case of Gadaa Bank.

1.4.2. Specific Objectives

1. To identify state of CRM practices at Gadaa Bank.
2. To analyze how (data management, interaction management, knowledge management , technology based- CRM and customer experience) affect Gadaa bank's performances.
3. To analyze the moderation effect of foreign currency floatation in relationship between CRM and bank performance.

1.5. Significance of the Study

The findings of the study had both practical and theoretical advantages. It might have practical significance for the banking sector, which needs to improve customer recruitment, retention and high significance on customer relationship on bank performance. It is also useful for reference for academicians, stakeholders, and researchers who might take the initiative to study how CRM affect the bank performance.

1.6. Scope of the study

The study was conceptually and methodologically constrained. The study focused on all Gadaa bank employees who are working on different position and all customers of bank based on their segments. Taking into consideration the research objectives and questions, both quantitative and qualitative research approaches were used. The study was employed both descriptive and explanatory research designs. The study used the non-probability sampling technique specifically, convenience sampling and quota sampling techniques used in combination and self-administrated questionnaire was employed as a research instrument.

1.7. Limitation of the study

The study's first limitation was difficulty for fully generalization of the findings to other industry because of the study focused within the framework of the bank. In addition, due to time and financial constraints in taking large sample size, it was difficult and was not easy to manage all respondents replay on given deadline.

1.8. Operational Definition

- **Corporate and Institutional Customers:** Those customers who are served on special attention by assigning one CRM for each institution or those corporate customers based on their income, sales turn over and banking transaction volume amount greater than those individual saving account users.
- **Personal and SME customers:** Those customers served under personal and SME department those individual customers who are high net worth customers on individual level and small SME, medium SME based on their income, sales turnover and banking transaction less than those corporate customers.
- **Interest free banking customers:** Those customers who are operating their account on Sharia compliant banking product and services who can be corporate and personal and SME IFB users.
- **Customer Experience Manager:** The bank branch staff working on managerial level under the branch manager supervision who leads the operation fully.
- **Customer Relationship manager:** The bank staff working at head office under CIB & P & SME department who managed those corporate, institutional high net worth customers and SME's on their assigned CRM data management system.
- **Branch Manager:** The bank employees who are assigned in the branch and who lead the whole branch activities.
- **Saving account:** The account type which is used by individual customers for the saving purpose and the bank majority customers' individuals which are segmented under personal and SME.
- **Loan account:** The type of credit account used for corporate or institution sometimes individuals who are taking consumer loan under corporate beneficiaries.

- **Current account:** The account type opened by business men and institutions, which could be sole proprietor, PLC, Share Company, Joint venture and others.
- **Foreign currency account:** Type of account, which is opened by individuals, institution by foreign currency type.

1.9. Organization of the study

Five chapters were served as the structure for the study. The introduction part covered the first chapter that discusses the concept's basic background and provides an overview of the research's target audience. This section of the paper also outlines the statement of the problem, research questions, and objectives of the study, significance of the study, scope of the study and its limitation of the study. The literature review was the second research chapter. Related concepts of CRM from other books are given and analyzed in this chapter together with earlier studies. The research methodology was covered in the third chapter. The study's population, data collection methods, and analysis methods covered in this chapter in order to reach the goal. The Results and Discussion section was come next, when the information gathered from the questionnaire were shown, examined, and discussed. The research a summary of the main findings conclusion, recommendations, and were included in the fifth chapter. This chapter presented a summary of the analysis's findings, draws conclusions, and makes recommendations.

CHAPTER- TWO
REVIEW OF LITERATURE

This chapter offers the study's theoretical assessment, empirical review and summarizes the CRM literature, including definitions, perspectives and key ideas about CRM and bank performance in relation to banks. The study's conceptual framework presented through a summary of the findings from various literature sources.

2.1. Theoretical Review

2.1.1. Definition of CRM

Blery and Michalakopoulos (2006) state that customer relationship management is commonly viewed as a means of achieving competition strategies in service-providing businesses. CRM may help businesses build stronger relationships with their customers, increase customer loyalty, boost sales, and cut expenses. The majority of businesses view CRM as a comprehensive change initiative that aims to shift the company's emphasis from selling goods to generating value for and from its customers (Buttle & Maklan 2019). In the banking industry, CRM is one of the main sources of competitive advantage claim (Mohammed & Tahir (2014). CRM is also widely used as a tool to support the decisions made by customer-focused enterprises.

Relationship marketing theory serves as the foundation for the strategic business approach known as customer relationship management. As a "process of acquiring, retaining, and partnering with selective customers to create superior value for the company and the customer," it is described (Dewnarain Ramkissoon & Mavondo, 2019).

Peppers and Rogers (2016) presented their research findings to scholars who are familiar with CRM technologies and practices. Helping readers comprehend the significance of customer relationship management as a vital component of running any successful business was the further identified focus of this study. Thus, "given the new and developing technological capabilities to recognize, measure, and manage relationship with each of those customers, a firm must focus on deliberately increasing the value of the customer base in order to succeed".

Could Well (1998) stated the two main components of customer relationship management are the relationship and technology aspects. For example, some authors with marketing backgrounds define customer relationship management (CRM) from a marketing perspective, while others define CRM from an information technology perspective. Though, in the eyes of marketing Could well (1998) defined CRM as a blend of business process and technology that are used to realize a company's customers from the viewpoint of who they are, what they do, and what they are like". Thus, customer relationship is defined as a multidimensional construct composed of four behavioral components:-key customer focus, CRM organization, Knowledge management and technology-based CRM in order to implement the CRM in a successful way for increasing customer loyalty.

Guerola-Navarro, Gil-Gomez, Oltra-Badenes, and Sendra-García (2021) state that a customer-centered approach to company strategy is necessary when market dynamism results in ongoing changes in customer expectations, where the customer is at the beginning and end of the value chain at this point. Customer relationship management (CRM) and enterprise resource planning (ERP) are two examples of business technology solutions that can be used to accomplish this strategy (Oltra-Badenes et al., 2019). CRM is a crucial component of corporate management technology since it helps create efficient channels and techniques for customer-centric information management. Its primary goal is to help businesses achieve better commercial outcomes by managing customer connections better (Guerola-Navarro et al., 2021).

According to Kotler and Armstrong (2008) a review of theory in contemporary marketing, customer relationship management is the most crucial idea. CRM has only lately been broadly characterized as a customer data management activity. In order to maximize customer loyalty, this definition entails managing specific customer data and closely monitoring customer interactions. But in more recent times, CRM has expanded in meaning. CRM, taken as a whole, is the process of creating and sustaining profitable relationships with customers by providing them with exceptional value and happiness. It covers every facet of attracting, retaining, and expanding a clientele.

2.1.2. CRM perspectives & behavior theory

Rababah, Mohd and Ibrahim (2011) on their article showed a deeper understanding about customers will help if they served more effectively and can win their loyalty over time. The definition of CRM is still developing and can be viewed as a business philosophy, business strategy, business process, or technological tool. CRM is a customer-focused business strategy that seeks to increase customer satisfaction and customer loyalty by providing each customer with more personalized and responsive services. As a business philosophy, CRM is relationship orientation, customer retention, and superior customer value created through process management. As a marketing approach, CRM is a technological tool that helps businesses builds stronger relationships with their clients. It is defined as a macro-level process that encompasses many sub-processes, including prospect identification and customer knowledge building.

As the CRM perspectives supported by Rababah *etal., (*2011) there are three components of any CRM program or endeavor are people, process and technology. In order to manage the CRM process three levels of CRM processes are set: the functional level, the company-wide level, and the customer-facing level. CRM as cross-functional CRM processes perspective, which describes not just a list of processes but also their nature, key activities, and interactions with both other processes. It offers a logical and iterative concept for the CRM procedures. Since it offers a thorough description of each CRM process, it may be the greatest viewpoint on CRM processes in terms of facilitating a deeper comprehension of CRM that leads to its effective adoption and implementation.

CRM Processes at the company level Payne and Frow (2006) define it as the actions taken by an organization to generate market intelligence that the organization can use to develop and maintain a portfolio of customer relationships that maximizes profits through two sub-processes: the knowledge management process and the interaction management process. The organization's technological and people resources are crucial to the knowledge management and interaction management processes. From the standpoint of CRM, the knowledge management process "is

concerned with all of the activities directed towards creating and leveraging the market intelligence that firms need to build and maintain a portfolio of customer relationships that maximizes organizational profitability". Conversely, the process of interaction management involves using market intelligence to improve customer relationships and the productivity of interactions between buyers and sellers. These interactions may involve the exchange of goods and services for cash, information, or social interactions (Payne and Frow, 2006).

Furthermore, In order to optimize the value of the relationship portfolio with regard to customer relationships, Rababah et al. (2011) state that CRM at the customer-facing level is a methodical procedure to manage customer relationship start, maintenance, and termination across all customer contact points. Initiating, maintaining, and terminating relationships are the three CRM processes that make up the customer-facing level and the three types of customer-oriented CRM processes they have identified are CRM delivery, support, and analysis.

Even though, initially Lecompepte & Goetz (1982) conducted an ethnographic study of CRM, A "relationship" with a "customer" is "managed." This suggests that clients, not "suppliants," as one corporate customer interviewee may put it, are the beginning point of CRM rather than "R" or even the prevalent end point "M." Additionally, it suggests that a client has a relationship ('R') with physically acquainted supplier employees; connections with software would provide a new set of problems. Lastly, it suggests that managers "M" care about their connection (R) with their consumers (C), not the other way around. According to Labus & Stone (2010), three disjointed "C-R-M Schools of Thought" emerged in tandem with the development of CRM.

Naturally, the idea of mass marketing gave rise to the competitive transactional marketing paradigm. According to Hennig, Thurau, and Hansen (2000), the main short-term goal of transactional marketing is to draw in new clients for individual transactions. On the other hand, relationship marketing is focused on client retention and personalization and is founded on long-term trust and satisfaction (Sheth and Parvatiyar, 1995). Technology, comprehensive quality management, the expansion of the service sector, and rising consumer expectations are some of the causes that have led to the development of customer relationship management and technology is vital to CRM development and plays a crucial role at several stages of the

procedure. According to some, relationship marketing's widespread appeal can be attributed to technology (Hennig et al., 2000).

2.1.4. Types of CRM

According to Yerpude and Singhal (2018) and Buttle & Maklan (2019) there are four different kinds of CRM namely, strategic, operational, analytical, and collaborative.
As well known, strategic CRM is focused on recruiting customers with a customer-centric approach and offering them more value than competitors. The organization has formal mechanisms in place to encourage staff to create customer value reward systems, and a top-down approach is employed to push leadership behavior and traits. Similarly, the operational CRM includes marketing and selling products and services, with a focus on automating processes that interact with customers. The operational CRM generates a lot of data. This information is gathered and kept in a single database, together with market intelligence data acquired in other ways helpful to derive valuable business statistics.

Analytical CRM then shows the data needed to make well-informed choices. The popularity of the analytical CRM, which is now a crucial part of any CRM deployment, can be attributed accurately to this. Analytical CRM protects the foundational concepts of operational CRM, increasing its effectiveness and efficiency. Utilizing technology across organizational boundaries, collaborative CRM aims to optimize the value of the company, partners, and clients. It focuses on integrating a selected set of customers, suppliers, and business partners through a range of contact channels and working closely with them. Consumers can use a range of collaborative technologies to interact with a business, such as emails, fax machines, phone conversations, and websites (Buttle & Maklan, 2019, Yerpude and Singhal, 2018).

2.1.5. Importance of CRM in banking Industry

CRM is used in a variety of business contexts, each with unique benefits for CRM. A significant percentage of the banking sector's customers are individual retail customers, who use CRM primarily for its analytical capabilities to address customer churn rates and improve cross-selling

performance. Data mining techniques can also be used to identify potential customers who may derail, develop retention strategies, identify customers who have a high potential for cross-selling, and determine the most effective ways to communicate these offers (Buttle & Maklan, 2015).

Despite strong opposition from some customer sectors, banks have been shifting services to contact centers and online in an attempt to cut costs as they seek a larger portion of consumer spending or usage on financial services and operational CRM (Buttle & Maklan, 2019). As banks want to win a greater share of customer spend or usage on financial services and operational CRM many banks have been transferring service into contact centers and online in an effort to reduce costs, in the face of considerable resistance from some customer segments.

According to different studies advice, businesses should use CRM to increase customer loyalty, retention, and survival as well as profitability and consumer knowledge and understanding. In addition to utilizing the required technologies to increase their market share, it increases the quality and streamlines customer service based on customer input. Also, CRM is seen as a wide strategy that develops and broadens ties with customers. Sutduean and Sriyakul (2018) stated CRM is an entrepreneurial approach that seeks to give comprehension, anticipation, management, and personalization of both present and potential customers as firms are redefining their customer relationship management strategies and developing in-house capabilities for effective use of technological advanced applications.

CRM is important because it helps the sales force target profitable customers, provides full customer information to facilitate cross-selling across channels through various integrations, increases sales force efficiency due to the data at their fingertips, allows for a high degree of personalization in customer messaging, and allows for increased service effectiveness and efficiency as well as dynamic pricing options (Yerpude & Singhal, 2018).

CRM also streamlines banking procedures, lowers operating expenses, and increases operational efficiency. Chen and Popovich (2003) CRM automation reduces errors, speeds up service, and manages repetitive operations. According to Lemon and Verhoef (2016) CRM improve data driven decision making by leveraging customer insights to guide marketing campaigns, product

development, and risk management, as well as by using customer data to motivate strategic choices. CRM promotes multichannel integration by ensuring seamless interactions across a variety of channels, such as mobile apps, internet platforms, branches and CRM technologies. This will ensure that customers irrespective of the medium they use receive consistent messages and services.

Furthermore, CRM provides the capabilities to generate products, services, responsiveness, individualization , mass customization & customer happiness as well as assuring regulatory compliance ultimately depends on upholding adherence to financial and data protection regulations as well as CRM systems that help track customer interactions and data to ensure adherence to legal and ethical standards as required by each customer (Swift, 2001).By concentrating on customer-centric strategies and leveraging excellent customer relationship management, banks can get a competitive edge and surpass rivals in terms of customer satisfaction and retention (Kotler & Keller, 2016).

2.1.6. Objectives of CRM in banking Industry

The CRM referred as the managerial process that most of the organizations have applied to create competitive advantage so as to have customer profitability which focused on building the long-term relationship with the customers (Mekkamol & Untachai, 2013) and It is a new management system which integrates the database and the data warehouse technology, the data mining technology, on-line analysis processing, the internet technology, object-oriented technology, client/server system, sales automation and others.

Using five main objectives, improving customer retention, reducing customer attrition, preserving long-term, value-driven relationships—CRM focuses on establishing and sustaining strong relationships with customers in order to increase customer satisfaction, loyalty, and profitability. Banks use CRM tools to monitor customer behavior, anticipate dissatisfaction, and put retention strategies into place (Swift, 2001). CRM systems assist banks in providing prompt, customized solutions, which raises customer satisfaction levels. Banks strive to improve

customer satisfaction by providing high-quality, individualized services to match consumer expectations (Kotler & Keller, 2016).

In addition, CRM increases customers' loyalty by cultivating trust and loyalty to create enduring relationships and banks in comprehending the stages of the customer lifecycle and putting loyalty programs into place (Meyer & Schwager, 2007).

2.1.7. Dimension of CRM

The effectiveness of the bank's customer relationship management is determined by a number of critical characteristics and CRM dimensions (Sofi, Bashir, Parry, and Dar 2020). Yerpude and Singhal (2018) stated understanding the customer in order to better manage and serve them is part of customer relationship management and companies have embraced this customer-centric strategy. CRM has always been a crucial component of company and continues to be so today. CRM is the place to obtain market perspectives as it is the business process or strategy that information technology drives to create commercial value to think of it as software would be a mistake. Data management, interaction management, Knowledge management, technology-based CRM, and customer experience are all important dimensions to take into account when addressing how CRM affects bank performance (Yerpude & Singhal, 2018).

2.1.7.1. Data Management

Within customer relationship management, data management refers to the systematic process of collecting, organizing, merging, and assessing customer-related information to ensure that it is dependable, secure, and accessible for effective decision-making and relationship building. Through the creation of a unified, consistent customer image, it facilitates CRM by allowing companies to provide customized experiences, increase efficiency, and support strategic planning (Buttle & Maklan, 2015, Nguyen & Mutum, 2012).

The overall basis for any meaningful analytical technique is formed within the data storage level which, in principle, is not limited to any specific kind of database or file system, but rather depends on the type, availability and frequency of the considered data. Company-internal as well

as external data have to be made available upon request, regardless of its origin, leading to maximum information load across channels. The kind of data import heavily depends on the type, size and dynamics of candidate data (Trautmann, Vossen, Homann, Carneinm & Kraume, 2017).

In CRM keeping clean and connected data sets reduces redundancies and increases operational effectiveness since efficiency and accurate data allow personalization to boost marketing and customer service strategies (Swift, 2001; Peppers & Rogers, 2016). Chen and Popovich (2003) state strategic insights are actionable data for client acquisition and retention goals through ensuring adherence to data protection regulations, data management preserves customer trust data management, which ensures that businesses use customer data effectively to build lasting relationships and achieve organizational objective is a crucial part of CRM.

Moreover, efficiently stored, curated and analyzed customer data offers huge potential for improving omni-channel CRM. For example, identified homogeneous customer segments enable sophisticated routing strategies to service agents, both inside a channel and across channels. Analytics play a key role in the whole framework by extracting relevant information from the present 'big data', as well as storing and analyzing it efficiently in order to achieve maximal insight into customers' behavior and needs along the whole customer journey. By these means presales, sales and aftersales activities are heavily supported in a data-driven way from an Omni-channel perspective (Trautmann & *etal.*, 2017).

CRM software makes it possible for companies to effectively handle massive data sets while guaranteeing that client interactions are documented and available for future use. CRM data may be used by businesses to divide up their clientele according to their demographics, past purchases, and preferences. This is essential for creating focused marketing campaigns (Nguyen & Mutum, 2012).

The data management system must satisfy a variety of requirements that arise from transaction safety, data security, privacy, long-term archiving, high availability, backup and access, high data quality, data persistency, and unification of different data formats. These high-level data management requirements offer the perspective for identifying technical data management

requirements as well as systems able to meet them. Thereby regarding storage requirements distributed storage of large amount of data and relational, as well as in-memory databases systems for advanced analytics can be considered and data management systems for processing distributed data and traditional reporting have to be taken into account (Trautmann & *etal.*, 2017).

2.1.7.2. Customer Interaction Management

Angonimi & George (2024) states the fundamental skill of customer contact management enhances customer relationship management. Customer interactions take place in a user-friendly environment when they are closed, structured, sequential, and feature strong verbal and nonverbal communication. Angonimi & George (2024) reveled that, the term customer interaction management in the context of customer relationship management describes the exchange of information and involvement between a company and its customers at different points in time along the customer journey. There are two approaches to managing customer interactions which are direct and indirect. It is also crucial for staff customer connection interaction management.

Peppers and Rogers (2016) main feature of customer interaction shows providing personalized and consistent communication across channels. In CRM there are two-way communication enables both company-initiated and customer-initiated interactions, personalization customizes interactions based on customer preferences, history, and behavior as well as real-time engagement guarantees prompt responses to customer needs and queries and multichannel communication encompasses in-person interactions through phone calls, emails, social media messages, and mobile app engagements (Buttle & Maklan, 2015) and customer interaction plays a pivotal role in fostering relationships, enhancing customer satisfaction and trust through meaningful and consistent communication , improving customer experience and addressing needs and issues effectively, and collecting data that yields insightful information about customer behavior, preferences, and pain points that drives business outcomes and expands opportunities for cross-selling, upselling, and customer retention.

2.1.7.3. Knowledge management

Knowledge management is the systematic process of capturing, storing, classifying, and analyzing information and insights pertaining to customers in order to enhance communication, decision-making, and customer satisfaction by using information to improve customer interactions and increase corporate value, customer data can be collected from several contact points, including transactions, conversations, feedback and social media. It is a means to disseminate the customer information across departments, such as marketing, sales, and customer support, can be considered knowledge sharing in order to guarantee consistent customer experiences. After that, insights are generated by utilizing analytics technologies to find trends, patterns, and customer preferences (Gebert, Geib, Kolbe, & Brenner, 2003).

Similarly, knowledge management helps CRM by boosting customer insights, giving a 360-degree perspective of the customer, enhancing decision-making, and equipping staff with the information they need to make wise choices. The same is true for simplifying operations by cutting down on inefficiencies and redundancies through efficient information exchange and encouraging innovation by creating new goods and services based on customer trends and feedback (Suharto & Yuliansyah, 2023).

Customer relationship management involves using an approach based on the demands and interests of consumers as well as knowledge about them to better manage and serve (Yerpude & Singhal, 2018). Customer Knowledge management can be considered as a resource for understanding customers' needs and expectations and it empowered firms to design product and services based on tailor made requirement of its customers expectation (Davenport and Prusak ,1998).

2.1.7.4. Technology based CRM

Technology-Based customer relationship management refers to the use of software, tools, and technological infrastructure to automate, enhance, and streamline the processes involved in managing customer relationships. It integrates data analytics, artificial intelligence, and communication platforms to enable businesses to personalize interactions, improve efficiency, and drive customer satisfaction (Goldenberg, 2008).

According to Goldenberg (2008) the key features of technology-based CRM, can be said that data management through centralizes customer data from multiple sources into a unified system. Automation by streamlines tasks like email marketing, customer support, and follow-ups. Real-time analytics can be provides insights into customer behavior and preferences for informed decision-making.

According to Chen and Popovich (2003), increased efficiency lowers manual labor through automation, freeing up teams to concentrate on strategic goals and utilizing technology as a CRM facilitator by connecting business processes in an analytical and automated way. Advanced analytics are used in data-driven decisions to improve targeting and service (Swift, 2001).

2.1.7.5. Customer experience

Outstanding companies build a close emotional bond with their customers (McEwen, 2005). A company that is emotionally connected stands out from its rivals and improves the whole consumer experience. Because customers' overall experiences with a company and its products or services evoke the perception of value that determines brand preference, it is crucial to consistently manage the customers' experiences with the company and its offerings from their perspectives in order to maintain an emotional connection. Nothing matters more than the actual experiences of customers (Meyer & Schwager, 2007). Moreover, the ultimate goal of experience management is to enable an organization to deliver just the right set of experience clues that evoke specific feelings desired by its customers. This involves defining a targeted customer perception and set of feelings followed by designing and orchestrating clues that create the desired perception and feelings .Customer experience is a broad concept that includes customers and companies that provides for customers physical and emotional experiences when interacting with company products and services (Suharto & Yuliansyah, 2023).

The role of customer experience management and the subsequent necessity for developing a customer experience strategy, organizations are becoming satisfied with the new concept of

customer relationship management, a new term has emerged to CEM, the two are similar, and they are both difficult to define (Klaus, 2012).

Moreover, Buttle & Maklan (2015) states customer experience in CRM is personalization of customer services by tailoring interactions based on customer preferences, history, and behavior in consistent manner by delivering seamless experiences across all touch points, including online, in-store, and support channels and responsiveness, creating positive emotional associations through empathetic and meaningful interactions as the role of CRM in enhancing customer experience unified customer View.

Concentrating on the customer experience in CRM enhanced loyalty, and that satisfying encounters promote trust and repeat business. Brand advocacy and favorable word-of-mouth are fueled by memorable experiences, which enhance brand reputation of one company (Lemon & Verhoef, 2016).Having personalized marketing is another vital aspect of CRM, as it allows businesses to deliver relevant messages and offers to customers and it can be achieved through email campaigns, loyalty programs, and targeted advertisements and Customers are more likely to respond favorably to communications that are targeted to them, therefore managing the customer experience throughout the brand and using personalized marketing not only improves the customer experience but also boosts conversion rates.

2.1.7.6. Bank Performance

The literature on economics has focused significantly on assessing banks in terms of their competition, market concentration, efficiency, productivity, and profitability. This study focus on bank performance which can be measured by Customer satisfaction, Customer retention and financial performance, operational efficiencies.

2.1.7.6.1. Customer Satisfaction

As per Eklof, Podkorytova & Malova (2020) Customer satisfaction is one of the keystone concepts in strategic marketing. Its determinants and consequents have been rather well studied over the last 30 years. Not only do academicians admit the importance of customer satisfaction

for a firm's development but also practitioners and businessmen pay great attention to its measurement and management. The intuition behind the view that customer satisfaction is important is straightforward. Satisfied customers tend to demonstrate loyal behavior (Fornell, 1992).

Therefore, for firms to improve customer satisfaction and commitment need to research the factors that impacting customer satisfaction and reusing the product/service and achieve loyalty by satisfying the customer. Customer satisfaction considers as a measure for describing how the product/service meets the customer expectations, and it is an essential element for ensuring successful business because satisfaction can reflect the firm growth in the future. However, the dimensions of satisfaction, and trust, were the most common variables in the relationship marketing studies for achieving customer commitment and these dimensions are also relevant in the context of e-commerce (Sleiman, Cai, Lan, Lei & Liu, 2021).

Eklof et al., (2020) Conventional strategic marketing suggests that customer satisfaction influences financial performance of the firm. The main intuition behind this process is that more satisfied customers tend to demonstrate loyal behavior which in its turn leads to an increase in financial outcomes for the firm. Given that customers are the key asset of business, customer satisfaction can be considered as a primary goal for any firm.

2.1.7.6.2. Customer retention

Dawkins and Reichheld (1990) first published the tangible effects of companies' commitment to retaining customers, and claimed that higher retention rate leads to higher net present value of customers. Reichheld (1996) also noted that building and sustaining customer loyalty which leads to retention require the approaches of retaining investors, retaining employees and retaining customers and also identified three retention-building approaches through adding financial benefits, social benefits and structural ties.

According to Hamilton & Ihunwo (2022) overall customer loyalty refers to customer retention, such as the number of customers that do repeat business/purchases (Kotler, 2008). A company's ability to retain customers is essential to its success. There are numerous ways to measure it, depending on the business strategy. However, in today's competitive marketplaces customer

loyalty also refers to brand perception, conduct and attitude towards the brand as well as activities made towards the business such as online reviews, word of mouth. An intangible but incredibly valuable business asset is customer loyalty. Achieving the objective of maintaining and growing client relationships requires the capacity to measure and model customer loyalty efficiently.

2.1.7.6.3. Financial performance

Ramzan, Amin, & Abbas (2021) mentioned on the selection of bank financial performance indicators, most studies use a single indicator, e.g. ROA (return on assets), ROE (return on equity), or Tobin-Q, to measure bank financial performance. While a single indicator could be easily applied, it cannot describe the financial performance comprehensively. Therefore, taking into account growth ability, profitability, profit quality and risk control, this paper uses 10 financial indicators to measure the overall financial status of banks. These indicators have been seen as Growth ability variable indicated as growth rate of total assets, growth rate of net assets, growth rate of operating revenue, growth rate of operating profit growth rate, on profitability return on total assets and return on equity, on quality of earnings by earnings per share (diluted) and on risk management variable there will be seen the non-performing asset ratio and core capital ratio adequacy.

2.1.7.6.4. Operational efficiencies

Banks can differentiate their service offering and reap incremental profits by proper service of their product offering. Hence the focus is shifted on profitability along with business volumes for enhancing the efficiency and effectiveness of the banks. In this context profitability has been broadly categorized as Business per employee and profit per employee phenomena of 'Relationship Marketing' and CRM systems in the context of banking industry and optimization of resources and A profitability score is typically derived for each unit by either focusing on operational performance or viewing bank branches as intermediaries. Inputs are usually resources, such as staff and operating expenses, while outputs are typically a collection of service

transactions, such as the number of deposits and account openings (Padmavathy, Balaji & Sivakumar, 2012).

2.1.7.7. Currency Floating

A floating exchange rate functions in an open market where speculations, along with demand and supply forces, drive the price. Floating exchange rate structures mean that changes in long-term currency prices represent comparative economic strength and differences in interest rate across countries. Changes in the short-term floating exchange rate represent disasters, speculations.

Chen and Popovich (2003) classified having floating exchange rate systems or very wide bands show strikingly different patterns of behavior. Holding very different levels of international reserve and allow very different volatilities to the movements of the exchange rate relative to the volatility that tolerate either on the level of reserves or interest rates. These differences and explore potential causes that have been suggested by the recent theoretical literature.

2.2. Empirical Review

2.2.1. CRM empirical review findings in developed & developing Countries

Gebeyehu (2014) most of the research conducted on Customer Relationship Management is based on evidence from majority of prior empirical studies that are done in developed countries. Here, in this section a certain empirical findings conducted based on developed countries are reviewed. The Hong-kit In their study, Yim, Anderson, and Swaminathan (2004) contacted the CRM relationship and the customers' results by looking at banks, investment firms, insurance companies, and other businesses on their sample to finalize the response. The degree of relationship was focused on testing the CRM framework. During the data collection period, general and senior managers received questionnaires directly.

The findings of Hong-kit et al.'s (2004) study demonstrate that market performance in terms of customer happiness and experience is significantly impacted by paying close attention to important customers and actively managing information. However, integrating technology-based

CRM and organizing around CRM do not immediately impact customer satisfaction. Working on CRM organization also has an impact on customer retention. Similarly, managing knowledge has a big impact on customer retention and sales growth by meeting customer needs and expectations. The study organization's performance measures do not appear to be significantly impacted by the integration of technology-based CRM.

Oztaysi, (2011) Finding shows on study conducted in Turkey on the customer relationship management process within a business and recommend a tool or customer relationship management measurement. For this matter the research is designed according to scale development literature. The feedbacks from several industries like manufacturing, information technologies, tourism, service, retail, finance, and logistics were collected. The study enables shortages of information about the relationship between the processes and outcomes of CRM such as customer satisfaction, customer loyality. As a result a wide-ranging model can be assembled and the relationship between CRM results, customer relationship management processes and other organizational factors can be investigated. The effect of organizational philosophy, arrangement and other organizational features on CRM processes and results can be analyzed (Oztaysi, 2011).

Sayed (2011) finding on research demonstrates the speculative foundations of CRM and its correlation with marketing performance from several perspectives. However, all of the financial institutions that are active in the Arab Republic of Egypt are included in the study population. Consequently, the study's findings indicate a strong relationship between marketing effectiveness and key customer focus, organizational effectiveness, and customer knowledge management.

Moreover, studies were done on how information technology could improve business operations in organizations that serve clients and increase profitability in Nigerian insurance companies (Oghojafor et al, 2011).

According to Oghojafor et al. (2011), they employed survey methods to gather information from insurance companies in Nigeria. The findings indicate that, even though the majority of these companies have a large customer database, they do not completely integrate their CRM with IT,

which prevents them from making provisions for their customers to conduct significant business online.

As studies show that CRM practices significantly improve customer satisfaction by enabling better service quality, personalized offerings, and quicker response times and in a study of banks in Ghana, CRM was found to enhance customer satisfaction through effective complaint resolution and improved service delivery (Amoako et al., 2012). Empirical evidence suggests that CRM systems improve financial performance by increasing customer retention and loyalty in developing economies since research on the banking sector in India revealed that CRM strategies led to higher revenue generation through cross-selling and repeat transactions (Gupta & Shukla, 2021).

Furthermore, limited technological infrastructure, lack of skilled personnel, and resistance to change are common barriers to successful CRM implementation. There is a study in Kenya's on financial institutions highlighted that poor integration of CRM systems and low employee training levels hinder CRM effectiveness (Kibor, Mutuku & Tumuti, 2022). Empirical studies show that CRM practices significantly enhance customer loyalty in developing markets by fostering trust and long-term engagement. In a study of Nigerian retail banks, loyalty programs powered by CRM systems were found to increase customer retention by 25% (Osarenkhoe & Bennani, 2007).

The degree of CRM adoption and its impact vary significantly across industries in developing countries, with financial services and telecommunications being the most advanced adopters. A comparative study in South Africa found that CRM adoption in the telecom sector yielded better customer insights and service personalization compared to retail sectors (Rootman et al., 2011).

Furthermore, in developing countries, government support and regulatory frameworks significantly influence CRM adoption. Research in the UAE emphasized the importance of government initiatives in promoting CRM in the banking and public sectors (Almotairi, 2009). Empirical findings suggest that CRM adoption in developing countries leads to better customer satisfaction, loyalty, and financial performance. However, challenges such as technological

limitations, employee training, and regulatory barriers need to be addressed for CRM systems to achieve their full potential.

Siddiqi and Mahmud (2018) for the banking sector in Bangladesh, achieving customer-focused business objectives is a critical ingredient for success in order to reign over the increasingly competitive market, this assumption helped to illuminate the underlying dimensions of Customer Relationship Management that influence the customer satisfaction. Structural equation modeling was employed on a sample size of 210 aiming to identify those factors, explore interdependence amongst them and assess their combined effect on customers' satisfaction. In this study, the impact of only three dimensions of CRM in the context of Bangladeshi retail banking has been examined namely customer orientation, service process, and customer experience.

The empirical evidence according to Zeynab Soltani and Nima Jafari Navimipour (2016) investigates possible associations between customer relationship management practices, relationship quality and customer satisfaction, focusing on the possible mediation effect of relationship quality on the CRM strategies and satisfaction link on three major mobile telephony companies in Greece.

Suharto &Yuliansyah (2023) on their study improvements in customer relationship management by the company will lead to an increase in business strategy in the process of interaction between companies and consumers. Consumer reviews of products and services received will also be more positive. So that consumers will endorse the company's goods and services without hesitation to other people or social communities.

Berger & Bouwman (2013) supported the customer relationship management components as applied on the Egyptian commercial banks, examined from the bankers' point of view. Then, it intends to measure their effect on the level of customer satisfaction and loyalty from the customers' point of view as examples of the non-financial performance measures. Non-financial performance measurement like quality, customer satisfaction and customer loyalty is more difficult in services for measuring and showing in quantitative way. But there are rare researches

available on non-financial performance measurement in banks/financial institutions. Their research showed a significant positive relationship between CRM and customer satisfaction in the Egyptian Commercial Banks, when applying them together and not separately. Banks wishing to improve their relationships with customers need to focus on the CRM components or dimensions to develop relevant and effective marketing strategies and tactics (Sadek, Youssef, Ghoneim, & Tantawy 2012).

Countries that have formally adopted floating exchange rate regimes or very wide bands have considerably different monetary and exchange rate behavior (Hausmann, Panizza, & Stein, 2001). Utilizing a sample of 38 developed and developing nations, the researchers document these disparities, demonstrating that these nations have wildly disparate reserves and permit wildly disparate levels of exchange rate flexibility in relation to the volatility of their reserves or interest rates.

Singleton (1987) explains there seems to be a broad consensus among economists that purely floating or completely fixed exchange rates are the only viable alternatives of exchange rate management, many countries do not behave according to this paradigm and adopt a strategy within the broad spectrum of exchange rate regimes that is limited by the two corner solutions. These intermediate regimes are characterized by significant foreign exchange market interventions of central banks and a certain degree of exchange rate flexibility.

Kebede & Tegene (2016) finding support customers as the people who purchase a good, service, product, or idea from a seller, vendor, or supplier in exchange for cash or another significant consideration. Knowledge management, CRM organization, technology-based CRM, and KCF were the customer relationship practices that were taken into account in their study. Statistical testing of the correlation between these CRM practices and the market performance of commercial banks in Ethiopia's Amhara area was emphasized in the study.

2.3. Literature Review Summary and Knowledge gap

Chen and Popovich (2003) customer relationship management in banking has been extensively studied due to its critical role in enhancing customer retention, profitability, and service quality. Here are the main insights focuses on technology and CRM Systems for integration of CRM software as well as CRM system as a whole to streamline customer data and interactions. Its Benefits include improved customer insights, personalized services, and automation of routine processes. Though, it has challenges involve high implementation costs and data security concerns. Customer retention and loyalty related studies emphasize the importance of maintaining strong relationships to improve loyalty and reduce customer movement. Key drivers include innovative marketing and sales, satisfaction, service quality, operational efficiencies and tailored banking experiences.

There is a high customer expectation which limit research on how third or new generation customers and digital-first users perceive and interact with CRM systems. Insufficient studies on hyper-personalization using advanced AI tools. In addition, technological integration challenges by gaps in understanding how to integrate legacy systems with modern CRM technologies like AI and chatbots which are limited analysis of CRM system adaptability for retail business in developing countries. The other thing Data privacy and ethics need for more research on balancing personalized services with data privacy regulations as studies rarely address customer concerns about data misuse in CRM systems and customer centric innovations are insufficient exploration of how innovative CRM strategies like, loyalty rewards affect engagement, That why this study focus on customer experience as one dimension of CRM.

Measurement of bank performances, few studies examines how banks measure the operational efficiencies and KPI for bank performances. The Gap in understanding the financial impact of non-tangible CRM benefits, such as customer trust and brand reputation. While CRM literature provides substantial insights, the recent banking landscape has introduced new complexities, especially with advancing technologies and shifting customer behaviors and data management, technology based CRM, customer interaction, knowledge management and customer experiences are the gap fulfilling dimension from the above literature and the conceptual frame worked

developed based on the literature review and to address the effect of CRM on new or third generation banks specific to Gadaa bank .

2.4. Conceptual Model Framework

Gartner Inc. provides the last all-inclusive CRM model. With 1,450 research analysts and consultants in 85 countries, Gartner Inc. is a prominent IT research and consultancy firm with a large presence in CRM research. According to the concept, in order for CRM to succeed, businesses must possess capabilities in eight different areas. These consist of creating a CRM vision, creating CRM strategies, **creating valuable customer experiences,** collaborating both inside and outside the organization, managing customer lifecycle processes, **information management**, **implementing technology**, and creating metrics that show whether a CRM is successful or not (Buttle & Maklan, 2015).

The creation of a customer strategy, which identifies the target market, is the first step in the CRM process model. Based on the profitability of each client segment, different strategies are devised to deal with them, and customer objectives are set with the goal of achieving customer value, customer pleasure, and customer loyalty. The next steps in evaluating organizational preparedness include preparing for the adoption of a CRM system, ensuring top management support and commitment, and shifting the organization's focus from products to customers (Rababah et al., 2011).

Based on the above model thought and other conceptual models, theoretical perspectives, and empirical considerations as well as the extensive review of related literature and empirical evidence conducted by other researchers and in the context of developing and developed countries, the following refined conceptual framework was developed as per achieving the objective of this study: CRM models, which have five independent variables, one moderator which is foreign currency floatation, and the bank performance as the dependent variable which includes metrics like customer satisfaction, customer loyality & retention, financial performance, and operational efficiency.

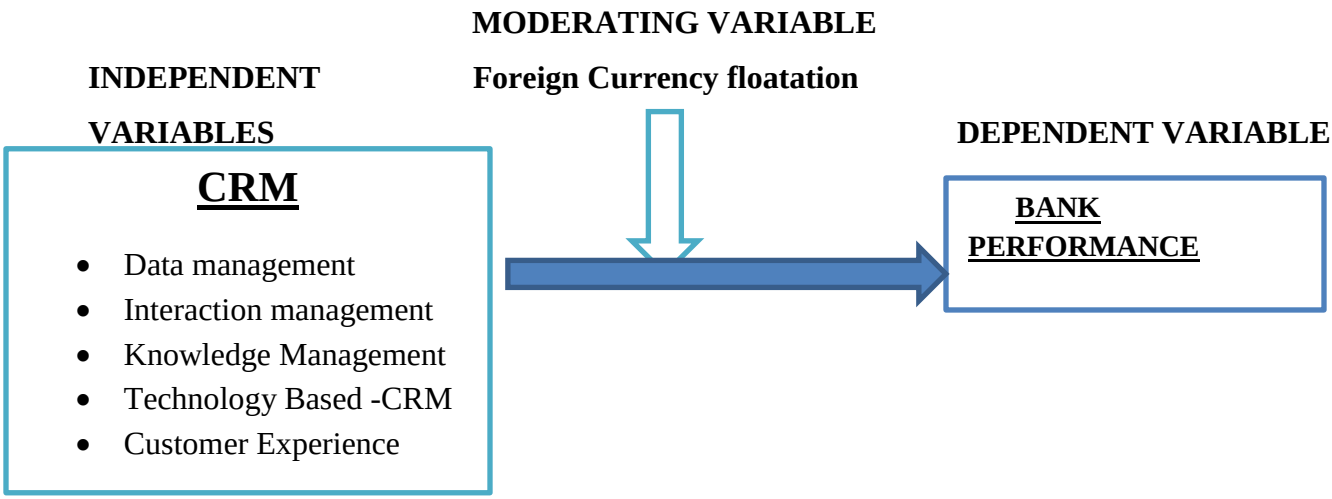


Fig.1 Conceptual Model modified from (Trautmann, etal.; 2017, Das, & Mohanty, 2020, Ghimire, 2024 &Udeh, etal.; 2024).

2.5. Research Hypothesis H1a up to H1e

The five hypotheses are pinned to achieve the objectives of the study to be tested so as to answer the research questions.

H1a: The effect of data management has a positive and significant effect on bank performance.

H1b: The effect of interaction management has a positive and significant effect on bank performance.

H1c: The effect of knowledge management has a positive and significant effect on bank performance.

H1d: The effect of technology based- CRM has a positive and significant effect on bank performance.

H1e: The effect of customer experience has a positive and significant effect on bank performance.

2.6. Research Hypothesis H2a up to H2e

The five hypotheses are pinned to achieve the objectives of the study to be tested so as to answer the research questions.

H2a: The effect of data management on bank performance is significantly moderated by fcy floatation.

H2b: The effect of interaction management on bank performance is significantly moderated by fcy floatation.

H2c: The effect of knowledge management on bank performance is significantly moderated by Fcy floatation.

H2d: The effect of technology based CRM on bank performance significantly moderated by fcy floatation.

H2e: The effect of Customer experience on bank performance significantly moderated by fcy floatation.

CHAPTER THREE
RESEARCH METHODOLOGY

This chapter deals with the research approach, design, methodology deployed in conducting the research. The research population was presented along with the method of selection of the sample. The collection instrument and the method of analysis and techniques of analysis are all were discussed.

3.1. Research design

A research study general strategy, methods, and processes for collecting and analyzing data in order to answer research questions or hypotheses are all outlined in the blueprint or plan known as the research design (Trochim & Donnelly, 2008). The effect of CRM on bank performance, particularly at Gadaa Bank, was investigated using a survey questionnaire and a descriptive and explanatory study design and a descriptive survey research design is a methodical approach to gathering data from a representative sample. It is frequently employed due to its affordability, simplicity, and capacity to illustrate correlations between variables.

An explanatory research approach used to examine the effect of CRM on bank performance. This design aimed to delve deeper into understanding the underlying causal mechanisms and reasons behind the observed relationship between CRM and Bank performance within Gadaa bank context.

3.2. Research approach

The study used a mixed approach whereby the quantitative and qualitative methodologies were applicable. Using mixed approach helped to triangulate the information collected. Many scholars suggest that integrating both quantitative and qualitative research could give better result by minimizing single method biases. As Koul (2006) suggested that although quantitative and qualitative methods are different, one approach is not superior to another, both have strong and weak sides and used ideally in combination is very much imperative. This decision is made

based on the belief that integrating both approaches could enhance the validity of the findings through triangulation of the collected information carefully (Creswell & Creswell, 2017). Mushemeza (2016) states that pragmatic integration of the two dominant research paradigms was enable postgraduate students to analyze the identified research problem better. More important to note for researchers is that the choice of a mixed-methods research design must be driven by the research question rather than concretely realize one method or another. Deductive approach was utilized and hypotheses to guide data collection and analysis. This approach was chosen because it allows for the testing of existing concepts related to the effect of CRM and bank performance within the specific context of Gadaa Bank.

3.3. Description about the study area

The geographic characteristics of the study area were delineated. Accordingly, the study area includes Gadaa all customers based on their segments and all employees of bank that are exists in different branches and head office at country level. The reason for focusing on these study area was for conducting a representative sample size for this research.

3.4. Target Population

The target population of the study consisted of a total target population of the bank employees were of 735 (Seven hundred thirty five) until November 30, 2024 and the total population of the bank customers were 401,418 (Four hundred one thousand four hundred eighteen).

3.5. Sample Design

The sample size was determined by non-probability sampling specifically, quota sampling based on convenience of customers and bank employees procedure were implemented considering the customers segmentation given by the bank. The segmentation sub grouped into three which are. Corporate and institution, personal and SME and interest free banking customers.

The total population of the study were 401,418 of customers and 735 (Seven hundred thirty five) of bank employees. The questionnaire distributed to all ninety branches which are exists all over the country, as much as possible the customers' responses from outlying branches far from the city are collected as the customers' convenience and the researcher aim to achieve a 5% error

margin in its findings. The study used the combination of Cochran's sample size formula for customers sample size determination and 20% of the total population of employees by percentage of the total population of bank employees by central limit theorem of the bank sample size taken. As well-known 5-10% of the small population can be a representative to the total population nevertheless, so as to increase the representation of the respondents the researcher selected four fold sample size of employees which was 147 sample sizes of bank employees and 384 customers of the bank. For managing the large population customers the Cochran's Sample size formula was taken (Cochran, 1977).

The total population size of customers are N=401,418.

$$n_{\text{finite}} = \frac{n}{1 + \frac{n-1}{N}}$$

^{n}finite= 384/ 1+384−1/401,418

=384/1+0.000954

=384/1.000954

≈384

Therefore, for a population of 401,418 a 95% confidence level, and a 5% margin of error, the required sample size is 384 respondents.

Customer segmentation is the crucial aspect of marketing analytics that involves dividing a broad customer base into smaller groups based on shared characteristics such as based on their business beneficial to the bank (Wedel & Kannan, 2016). Through segmentation, marketers can develop personalized marketing messages that resonate with specific audiences, improving the relevance and impact of their campaigns and data analytics allows for a deeper understanding of customer segments, enabling the creation of tailored marketing strategies that cater to the unique needs of each group. This approach not only increases customer engagement but also helps in optimizing marketing budgets by focusing efforts on high-value segments. Personalization driven by data analytics has been shown to enhance customer satisfaction and loyalty, as customers are more likely to respond positively.

For interviews, purposive sampling method was used for selected interviewees. Thus included bank employees who are directly involved in customer relationship management total number of five (5) interviews with managerial position bank employees.

3.6. Data Source and Collection Instrument

A structured questionnaire was employed. The survey was consisted of three parts. Five questions were made up in the first part of the questionnaire, which was intended to gather demographic information about the respondents. The second part of the questionnaire included 36 important CRM dimension, foreign currency floatation and bank performance items on a five-point Likert scale, with 1 denoting "strongly disagree" and 5 denoting "strongly agree." Similarly the researcher applied one open ended questions and interview conducted for the selected bank employees so as to address the qualitative response of both respondents.

3.7. Data sources and gathering Tools

This study used both primary and secondary data sources. Kothari (2004) describes primary data as those which are collected a fresh and for the first time and thus happen to be original in character. The secondary research data involves the data collected using information from studies that other researchers have made of a subject matter related with this study area.

While, the primary tools for gathering primary data source for the study was gathered from the bank archive and monthly report data base. A questionnaire was a measurement tool that asks people to reply to a series of statements and questions. The choice of this instrument is necessitated by the extensive review of literature and the specific objectives of the study. Durlak., Weissberg, Dymnicki, Taylor & Schellinger (2011) asserted that the use of questionnaire is a sensible way forward if factual information is needed from substantial number of people. The questionnaires cover closed-ended questions and one open ended question.
The researcher utilized secondary sources such as academic journals, books, and the bank reports to gather background information, conceptual frameworks, and case studies relevant to the topic.

3.8. Data analysis techniques

Data analysis was conducted using SPSS version 27, a statistical program. At various levels, descriptive and inferential statistical tools such as mean, frequency, correlation, One-Way ANOVA, and moderated multiple linear regressions were used to evaluate the hypotheses and accomplish the research goal. The introduction of a moderating variable in multiple linear regressions investigates if the degree of the moderating variable affects the direction or strength of the association between an independent variable and the dependent variable.

$Y = B\beta 0 + \beta 1 * + \beta 2M + \beta 3(X.M) + \epsilon$

2.039+.042*1+0.030*2(-0.041)*3+0.079*4+0.5

Y β= Dependent Variable

β0= Dependent variable

X= Independent variable

M= Moderating variable

X.M= Interaction term (Product of X & M); Representing the moderation effect.

β1, β2 β3= Coefficients for the independent variable, moderating variable, and interaction term respectively.

ϵ= Error term capturing unexplained variance.

3.9. Reliability and Validity

3.9.1. Reliability

Cronbach's Alpha, an internal consistency and reliability assessment tool in SPSS used to evaluate the scale. The study showed how to find out reliable MMLR (Moderated multiple liner regression) of the five CRM variables, one moderator and bank performance reliability test result have appropriate value of Cronbach's alpha was 0.88.

3.9.2. Validity

Research validity dimensions are frameworks that ensure a study measures what it should and produces correct results (Shadish & Campbell, 2002). These dimensions include internal and external validity, criterion validity; construct validity, content validity, and statistical conclusion validity. As per the aspects of methodological rigor including causality, generalizability, measurement accuracy, and statistical appropriateness are all covered differently by each. The degree to which a study reliably assesses what it is supposed to measure and yields reliable results is known as validity in research. When they are legitimate, they will ensure that they are substantial, dependable, and pertinent to the intended context. The study used the conceptual model for the CRM dimension with the effect on bank performance. In order to ascertain whether the model was suitable for the relationship CRM implementation used by Ethiopia's banking industry and satisfies ecological validity, this study used as the best reference for the same model and the structured questionnaire content and item consulted by the area specialized in the CRM work areas who are exists the bank management employees.

3.9. Ethical Considerations

In order to have unbiased and representative response, the respondents were clearly assured in the questionnaire that their response were kept confidential and only be used for the attaining the research objectives. The respondents were clearly indicated in the covering letter of the questionnaire that they have the option of keeping their anonymity.

Cooper and Schindler (2008), research ethics are crucial for directing our actions and interactions when conducting research. Confidentiality is important, and the researcher knows that. This entails protecting private data collected from study participants. Interviewees' identities were not appeared on the questionnaire in order to maintain confidentiality. In order to prevent improper access or disclosure, the researcher was handled data with the utmost care. Only those who are permitted were able to access the safe data storage. The researcher recognized the ethical obligation to get informed consent from study participants.

The Gadaa Bank employees were informed by the researchers of the study's significance and goal. All research participants' verbal consent was obtained prior to data collection. The freedom to decline involvement or to stop participating at any time without facing consequences was explained to participants.

CHAPTER FOUR

RESULTS AND DISCUSSION

In this chapter the results of statistical analysis are presented and discussed based on the outcome of the analysis. It begins by explaining the demographic characteristics of the study, the reliability test, and mean scores of the construct and followed by a regression analysis assumption and analysis of independent, moderator and dependent variables and hypothesis tested using moderated multiple regressions results.

4.1. Questionnaire response Rate

The total sample size taken from customers were 384 and from the bank employees 147 questionnaires were distributed and from customers side 322 respondents replied to the questionnaires and all bank employees were replied to the distributed questionnaire. Respondents are selected based on their convenience and the remaining 62 questionnaires are distributed but not collected. During distribution the questionnaires are sent for targeted segmentation of customers so as to make the collection of the questionnaire achievable. The collected questionnaire response have an 88% of response rate and can be concluded enough representation of the sample size that was acceptable from the sampling size determined during questionnaire distribution.

Table 4. 1: Respondents Segmentation

S.No	Respondents category	Sample	Response number	Percentage of Response Rate
1	Gadaa bank employees	147	147	100%
2	Gadaa Bank customers	384	322	88%
3	Not collected questionnaires	62		12%

Source: Own Computation (2024).

4.2. Demographic Characteristics of the Respondents

The demographic characteristics of respondents include five questions with different response option so as to get a full demographic background of the respondents both customers and bank employees.

Table.4. 2. Demographic profile of Respondents

S.No	Gender of customer and staff	Customers	%	Employees	%
1	Male	220	68	114	78
2	Female	102	32	33	22
	Total	**322**	**100.0**	**147**	**100.0**
2.	**Educational background**				
1	High school	22	6.8	-	-
2	Diploma	46	14.3	-	-
3	First degree	194	60.2	88	59.9
4	Second degree	56	17.4	57	38.8
5	Above second degree	4	1.2	2	1.4
	Total	**322**	**100.0**	**147**	**100.0**
3.	**Age category**				
1	20-29	111	34.5	42	28.6
2	30-39	127	39.4	78	53.1
3	40-49	71	22.0	27	18.4
4	Above 50	13	4.0		
	Total	**322**	**100.0**	**147**	**100.0**
4.	**Banking experience**				
1	Less than one year	142	44.1		
2	One year to two years	180	55.9		
3	Three to five years			48	32.7
4	five to ten years			15	10.2
5	Eleven to fifteen years			52	35.4
6	**Greater than fifteen years**			32	21.8
	Total	**322**	**100.0**	**147**	**100.0**
5.	**Position**				
1	Clerical employees	65	20.2	87	59.2
2	Principal I &II or equivalent	2	.6	17	11.6
3	Manager	69	21.4	8	5.4
4	CRM	1	.3	8	5.4
5	Division Manager/middle level manager	26	8.1	14	9.5
6	Director	2	.6	7	4.8
7	Above director	6	1.9	6	4.1
8	Business owners/ others	151	46.9	-	-
	Total	**322**	**100.0**	**147**	**100.0**

Source: ***Own survey (2024)***

The demographic analysis of respondents above mentioned in the table 4.2 reveals that, the respondents of customer are 78% of them are male and 22% of them are female, whereas 68% of staff of the bank are male and 32% are female. These survey results suggest that men predominate, with an even higher percentage among employees. The bank needs to work on gender balance to enhance the bank service delivery and to give equal chance for both male and female.

On the other hand, 60% of the bank customers have a first degree, and 17% have a second and above second degree the respondents' rate are insignificant to measure. Similarly, banks staff respondents are 60% of them are first degree holders and 39% of respondents have a second degree. The result shows, the majority of respondents in both groups hold a first degree as well as significant percentage of respondents of both group are second degree holders and suggesting that employees have more educational level and this makes the conceptual understanding of respondents are easily to understand the questionnaire.

Furthermore, 39% of customer respondents are between the ages of 30 and 39, followed by the ages of 20 and 29 (35%) and 40 and 49 (22%) and above 50 years old the respondents are minimal. In a similar vein, 53% of staff responses are between the ages of 30 and 39 (29%) are between the ages of 20 and 29, and 18% are between the ages of 40 and 49. The aforementioned result indicates that the majority of both customers and bank employees are between the ages of 30 and 39, which indicates comparatively youthful demography as the bank motto shows that the new generation bank majority shareholders are youth and the majority customers of the bank falls under youth category. In addition, the bank employees also have this youth category and will be a great resource to face the coming business competition with energy.

Moreover, regarding with the banking business relation with Gadaa bank shows 44% of customers' respondents have been more than a year of banking experience and 60% of respondents who were customers had one to two years of banking experience with Gadaa Bank. On the bank staff side, the banking industry experience was more varied, with 35% having 11–15 years of banking experience and 33% having 3-5 years of overall banking experience. As is generally known, Gadaa Bank has just been in business for two years, and many of their staff has a more balanced range of banking experience with significant tenure. These two sets of

responses suggest that clients have comparatively average one-year banking experience on customer side and majority employees are experienced between 11-15 years and can be said that more experienced employees are working in the bank to serve all customers with knowledgeable manner.

Similar to this, customers' respondents positions of work shows business owner position which with categories under (47%) 21.4% of them are managers which is being significant roles for 20% of them are clericals or non-managerial positions. On the side of the bank employees are clerical categories which shows 59%, followed by11% of middle-level managers and other roles that are comparable. As a result, the bank employees hold a greater percentage of clerical jobs which shows the study included majority customer representative bank employees.

4.3. Descriptive Analysis of CRM & bank performance

CRM is a relationship orientation, customer retention and superior customer value created through process management on business philosophy (Rababah & etal. 2011). This study focused on analyzing the effect of customer relationship management on bank performance. This part shows how the respondents reply their level of agreement the effect of the CRM dimensions such as data management, interaction management, knowledge management, Technology based CRM and customer experience management and foreign currency floatation and bank performance contained total 36 questions . Hence, the mean and standard deviation from the analysis outlined in the descriptive statistics section were used to show how much the respondents agreed with the Gadaa Bank's customer relationship management overall look and its effect on the bank performance. Respondents' answers regarding the following variables were scored on a five-point Likert scale, where 1 denoted strongly disagree, 2 disagree, 3 neutral, 4 agree, and 5 strongly agree. However, when interpreting the mean results and standard deviation to facilitate and clarify interpretation, the scales were redistributed as follows. Less than 1.5 Very low , Between 1.5 and 2.5 Low , Between 2.5 and 3.5 Moderate , Between 3.5 and 4.5 High and Between 4.5 and 5 Very high (Almohtadi & Aldarabah, 2021).

Table 4. 3: Data management Descriptive analysis

S.no	Description name	Mean	St. deviation
1.	Customers are aware that the bank gathers and handles their personal information in order to enhance support.	3.69	.90
2.	The customers are aware that personalized communications or offers are made using bank data management.	3.71	.96
3.	Customers are happy with how the bank incorporates their suggestions into its services.	3.65	.94
4.	The customer data management with the bank is segmented on personalized based.	3.40	1.15
5.	The security and privacy of customers' personal information with the bank are confidential enough.	3.69	.96
	Total	**3.63**	**0.98**

Source: ***Own survey (2024)***

The above Table.4.3: shows that data management descriptive analysis to examine the effect means scores to the expectation mean scores provides a numerical variable that indicates the data management aggregate mean value. In order to measure the expectation of customer about data management five questions were asked. Accordingly the overall mean score of data management shows that 3.63 with the standard deviation .98 which means most of the respondent was agreed regarding data management positive effect as the bank used their data for good without considering other factors and the standard devation shows that there are variation of responses in terms of the agreement level on each dimensions. Finally, it can be said that the respondents are agreed on the data management CRM dimension has positive effect on the bank performance.

Table. 4. 4: Customer Interaction Management descriptive analysis

S.no	Description name	Mean	Standard deviation
1.	The bank can be easily reached by phone and email, which are my preferred methods of communication.	3.72	.99
2.	Customer questions are promptly addressed by the bank's customer support staff.	3.86	.92
3.	The bank serves its customer with the bank employees, who are polite to create efficient interaction.	3.61	1.07
4.	When customers are communicate with the bank, their preferences and previous encounters are taken into account.	3.69	.96

5.	During initial conversation, the bank successfully addresses its customers concern.	3.66	1.024
	Total	**3.71**	**0.99**

Source: ***Own survey (2024)***

The above table 4.4 shows interaction management related question responses are replied on high agreement related with the standing that the bank gives due care about the interaction management by the bank and the respondents re agreed that interaction management can be a great way to enhance their engagement though out the bank business life, hence, the overall all mean result falls on 3.71 mean score with 0.99 standard deviation which agreement of the bank respondents. The bank needs to enhance its interaction with customers through their journey as customers' believed that the bank interaction is good enough to be engaged in their business to customer relationship.

Table.4. 5: Knowledge Management Descriptive analysis

S.no	Description name	Mean	Standard deviation
1.	The Bank adhere its customer know how process to address its customers' needs and expectation.	3.41	1.06
2.	The bank recognizes its customers according to their contribution to profit through its reward system.	3.68	.91
3.	Customers' information is used by the Bank to create or enhance the bank goods and services.	3.72	.96
4.	The Bank May use different methods to gather customer information so as to serve them based on their expectation.	3.70	.90
5.	The bank updates any information related with customers' business affairs.	3.73	.90
	Total	**3..65**	**0.95**

Source: ***Own survey (2024)***

The above table. 4.5. Shows the overall all mean result fall on of 3.65 mean score with 0.95 standard deviation which shows the respondents agreement towards the CRM dimension specific to knowledge management. All respondents have a high agreement response on the questions related with knowledge management that have an effect on bank performance and the bank needs to give attention to the responses of the respondents and serving them more than their expectation and need . As the response indicates customers are always expected knowledge base banking services so as to retain them and get what they are expecting from the bank side will be a continuous work on.

Table.4.6: Technology based CRM descriptive analysis

S.no	Description name	Mean	Standard deviation
1.	The bank's information systems are designed to provide complete data on each aspects of customers business need.	3.56	.83
2.	The bank CRM technology is easy to use by its employees or customers. .	3.60	.90
3.	Customers now enjoy more convenience thanks to Bank Technology products.	3.61	.84
4.	The bank deployed CRM technology to automate its marketing, sales, and service functions.	3.56	.86
5.	The bank CRM technology is appropriate for reaching out corporate customers.	3.61	.85
		3.59	**0.86**

Source: ***Own survey (2024)***

The above table .4.6: shows over all respondents gave high level agreement of mean score 3.59 mean score with 0.86 standard deviation even though, it has lower mean than form the above three CRM dimensions, still customers are agreed that if the bank work on technology based CRM as the respondents expectation its effect will be significant on the bank performance. As Gadaa bank is a third generation bank, needs to give high due care on technology based CRM to enhance the customer loyality, retention as well as operational efficiencies throughout the bank business. The bank has a digitalization strategic plan to serve its customers and needs to work every day on the enhancement of these technological issues by taking into account the effect of the technology based- CRM in this era of business endeavor having well informed customers towards the technology related product and services the bank needs to tailed the respondents need as the time required.

Table 4. 7: Customer Experience management descriptive analysis

S.no	Description name	Mean	Standard deviation
1.	When customers contact the bank service providers most customers are pleased with the speed with which they respond.	3.83	.99
2.	The bank's front office customer service providers are kind and knowledgeable.	3.71	.98
3.	The bank answers its customer’s questions on understanding way.	3.72	.96

4.	The bank personalizes its products and services to match to individual customers' requirements.	3.73	.95
5.	Overall, most customers are satisfied with the bank's services delivery.	3.76	.99
	Total	**3.75**	**0.98**

Source: ***Own survey (2024)***

Table.4.7. indicates, all respondents have high agreement response on the questions listed under customer experience and the response shows the customer experience management effect on the bank performance by mean score of 3.75 mean score with 0.95 standard deviation. The mean result has an implication of the bank customers are agreed that the bank give attention to the customer experience effect on bank performance toward excelling the banking experiences which could be physical banking services, digital platform banking services. As the bank mentioned in its mission and strategic pillar a customer-centric reacting timely on the need of the customers leads the bank performance more satisfied and retaining them to be first choice of customers in any banking services. As the table explains the high agreement towards the CRM dimension specific to customer experience management indicates how the bank needs to work on customer experience on its customers personalized services in any possible channels which could create a great experience throughout the customer touching point.

Table 4. 8: Foreign Currency Floatation descriptive analysis

S.no	Description name	Mean	Standard deviation
1.	Foreign currency floating has significant effect on your bank's financial performance.	3.74	.88
2.	Foreign currency volatility enhances or weakens the impact of CRM on bank performance.	3.54	.89
3.	As a bank foreign currency fluctuations affect customer satisfaction and loyalty.	3.62	.97

4.	Please state your agreement to the extent do foreign currency fluctuations impact your bank financial stability?	3.65	.90
	Total	**3.64**	0.91

Source: ***Own survey (2024)***

Table .4.8. Explain that all respondents have high agreement on the questions listed under foreign currency floatation moderation effect between CRM dimension and bank performance as the mean score of 3.64 with 0.91 standard deviation. The respondents are agreed that the foreign currency floatation has a significant moderation effect on CRM and bank performance. Since, customer relationship management sustained for last long by win-win approach. The banks needs to make sure for the customer loyality and retention to develop the quality of data management, having good interaction with customers, develop knowledge management and provide recent technology based CRM on specific needs of customers and enhancing customers experiance determined by availability of fcy with the rate fluctuation based on the market demand may lead to the convenience of customers or could be a cause for customer churn from the bank.

Table. 4.9: Bank performance descriptive analysis of the bank employees

S.no	Description name	Mean	Standard deviation
1.	The bank's performance has been positively impacted by CRM initiatives in the past year.	3.71	.93
2.	Gadaa bank works on customer retention and loyalty.	3.67	.97
3.	The bank Financial performance is better its competitors namely those newly opened third generation banks or competitors.	3.80	1.01
4.	The bank performance metrics, such as customer retention, revenue growth, market share and operational efficiency have improved due to CRM system.	3.72	.95
5.	The bank has excellent operational efficiencies during account management.	3.82	.95
6.	The bank has excellent operational efficiencies during credit services.	3.67	1.00
7.	The bank works on customer satisfaction on optimal manner.	3.61	1.09
	Total	**3.72**	**0.99**

Source: ***Own survey (2024)***

Table 4.9: shows the total mean score of 3.72 with 0.99 standard deviation. It implies that all respondents have high agreement on response that raised with bank performance depends on customer satisfaction, operational efficiencies, retention and loyality and financial performance

all these things highly dependent on the independent variables explained in the above tables. The bank needs to give high attention on these factors since the bank performance dependence on the customers CRM. If customers are not managed timely, the bank may lose a satisfied and loyal customer which will be damage for the bank performance. Overall, respondents agreed that the bank performance highly affected by CRM dimension.

Table .4.10: Mean and standard deviation of CRM dimensions and bank performance analysis

Descriptive Statistics		
CRM variables	Mean	Std. Deviation
Data management	3.63	.59
Interaction management	3.70	.74
Knowledge management	3.65	.63
Technology based CRM	3.59	.57
Customer Experience	3.75	.72
Foreign currency floatation	3.64	.63
Bank Performance	3.72	.71
Total	**3.67**	**0.84**

Source: output of SPSS from Own survey data, 2024

The above table 4.10 indicates that, all CRM dimensions have effect over the bank performance by showing the aggregate response mean score of 3.67 and 0.84 std. devation. This is because a higher standard deviation indicates variability in responses, whereas a lower standard deviation indicates greater consistency and the bank needs to focus on CRM dimensions for the improvement and for enhancing the bank overall performance.

As Udeh, (2024) supports the independent variables such as customer knowledge, customer interaction mean score (4.20) and (4.00) shows that means that there was generally a very strong agreement with the statements measuring customer relationship management (CRM) constructs among themselves. This shows that there is consensus amongst respondents regarding the activities of the bank concerning customer relationship management (CRM). Customer knowledge was rated the highest amongst the CRM constructs. It recorded the highest form of agreement with the statements and customer interaction had the lowest i.e. customer interaction

statements had the least form of agreement of all the CRM constructs. However, a perfect interaction skill displayed by company staff will encourage more customers. Overall, the result indicates that the respondents rated the CRM items highly.

4.4. Inferential Analysis

A key component of statistics is inferential analysis, which enables researchers to draw conclusions about a population and anticipate the response population from data gathered from a sample. Descriptive statistics only describe data; inferential analysis includes testing hypotheses, estimating population characteristics, and generalizing findings.

4.4.1. Reliability

To determine if the constructs and variables utilized in the questionnaire were internally consistent, a reliability test was performed. Cronbach's Alpha calculates the mean of all split-half measures that can be obtained by dividing the scale items in various ways. According to Joseph, Hair, Robert, Bush, David and Ortinau (2003), the coefficient value can be anywhere between 0 and 1, with a value of less than 0.6 generally indicating marginal to low (or unsatisfactory) internal consistency. Internal consistency is typically shown by a Cronbach's alpha of 0.7 or above.

Table.4. 11: Reliability test result

Reliability Statistics		
Cronbach's Alpha	**Cronbach's Alpha Based on Standardized Items**	**Number of Items**
.88	**.90**	**41**

Source: output of SPSS from Own survey data, 2024

Table 4.11. illustrates that the Cronbach's Alpha coefficient for the overall reliability test of all 41 items and CRM-related questions under five demographic questions, five CRM dimensions namely, customer data management (5 items), customer interaction management (5 items), customer knowledge management (5 items), technology-based CRM (5 items), customer

experience (5 items), foreign currency floatation (4 items), and bank performance (7 items) was 0.88, which is higher than the acceptable cutoff point of 0.7. This suggests that there is a high degree of internal consistency among the variables and that the dimensions of different items demonstrate a true measure of CRM's impact on bank performance. Consequently, in this study, the CRM dimensional model is a valid instrument for analyzing the impact of CRM on Gadaa Bank's performance. Whenever the internal consistency fall above the acceptable range of Cronbach's Alpha, the internal data consistence give confidence on the reliability scale of the model as a whole.

4.4.2. Correlation Analysis

Correlation analysis demonstrates the examination of the relationship between bank performance and the CRM component. The correlation coefficients reflect how strongly two variables are linearly related. A range of -1 to 1 is identified for the correlation coefficient. If two variables have a correlation coefficient of 1, they are positively connected. The fact that the correlation coefficient is getting close to a positive number further suggests that the two variables have a strong link. A correlation value of -1, on the other hand, denotes a negative relationship between the two variables. Additionally, as the correlation coefficient approaches -1, there is a considerable negative link between them. If the two variables are unrelated, the correlation coefficient will be zero (0) (Berndt et al. 2005).

A weak or nonexistent relationship is shown by correlation coefficients between two variables that vary from 0.1 to 0.29. When two variables have a moderate relationship and a correlation coefficient between 0.3 and 0.49, they are said to be strongly linked. This study used the Pearson correlation coefficient to analyze the relationship between CRM dimensions such as data management, interaction management, knowledge management, technology-based CRM, customer experience, foreign currency floatation, and bank performance. The table below shows the Pearson correlation between CRM dimensions and bank performance.

Table 4.12: Pearson correlation on CRM dimension and Bank performance

Correlations						
	Data-fcy	***Interaction-fcy***	***Know-fcy***	***Techno-fcy***	***Expo-fcy***	***Performance***

Data-fcy	***Pearson Correlation***	***1***	***.796****	***.827****	***.756****	***.815****	***.639****
	Sig. (2-tailed)		***.000***	***.000***	***.000***	***.000***	***.000***
	N		***469***	***469***	***469***	***469***	***469***
Interaction-fcy	***Pearson Correlation***		***1***	***.776****	***.765****	***.855****	***.686****
	Sig. (2-tailed)			***.000***	***.000***	***.000***	***.000***
	N			***469***	***469***	***469***	***469***
Know-fcy	***Pearson Correlation***			***1***	***.739****	***.820****	***.662****
	Sig. (2-tailed)				***.000***	***.000***	***.000***
	N				***469***	***469***	***469***
Techno-fcy	***Pearson Correlation***				***1***	***.829****	***.559****
	Sig. (2-tailed)					***.000***	***.000***
	N					***469***	***469***
Expo-fcy	***Pearson Correlation***					***1***	***.717****
	Sig. (2-tailed)						***.000***
	N						***469***
Performance	***Pearson Correlation***						***1***
	Sig. (2-tailed)						
	N						
*****. Correlation is significant at the 0.01 level (2-tailed).***							

Source: output of SPSS from Own survey data, 2024

The above table 4.12 shows all five of the CRM dimensions and one bank performance have a strong statistical and significant positive relationship with each dimensions at the p-value 0.000 which is less than the significant level 0.01 (1%).

The customer data management shows positively correlated with interaction management (r = .796) strong positive correlation with knowledge management (r = .827) and it has positive and significant correlation technology-based CRM (r = .756) positive and significant. With customer experience (r=.815), it has positive and strongest correlation for this variable.

The customer interaction management –fcy shows data management (r = .796) indicates a strong and meaningful relationship, knowledge Management (r = .776), significant positive relationship, technology-based CRM (r = .765) positive and significant relationship and a strong positive correlation with customer experience (r=.855) and this correlation is the strongest relationship among all pairs.

Knowledge management has strong relationship with data management (r = .827), which positively correlated with, interaction management (.776) which shows a strong relationship and technology-based CRM (fcy) positively correlated with by (.739) similarly customer experiance have positive and significant by (.820).

Technology-based CRM have a positive and significant collection with data management (r = .756), interaction management(r = .765) and knowledge management (r = .739) as knowledge management has positive significance but weaker compared to others and customer experience (r = .829) has strongest correlation for this variable.

Similarly customer experience _fcy has a strongly correlated with data management, interaction management (r=.855), knowledge management has .820 and technology based CRM (r=.829) have positive and significant correlation and knowledge management has the strongest single correlation in the table is between knowledge management and data management (r = .827) with the statistical significance and the p-values for all correlations are significant at the 0.01 level, meaning the relationships are not due to random chance. Knowledge management (r = .820) has a positive and significant, technology-based CRM (r = .829) has Strongest correlation for this variable. Consequently, these all result of coefficient correlation shows an implication of all variables are strongly correlated and the correlations range indicating strong positive linear relationships between all pairs of variables.

Finally, bank performance shows a strong and positive correlation with customer experience at highest level among the other dimensions and less correlation with technology based CRM at a significant p-value.

4.4.3. Regression Assumptions test

4.4.3.1. Multicollinearity test

Multicollinearity arises in a regression model when independent variables correlate. This link is problematic because independent variables should be independent. If there is enough correlation between the variables, it could be challenging to fit the model and understand the results. The variables' multicollinearity is examined using the variance inflation factor (VIF) and tolerance

statistics. A tolerance statistic of less than 0.1 (10%) will cause issues with multicollinearity. If the VIF values of the variables are greater than 10, multicollinearity will also be a problem. The tolerance statistic was higher than 0.1 (10%), according to Field (2018).

Table 4.13. Collinearity Statistics of CRM dimensions and Bank performance

Model	Collinearity test	
	Tolerance	VIF
(Constant)		
Data management –foreign currency floatation	.24	4.21
Interaction management – foreign currency floatation	.23	4.28
Knowledge management- foreign currency floatation	.25	4.03
Technology based CRM – foreign currency floatation	.29	3.48
Customer experience – foreign currency floatation	.17	6.05

Source: Regression output of SPSS from Own survey data, 2024

Table. 4. 13. Shows, the multicollinearity test result fall under acceptable range of .17 up to .29 which is less than .1 tolerance range of each CRM dimensions tested result and the VIF shows from 3.47 up to 6.05 which is fall on acceptable range less than 10. Which means each independent variable are can be explained by their own even though, there is a moderator that might weaken or strength their relationship as well as significance. The multicollinearity problem can disturb the model output and it may need to see the ways to avoid the redundancy of the variable or adding the sampling size might enhance multicollinearity problem. I this study all variables are fit to the acceptable range of tolerance and VIF.

4.4.3.2. Test of Normality

To determine if the sample data is typical of the normally distributed population, the normality test is used. The distribution of the population is simply displayed as either regularly distributed or not. In the study, Pek, Wong, and Wong (2018) used both methods to assess normality. This can be confirmed using the Normal Probability Plot (P-P) graph and histograms. It is expected for the points in the Normal Probability Plot to lie in a fairly straight diagonal line from bottom

left to top right. This would suggest that the population has a normal distribution. Furthermore, a bell-shaped or roughly normal histogram distribution is required. The population was dispersed normally, as demonstrated by figure 4.1.

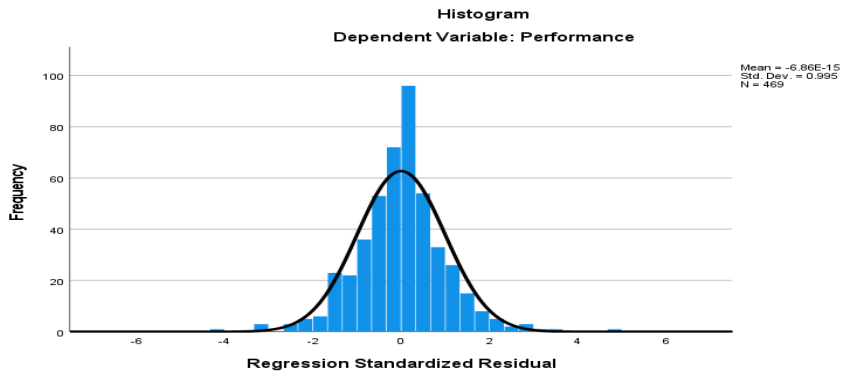


Fig 4.1, Probability Plot (P-P) graph shows the normal distribution of population

Source: output of SPSS from Own survey data, 2024

The above table shows that all variables of the CRM dimensions are distributed in normal range which is between -2.5 up to around 3.5 mean result normally distributed and which shows that the multiple liner regression requirements are fulfilled under this figure presentation and the study will proceed with the regression analysis by considering the remaining assumption fulfillment.

4.4.3.3. Linearity

The linearity of the relationship between the dependent and independent variables with respect to their respective parameters can be confirmed by plotting the dependent variable's scatter plot against the standardized predicted value. In other words, when the relationship between the predictor variables and the outcome variable in the regression is linear, it is said to be linear. If the residuals are regularly distributed and homoscedastic, linearity won't be a problem (Pek & *etal.*, 2018).

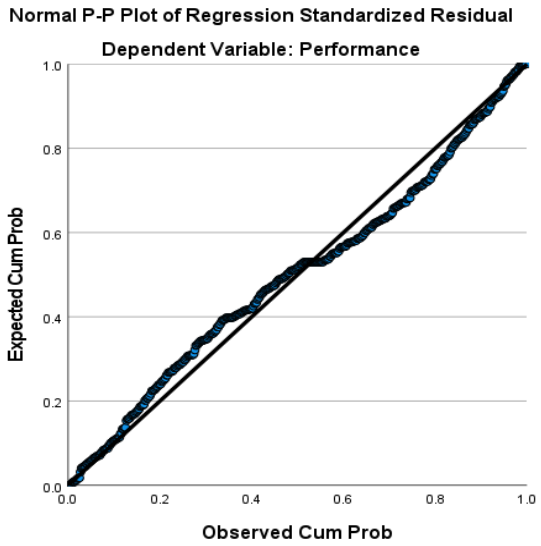


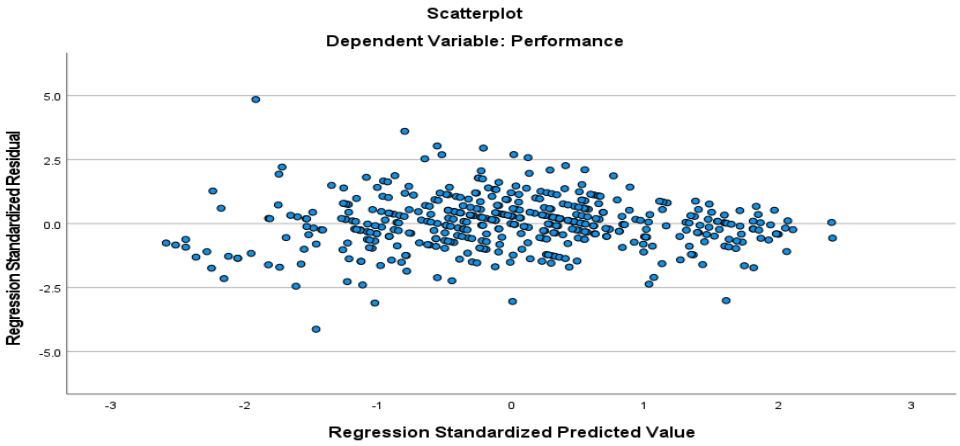
Fig 4.2, histogram that shows the normal distribution of population
Source: output of SPSS from Own survey data, 2024

The above figure 4.2.shows the study shows the linearity of all variables as a whole for making an analysis of the multiple liner regression requires the linearity checking and enables to proceed the analysis part by fulfilling the linearity as the above figure shows it fulfills the linearity requirement.

4.4.3.4. Homoscedastic

The homoscedasticity assumption of regression analysis is used to assess whether residuals are uniformly distributed or have a tendency to dispersion widely at certain values and cluster together at others. Regarding t-tests and ANOVAs, the same concept might be referred to as equality of variances or homogeneity of variances. An indication that your data is homoscedastic is a shotgun discharge of data that is randomly distributed. Heteroscedasticity is the opposite of homoscedasticity and can show up in your data as a fan or cone (Yang & Chen 2019).

Fig 4.3., Homoscedasticity assumption checked by regression



Source: output of SPSS from Own survey data, 2024

The above figure 4.3. Shows the homoscedasticity assumption of regression analysis is used to assess whether residuals are uniformly distributed or have a tendency to dispersion widely at certain values and cluster together at others. Regarding t-tests and ANOVAs, the same concept might be referred to as equality of variances or homogeneity of variances and the study fulfills this requirement to be proceeding with the regression analysis.

4.4.3.5. Autocorrelation test

The Durbin-Watson statistic is commonly used to test for autocorrelation. It can be applied to a data set by statistical software. The outcome of the Durbin-Watson test ranges from 0 to 4. An outcome closely around 2 means a very low level of autocorrelation. An outcome closer to 0 suggests a stronger positive autocorrelation, and an outcome closer to 4 suggests a stronger negative autocorrelation (Taylor, 2015). Therefore the current study shows 2.033 which mean a very low time variation that could affect the current findings.

4.5. Regression Analysis results

Table .4.14. Regression analysis result summary of CRM dimensions fcy moderation and Bank performance

Model Summary of CRM dimensions & Bank performance				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.745a	.56	.55	.47

Source: output of SPSS from Own survey data, 2024

The above table 4.14 indicates that the regression analysis of CRM dimensions with moderator of foreign currency floatation bank performance shows, all CRM dimensions are explains the proportion of variance on of bank performance by each CRM dimensions. Hence the result of R2 = 56% of the variation of bank performance can be explained by CRM dimensions with 47% of standard of error of the estimate and we can call it how the model is explained by the existing independent variables and can be said the model is fit to explain the independent variables well. .

4.6. ANOVA analysis

Table 4.15. The ANOVA analysis Summary

ANOVA[a]						
Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
e1	Regression	129.10	5	25.82	115.84	.000[b]
	Residual	103.19	463	.22		
	Total	232.30	468			

Source: Regression output of SPSS from Own survey data, 2024

The ANOVA table shows that the model is well-fitting. More specifically, the regression model's significance is displayed in the ANOVA table 4.15 at F (115.84) and p-value 0.000, the model is significant. According to the ANOVA table, a result of four hypothesis namely, H2b,H2c, H2d & H2e with the moderator foreign exchange floatation and that CRM dimensions have a positive and significant effect on bank performance—is accepted. This table does not interpret data

management since it is not significant at a particular variable level. Furthermore, it provides an answer to the second research question, which asked how each CRM dimensions has effect on Gadaa Bank's performance, and similarly the first, second which are asked under the research questions are answered under this model.

4.7. Regression Coefficients

Table.4.16 a. Coefficients of CRM dimensions on bank performance without moderator

Coefficients						
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	.610	.173		3.533	.000
	Data management	.085	.045	.071	1.877	.061
	Interaction management	.160	.041	.167	3.939	.000
	Knowledge management	.139	.045	.125	3.075	.002
	Technology based CRM	-.059	.045	-.048	-1.302	.194
	Customer experience	.509	.045	.523	11.210	.000

The above table 4.16a provides the results of the model without moderator for the comparison of seeing the direct effect of independent variables on bank performance.

As the table 4.16a shows data management and technology based CRM have not significant effect on bank performance as the p- values are (>0.05) in this regression analysis which are unable to interprets their statistical effect. On the other one, when we see the interaction management the p-value(<0.05) means significant with the p-value of 0.00 and 0.16 of (B) which means interaction has positive and significant effect on bank performance and the bank needs to enhance this dimension of CRM for excelling the relationship with customers.

On the other side, knowledge management also has (<0.05) means p-value of 0.002 and .139 (B) which shows knowledge management positively and significantly affect the bank performance. So, the bank needs to have a strategy to serve tailored made services for its customers. Therefore, the study analyzed that there is positive and significant effect of knowledge management on bank performance.

Finally, customer experience also has a positive and significant effect on bank performance which means p-value is (<0.05) with .509 (B) which means customer experience has a strong positive and significant effect over the other independent variables on bank performance. While, the regression result shows that three of the independent variables have positive and significant effect on bank performance namely; interaction management, knowledge management and customer experience. This means, having these three variables as a bank will be a strategic decision to enhance its performance in different dimension like satisfaction, financial performance, operational efficiencies and loyality and retention will be enhanced by giving a high attention to these variables. On the other hand data management and technology based CRM have not got a significant value in this study, which could be related with the bank new to the industry and majority of the bank services are given by physical branch and or other factors which cannot be interpreted in this study.

Therefore the multiple liner regression analysis result leads us to accept hypotheses of H1b, H1c and H1e postulating a positive effect of interaction management, knowledge management and customer experience on bank performance. The hypotheses H1a and H1d which represent data management and technology based CRM both hypothesis were rejected as their P-value shows >0.05 on bank performance.

Table 4.16.b. Coefficients of CRM dimensions on bank performance with moderator

Coefficients						
S. No	**Model**	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	2.039	.087		23.545	.000
	Data management-fcy	.009	.011	.054	.844	.399
	Interaction management –fcy	.042	.011	.244	3.806	.000
	Knowledge management-fcy	.030	.010	.183	2.946	.003
	Technology based CRM-fcy	-.041	.011	-.207	-3.590	.000
	Customer Experience –fcy	.079	.012	.486	6.386	.000

Source: output of SPSS from Own survey data, 2024

The above table 4.16b provides the results of the model with interaction or moderator. As the table shows only data management became not significant the foreign currency floatation as the data management shows p-value (0.399) with 0.009 (B) which weaken the relationship effect of the (B) from 0.85 to 0.009 and as the table shows data management was not moderated data management and the study cannot interpret the finding.

On the other one, the interaction management the p-value (<0.05) means it has a p-value of 0.00 and 0.42 of (B) which means interaction management has strong positive and significant effect on bank performance which implies that the moderator enhanced or strengthen the relationship effect from 0.16 to 0.42 (B) and the bank needs to enhance this dimension for excelling the relationship with customers.

On the other hand, the qualitative response from respondents also supports that interaction management help banks for better to handle direct interactions, including sales, customer service, and marketing, it is crucial to facilitate the development of efficient client communication strategies. Effective communication, which includes informing clients about new goods, services, and promotions via phone calls, SMS, and emails, should be the main focus of CRM and giving customers information, propose assigning one staff to the office full-time. Customers might dissatisfied if they didn't get the one is dedicated for the service they want and customer interactions, preferences, and behaviors are all recorded by the CRM system. CRM is crucial for building client loyalty and retention while also improving bank performance. It Increases the customer satisfaction and loyalty through improved customer retention leads to more opportunities for cross-selling.

On the other side, knowledge management also has (<0.05) means p-value of 0.003 and .030 (B) which shows knowledge management positive and significant effect on bank performance due to the moderation interaction influence the relationship weaken from .139 to 0.030 (B). Even though, the effect of the moderation shows lower than from the direct effect of knowledge management in the above table 4.16.a still the result shows positive and significant effect on bank performance. Hence, the bank needs to have a strategy to serve tailored made services for its customers and serve based on the customers' business need and accessibility to make them

more convenient to the bank product and services. Therefore, the study analyzed that there is positive and significant effect knowledge management on bank performance. Hence, the bank should work on a strategy to serve tailored made services for its customers and serve based on the customers' business need and accessibility to make them more convenient to the bank product and services. Similarly, the qualitative analysis support about staff training is crucial in CRM, and it also helps in giving prompt responses to client issues and making certain that the employees of Gadaa bank have received adequate training in customer service and possess the skills needed to help clients with customers banking requirements.

Similarly, technology based CRM came in the picture of significance with the moderator of foreign currency floatation by p-value of 0.00 with -0.041 (B) which means the moderator strengthen the relationship by reducing the negative percentage from -0.059—0.041 and become significant due to the moderator and the bank need to enhance technology based CRM needs to work on the infrastructure excellence that might related with the customer specific technology needs for the bank services. As the technology based CRM is significant for the bank performance, the bank needs to give due attention to change the service agreement and convenience related with services delivered on technology based CRM., it can be digitally or, SMS, email and internet banking and other tailored based technology based banking campaigns that shift the attention of customers for good on the bank technology usage increment.

Finally, customer experience also has a positive and significant effect on bank performance which means p-value is (<0.05) with .079 (B) which means customer experience has a positive and significant effect over the other independent variables on bank performance but due to the moderator the relationship weaken from .059-0.079 which means the moderator of foreign currency floatation weaken the relationship between customer experience and bank performance but noting changed to in its significance. While, the regression result shows that three of the independent variables have positive and significant effect on bank performance namely; interaction management, knowledge management and customer experience and technology based CRM has significant p-value as well as less negative value of (B) coefficient that table 4.16a. . This means, having these three variables as a bank will be a strategic decision to enhance its performance in different dimension like satisfaction, financial performance, operational

efficiencies and loyality and retention will be enhanced by giving a high attention to these variables.

Beside the above finding about customer experience the qualitative responses from respondents about customer experience supports the above quantitative finding by showing customer experience as one of the independent variable it has the ability to increase productivity and satisfy customers, increase a bank's profitability by providing better customer service and by helping banks focus on the needs of individual customers , enhance accessibility improves the customer experience because many Gadaa Bank branches were not opened in business centers or key locations, and there are several issues with RTGS, ATMs, and mobile banking and enhances the overall customer experience. Any business's bottom line is improved by CRM, which measures overall success, loyalty, and profitability. A proactive CRM closes gaps in the customer experience and gives banks useful information from the time a consumer looks for an account until they complete transactions, submit loan applications, and more.

On the other hand data management has not got a significant value in this study, which could be related with the bank new to the market or other factors which cannot be interpreted in this study. Therefore the multiple liner regression analysis result leads us to accept hypotheses of H2b, H2c and H2e postulating a positive and significant effect of interaction management, knowledge management and customer experience and H2d significant effect on technology based CRM on bank performance even though, the bank performance negatively affected by technology based-CRM increment from the bank side. The hypotheses H2a which represent data management rejected.

4.8. Discussion and Hypothesis testing H1a up to H1e

H1a: Foreign currency floatation moderates positive and significant on the effect of Data management relationship with bank performance.

Analyzing the coefficient for data management with fcy modest influence reveals that the P-Value significance test yields an insignificant result of 0.399 and the unstandardized coefficient (B) is 0.009 with a positive sign. Despite the positive nature of the association, P>0.05 means that it is not statistically significant. H1a was rejected as a result. Therefore, this variable is not

modified by foreign currency flotation, and the effect is statistically negligible. In the study "Currency risks impact on multilateral banks' financial performance.

H1b: Foreign currency floatation moderates positive and significant on the effect of Interaction management on bank performance.

According to the test results, the unstandardized coefficient (B) for customer interaction management with fcy moderation influence is 0.042, indicating a positive sign. The P-Value significance test yields 0.000, indicating a significant result as P<0.05. Consequently, H1b was accepted. This indicates that the variable was appropriately regulated by foreign exchange floatation, and the effect became statistically significant. Udeh *etal.,* (2024) supports that Customer interaction is not significantly related to the financial performance of the bank. This above hypothesis is rejected since the regression result shows a p-value ($p = 0.008 < 0.05$) meaning that a significant relationship exists between interaction management and financial performance of the bank. Therefore, according to the study, customer interaction was a positive predictor of financial performance.

H1c: Foreign currency floatation moderates positive and significant on the effect of knowledge management on bank performance.

knowledge management moderated by foreign currency floatation as the test result indicates that the unstandardized coefficient (B) is 0.030, indicating a positive sign, and the P-Value shows significance of p-value 0.003, which indicate a significant result as P<0.05. As a result, H1c was accepted. This indicates that foreign currency moderation resulted a positive and significant effect on bank performance.

Tegegne (2016) supports that; three banks customer knowledge management has significant influence on market performance. Besides, the value of beta in (β=0. 344) demonstrates that the positive influence of customer knowledge management on market performance as we can see from their beta coefficient, knowledge management has a positive and significant influence on bank's performance.

In addition, Udeh etal., (2024) supports customer knowledge is not significantly related to the financial performance of but the above hypothesis were rejected since the regression result shows a p-value of ($p = 0.004 < 0.05$) meaning that a significant relationship exists between customer knowledge and the financial performance of the bank.

In a similar vein, Gebeyehu (2014) found that customer knowledge management significantly affects market performance in three banks: Wegagen, Dashen, and CBE ($p<0.01$). Additionally, Wegagen, Dashen, and CBE's beta values (β=.323,.275, and.331) respectively indicate a favorable correlation with client knowledge management and market performance, respectively.

H1d: Foreign currency floatation moderates the effect of technology based CRM on bank performance.

For technology-based CRM with fcy moderate influence, the test result indicates that the unstandardized coefficient (B) is -0.041, which has a negative sign, and the P-Value significance test yields 0.000, which is a significant result because $P<0.05$. Consequently, even though the direction of the beta coefficient result was negative in terms of P-value the result leads to Accept of H1d. Accordingly, the technology-based CRM can have a detrimental effect on bank performance with the FCY moderation, but it has no beneficial effect. The negative correlation between performance and technology-based CRM points to possible implementation problems and technological incompatibilities with organizational requirements.

The aforementioned finding supported by Gebeyehu (2014) who found that technology-based CRM significantly affects market performance in three banks: Wegagen, Dashen, and CBE. These banks' respective β coefficients of.142, .120, and.133 respectively indicates that technology-based CRM has a positive impact on market performance. The three banks' p-values are less than 0.01.

Tegegn (2016) supports on his study technology based CRM which has a significant influence on market performance in three banks ($p <0.05$). Besides, the table depicts the value of beta (β= 0.406) respectively shows that the positive influence of technology based CRM on market performance. Therefore; the above proposed hypothesis is well accepted.

H1e: Foreign currency floatation moderates the effect of customer experiance on bank performance.

According to the test results, the unstandardized coefficient (B) for customer experience with moderate has positive and significant effect by showing 0.079. The P-Value significance test yields 0.000, indicating a significant result because $P<0.05$. Because of the direction of the beta coefficient result, H1e was acceptable. This indicates that bank performance is positively and

significantly impacted by the customer experience we can say that foreign currency floatation can be a moderator to customer experiance.

Other researchers finding supports those loyal customers are the backbone of a business. Companies are offering many initiatives on customer loyalty programs, namely loyalty points, revisit or repurchase points. However, these offers do not build loyalty, but the experience gained out the initiative will affect customer loyalty (Garrett, 2010).

Finally, the qualitative responses also shows the general response on bank permanent effects from CRM dimensions, CRM can be utilized to build a foundation for increasing the income of SMEs, particularly our farmers, and to move SMEs to medium-sized and larger revenue-generating businesses. Bank performance is greatly impacted by CRM systems in a number of ways. From there, the primary methods are as follows: Improved customer satisfaction, increased sales and revenue, better data management and analysis, operational effectiveness, and risk management CRM system deployment can therefore result in better bank performance in a number of areas. CRM adoption has a significant impact on building solid client relationships, improving operational effectiveness, and propelling corporate expansion in the banking sector. Effective CRM use by banks is likely to give them a competitive advantage in the marketplace.

4.9. Discussion and Hypothesis testing H2a up to H2e

H2a: Foreign currency floatation moderates positive and significant on the effect of Data management relationship with bank performance.

Analyzing the coefficient for data management with fcy modest influence reveals that the P-Value significance test yields an insignificant result of 0.399 and the unstandardized coefficient (B) is 0.009 with a positive sign. Despite the positive nature of the association, P>0.05 means that it is not statistically significant. H2a was rejected as a result. Therefore, this variable is not modified by foreign currency flotation, and the effect is statistically negligible. In the study "Currency risks impact on multilateral banks' financial performance.

H2b: Foreign currency floatation moderates positive and significant on the effect of Interaction management on bank performance.

According to the test results, the unstandardized coefficient (B) for customer interaction management with fcy moderation influence is 0.042, indicating a positive sign. The P-Value significance test yields 0.000, indicating a significant result as P<0.05. Consequently, Hb2 was accepted. This indicates that the variable was appropriately regulated by foreign exchange floatation, and the effect became statistically significant. Udeh *etal.,* (2024) supports that Customer interaction is not significantly related to the financial performance of the bank. This above hypothesis is rejected since the regression result shows a p-value ($p = 0.008 < 0.05$) meaning that a significant relationship exists between interaction management and financial performance of the bank. Therefore, according to the study, customer interaction was a positive predictor of financial performance.

H2c: Foreign currency floatation moderates positive and significant on the effect of knowledge management on bank performance.

knowledge management moderated by foreign currency floatation as the test result indicates that the unstandardized coefficient (B) is 0.030, indicating a positive sign, and the P-Value shows significance of p-value 0.003, which indicate a significant result as P<0.05. As a result, H2c was accepted. This indicates that foreign currency moderation resulted a positive and significant effect on bank performance.

Tegegne (2016) supports that; three banks customer knowledge management has significant influence on market performance. Besides, the value of beta in (β=0. 344) demonstrates that the positive influence of customer knowledge management on market performance as we can see from their beta coefficient, knowledge management has a positive and significant influence on bank's performance.

In addition, Udeh etal., (2024) supports customer knowledge is not significantly related to the financial performance of but the above hypothesis were rejected since the regression result shows a p-value of ($p = 0.004 < 0.05$) meaning that a significant relationship exists between customer knowledge and the financial performance of the bank.

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Wegagen, Dashen, and CBE's beta values (β=.323,.275, and.331) respectively indicate a favorable correlation with client knowledge management and market performance, respectively.

H2d: Foreign currency floatation moderates the effect of technology based CRM on bank performance.

For technology-based CRM with fcy moderate influence, the test result indicates that the unstandardized coefficient (B) is -0.041, which has a negative sign, and the P-Value significance test yields 0.000, which is a significant result because P<0.05. Consequently, even though the direction of the beta coefficient result was negative in terms of P-value the result leads to Accept of H2d. Accordingly, the technology-based CRM can have a detrimental effect on bank performance with the FCY moderation, but it has no beneficial effect. The negative correlation between performance and technology-based CRM points to possible implementation problems and technological incompatibilities with organizational requirements.

The aforementioned finding supported by Gebeyehu (2014) who found that technology-based CRM significantly affects market performance in three banks: Wegagen, Dashen, and CBE. These banks' respective β coefficients of.142, .120, and.133 respectively indicates that technology-based CRM has a positive impact on market performance. The three banks' p-values are less than 0.01.

Tegegn (2016) supports on his study technology based CRM which has a significant influence on market performance in three banks (p <0.05). Besides, the table depicts the value of beta (β= 0.406) respectively shows that the positive influence of technology based CRM on market performance. Therefore; the above proposed hypothesis is well accepted.

H2e: Foreign currency floatation moderates the effect of customer experiance on bank performance.

According to the test results, the unstandardized coefficient (B) for customer experience with moderate has positive and significant effect by showing 0.079. The P-Value significance test yields 0.000, indicating a significant result because P<0.05. Because of the direction of the beta

coefficient result, H2e was acceptable. This indicates that bank performance is positively and significantly impacted by the customer experience we can say that foreign currency floatation can be a moderator to customer experiance.

Other researchers finding supports those loyal customers are the backbone of a business. Companies are offering many initiatives on customer loyalty programs, namely loyalty points, revisit or repurchase points. However, these offers do not build loyalty, but the experience gained out the initiative will affect customer loyalty (Garrett, 2010).

Finally, the qualitative responses also shows the general response on bank permanent effects from CRM dimensions, CRM can be utilized to build a foundation for increasing the income of SMEs, particularly our farmers, and to move SMEs to medium-sized and larger revenue-generating businesses. Bank performance is greatly impacted by CRM systems in a number of ways. From there, the primary methods are as follows: Improved customer satisfaction, increased sales and revenue, better data management and analysis, operational effectiveness, and risk management CRM system deployment can therefore result in better bank performance in a number of areas. CRM adoption has a significant impact on building solid client relationships, improving operational effectiveness, and propelling corporate expansion in the banking sector. Effective CRM use by banks is likely to give them a competitive advantage in the marketplace.

Table 4.17. Summary of Hypothesis Testing

Hypothesis	Accepted or Rejected?	Reason
H1a	Rejected	P>0.05, not significant
H1b	Accepted	Positive and Significant (P<0.05)
H1c	Accepted	Positive and Significant (P<0.05)
H1d	Rejected	(P>0.05), not significant
H1e	Accepted	Positive and Significant (P<0.05)
With moderation		
H2a	Rejected	P>0.05, not significant
H2b	Accepted	Positive and Significant (P<0.05)

H2c	Accepted	Positive and Significant (P<0.05)
H2d	Accepted	Significant (P<0.05)
H2e	Accepted	Positive and Significant (P<0.05)

Source Own survey data, 2024

4.10. Interview data analysis on CRM

Under this title there are three structured interview responses from five CRM related management employees of the bank were collected for a briefing time and analyzed as follows.

1. **The Gadaa bank CRM practice**

The Bank has implemented CRM system since the first day of its business operation and the bank serves its customers based on the segment and sub segment of customers and this CRM system helpful to enhance the customer relationship so as to lead the bank performance in a positive way. Even though the bank implement the process and assigned a departments dedicated to serve those segmented customers through CRM process the CRM still needs to get more awareness to the bank employees as well as to its customers.

As CRM functioned through people, process and technology the bank have all of the CRM procedures but not fully engaged in technology part. Therefore the first research question is addressed by this response. Gadaa Bank as a people, it has CRM dedicated to each segment of customers from customer acquisition until retention of the customer service need which could be deposit mobilization, foreign currency mobilization, loan process management and loan follow-up as well as profit maximization and other resource mobilization.

As a people there are three departments who serve the customers on relationship management level assigned on managerial and senior managerial position. As a technology the bank established first round go live CRM system and going to finalize the final part of operational and analytical CRM after that all staff from branch to head office will use the CRM technology fully.

Based on the interview response, Gadaa bank currently in place and practiced all CRM types which are included under the CRM dimensions and this month will go live the operation and analytics CRM to enhance the customer experience and interaction based on the knowledge based requirement set by the bank with full data management system of CRM and the interview response shows that Gadaa bank started all CRM dimensions even though the people and process part started earlier of the bank operation time this question helpful to address the research question and research objectives number three.

2. **The CRM dimensions (data management, interaction management and knowledge management, and technology based CRM and customer experiance) effect on Gadaa bank performance.**

Data management means a power to move on wherever you want to go and having full data that can be changed as a great power as we have heard globally a big data become the source of growth and profitability in the business prospects in bank scenario.

Even though, many banks in Ethiopia not utilizing these data as a business opportunities, now a days things become changed and the usefulness of data will be high in the near future. Interaction management also, create full engagement with customers through phone, physical visit and having continuous relationship or interaction about the bank business fulfillment and the bank which has a strong interaction with its customers will win the customer churn or enhance loyality and retention. Regarding with knowledge management, knowing who we serve and have full know how of our customers what they want, what they expect and deliver the tailored made service based on the knowledge the bank employees have.

Regarding with technology based CRM customers are impressed by what they access easily and on their convenient and having the technology which customers' relation booster can create their attention to the bank. Now a day's technologies are goes with AI and chat bot services to address the customers need. The other one Customer experience management, under this topic banks needs to create a great experience to the customers where they touching points exists which

could be physical branch, bank head office, digital platforms needs to have same experience that enhance their satisfaction.

3. **Market dynamics like, foreign currency floating influence and CRM dimension effect on bank performance**

Ethiopia as a country was used monitored or controlled based marketing on foreign currency. But since July, the country accepted market base or price based foreign currency floatation and this measure affect the banking business performance. Related with CRM the bank customers interaction because of the foreign currency accessibility might create positive effect over the bank performance sometimes those who are affected by the currency fluctuation might impacted negatively. But we can say in many ways FCY fluctuation can be a good moderator or influence positively the bank customers' business affairs.

''As a large share of FX market responsibilities is now being delegated to banks, NBE will expect their strict adherence to the new FX Directive, particularly in ensuring that their FX allocations are for bona fide current account transactions and are not channeled to prohibited capital account outflows. Banks are also expected to strictly adhere to export retention rules, daily net open position limits, daily exchange rate reporting requirements, and Anti-Money Laundering responsibilities.

Any collusive behavior in the setting of exchange rates or service fees shall also be prohibited. NBE will use the full range of available tools at its disposal to fulfill these oversight responsibilities—including the use of IT-supported FX transaction monitoring capabilities and collaboration with financial intelligence and law enforcement agencies as may be needed. In closing, as Ethiopia marks this transformative moment in its economic journey to becoming among Africa's most vibrant, open, and competitive economies, NBE calls upon all key players in the foreign exchange, banking, and business community as well as the broader public and it is directly related with the customer satisfaction and the end result fall on customer relationship management effectiveness and high value for customer retention strategy". https://nbe.gov.et/wp-content/uploads/2024/07/FXD012024-FOREIGN-EXCHANGE-PR-English.pdf

CHAPTER FIVE

Summary of the Finding, Conclusion and Recommendations, theoretical contribution and Limitation &research direction

5.1. Summary of findings

- It is an observed fact that Gadaa bank is using CRM in its marketing and sales endeavors. The research was aimed at finding out how far the dimensions as developed in the CRM model are put in to use. All the findings of the SPSS statistics tool that were used in the research came out from the CRM conceptual model by extensive literatures review was developed to examine the effect of customer relationship management on bank performance by moderation of foreign currency floatation. The major findings of the research are summarized below.
- The demographic characteristics resulted showed that Gadaa bank majority respondents are first degree holders and the figure implied that, the bank respondents are well enough to understand and the CRM on bank performance effect easily.
- The reliability and internal consistency of all variables used in the questionnaire that were used to collect the data for their respective construct were found to be reliable, as per the Cronbach's Alpha result shows seven variables are meet above the standard expectation percentage which was 88% .
- Four dimensions of CRM, which are, interaction management, knowledge management, technology based CRM and customer experiance, and the moderation of foreign currency floatation are found to be practiced in Gadaa bank as per the coefficient of regression analysis finding and the descriptive statistics result showed all with a mean score and standard devation shows agreement on the effect of CRM on bank performance as 36 item of questionnaire were presented by 1-5 Likert scale.
- The Pearson correlation analysis test done to measure the strength and direction of the relationship of the independent variables namely, data management, interaction

management, knowledge management, technology based CRM and customer experiance support with the dependent variable, bank performance practice , came out to be all positively correlated with significant level at p <0.01. Of the fifth independent variables, knowledge management and customer experiance were strongly correlated the independent variable with the foreign currency moderation all person correlation showed positive relationship and moderation significance coefficient of above 0.7.

- The One Way ANOVA result shows statistically significant which implies that the model is fit for this analysis across all respondents summery of analysis.
- The output of the moderated multiple regression analysis can be summarized with moderator and without moderator, without moderator three CRM dimension variables namely interaction management, knowledge management and customer experience were statistically significant which means P<005and with moderator, four of CRM dimensions are statistically significant which show foreign currency moderated four of the independent variables namely, Interaction Management, knowledge management, technology based CRM and Customer experience are moderated by foreign currency floatation and have significant effect on bank performance.

5.2. Conclusions

This study primarily focused on the effect of CRM and moderated by foreign currency floatation on bank performance as per the model of CRM dimensions.

The study discussed well about CRM effect on bank performance and Gadaa bank already started its investment to perform well as per the dimension requirement. Even though, CRM practice started at the earlier time of 20th century, in Ethiopian context the concept of CRM considered customer relationship with credit users only. Likewise, for a long period of time s CRM considered as Credit relationship manager for borrowers only, recently this concept and understanding changed to Customer relationship manager on customer service and satisfaction side in addition to borrowers all segmented customers serve by CRM as per their value, to the bank, Gadaa Bank using these concept and focused on customers relationship by assigning relationship managers, structuring the process with concerned department, by draw a work

follow for CRM on the managerial position and have customer centricity strategic pillar to serve its customers based on their expectation. The overall of the study conclusion fall CRM has a positive and significant effect in Gadaa bank performance and four of the CRM dimensions are moderated by foreign currency floatation. Furthermore, the bank attention to the technology based CRM to be specific to the customers' needs and as per their requirement, satisfaction based on their business needs. The regression result shows the negative β coefficient result of technology based CRM which implies that the negative relationship with the bank performance which implied that an increase of the technology based CRM affects the bank performance negatively and this can be changed to know what are the prerequisite of customers regarding CRM system and delivering the launched digital banking products as per the customer needs and make services personalized tailor made way.

While, the fluctuation of foreign currency moderated four CRM dimensions means the bank focus on foreign currency exchange related so as to manage any risk of losing the customers due to the fluctuations and prevent the churn of customers from the bank which directly affect the bank performance.

5.3. Recommendations

Based on the findings of the research and the conclusions drawn, the following recommendations are forwarded to Gadaa bank on the CRM effect on bank performance at a bank level.

- In order to have a prompt CRM, all concerned functions and units should engage on better implementation of the system across the bank and all are need to work on customer excellence in all rounded aspects. Hence, a well integrated CRM system delivery to all customers of the bank will be a great asset to enhance the bank performance.

- The interaction management dimension of CRM shows the interaction of the bank with customers have a good response in the eyes of its customers and needs to have continuous engagement with the customers as it will create a positive image towards the bank service and leads to loyality and being retained customers by giving all updated information and continuous engagement and reach out about the bank product development and current service delivery updates.

- The bank needs to enhance its knowledge management practices on continues manner to give an excellent service delivery and enhancing personalized banking product to its customers and having continuous training and knowledge building on its employees in order to serve the customers on knowledgeable manner.

- The bank needs to work on technology based CRM in order to serve its customers based on their need by utilizing operational and analytical CRM to provide a campaign and other services and it will be a great resource for marketing and sales campaign.

- The bank needs to implement specific to the customer need of technology CRM rather than any types of technologies that are not recognized by the bank service users or customers to address the need of the customers and having positive effect on the bank performance and the study result shows that technology based CRM has a significant effect but needs more work to change the relationship direction on bank performance implemented based on the customer needs and segment in specific manner.

- The bank needs to work on customer experience, as a new entrant in the banking industry Gadaa bank needs to work on its differentiator services to win the customers attention more than the bank rivalries and retaining the satisfied customers the bank needs to work on creating excellence experience to the customer journey as well as every touching points of the customers which could be in the physical branch, digital or any price offering services. In this study the analysis finding shows bank performance affected positively and significantly by CRM regardless of the time frame.

- The bank needs to understand the foreign currency fluctuation might be the source of weaken and strengthen bank performance and needs to work on understanding the customer potential in order to serve as per their needs and expectation. The customer who got the foreign currency timely might not affected by the fluctuation problem and if the customers brought foreign currency timely and get the attractive rate based on the market

price they are going to happy and being loyal to the bank. Due to this, the bank can save the risk of customer withdrawal.

- The needs to give attention during foreign currency floatation happen as it is a source of satisfaction of customers or disappointment during fcy allocation and document settlement for the importers, Diasporas and exporters.

5.4. Theoretical contribution

- This study will have a contribution on the country level for the banking industry to consider the foreign currency floatation has an influence customer relationship management and bank performance including
- The policy maker may use this moderator as an input for assessing the customer's relationship related effect and the impact of foreign currency exchange floatation on specific and general to all banks.
- This study will be helpful for reference to the next researchers.
- Foreign currency floatation as moderator for CRM and bank performance has a contribution to see the fcy liberalization significance in CRM and bank performance which addressed well in this study.
- It has a contribution specific to the third generation bank in Ethiopia.
- It has a contribution for enhancing Gadaa bank CRM procedure to include the findings concept.

5.5. Limitation and Future Research direction

- If others used qualitative research approach to describe the case more by including focus group and other method research for seeing apart from the quantitative approach, as the CRM can be explained more in qualitative way.
- If the research does by the case in all banks as this study finding might not generalized to those not categorized under third generation banks.

- If foreign currency floatation can be considered as one independent variable so as to see the direct effect on bank performance
- If CRM effect conducted by other business sectors like hotels, hospitals, import & export institutions and others might shows other dimension of findings in Ethiopian case.
- If additional study conducted with this moderation affect so as to make generalize this study finding in another industry also.
- If the other researchers conducted the current study dimensions with a moderation or mediation effects of customer satisfaction and national bank directives.
- If the future researchers conduct AI, chatbots and E-CRM on banking sector and other service sectors to see the effect as under this research pinpointed on the technology based CRM.

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APPENDIXES

Addis Ababa University

College of Business and Economics, Department of Management

Executive Masters of Business Administration Program

Customer Relationship Management Survey

Questionnaires to be filled by Gadaa Bank employees and customers

Dear respondents;

My name Sebasegel Seyoum Gemeda, I am currently pursuing my Executive Masters of Business Administration (MBA) at the Addis Ababa University. As partial fulfillment towards the completion of my postgraduate degree, this research titled as **"The Effect of customer relationship management on bank's performance (The case of Gadaa Bank)"** is undertaken. Hence, I kindly request you to fill in this questionnaire while assuring you the information that you provide will be treated with confidentially and shall only be used for the purpose of this academic research. I would also like to remind you that your fair and impartial feedback will make this research a very successful one. You can contact me through my cell phone ***+251-911-43-86-55/934-73-85-30*** or email me at sebasegel9@gmail.com.

Thank you for your cooperation and assistance sincerely,

Part One: General Information

Direction: Please answer this part of the questionnaire, by using tick (✓) mark in the boxes provided.

1. Gender?

1. Male ☐ 2. Female ☐

2. Educational background?

1. High school ☐ 2. Diploma ☐

3. First Degree ☐ 3. Second degree☐

4. Above Second degree☐

5. If any, please specify ……

3. Age?

1. 24-29☐ 2.30-39☐

3.40-49☐ 4.≥50☐

4. Banking Experience?

1. Less than one year ☐2. One to two years ☐

3. Three to five years ☐ 4. Five up to ten years ☐

5. Eleven years up to fifteen years ☐ 6. Greater than fifteen years☐

5. Your position in Gadaa Bank?

1. Clerical staff ☐ 2. Principal I & II or equivalent position/supervisory ☐

3. Branch Manager/ manager ☐ 4. CRM ☐ 5. Division Manager/middle-level ☐

6. Director ☐ 7. Above Director Position☐ 8. Other/Business owner ☐

Part Two: Customer Relationship Management Dimension related questions

The following statements are used to exploit the needed information so as to achieve research objective. Thus, please indicate the level of agreement with each statement by making tick on the appropriate number.

Where, 5=strongly agree 4=Agree 3=neutral 2= Disagree 1=strongly disagree

S-No	Item	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**Data Management**					
1.1.	Customers are aware that the bank gathers and handles their personal information in order to enhance support.					
1.2.	The customers are aware that personalized communications or offers are made using bank data management.					

1.3.	Customers are happy with how the bank incorporates their suggestions into its services.					
1.4.	The customer data management with the bank is segmented on personalized based.					
1.5.	The security and privacy of customers' personal information with the bank are confidential enough.					
2	**Interaction management**					
2.1.	The bank can be easily reached by phone and email, which are my preferred methods of communication.					
2.2.	Customer questions are promptly addressed by the bank's customer support staff.					
2.3.	The bank serves its customer with the bank employees, who are polite to create efficient interaction.					
2.4.	When customers are communicate with the bank, their preferences and previous encounters are taken into account.					
2.5.	During initial conversation, the bank successfully addresses its customers concern.					
3	**Knowledge Management**					
3.1.	The Bank adhere its customer know how process to address its customers' needs and expectation.					
3.2.	The bank recognizes its customers according to their contribution to profit through its reward system.					
3.3.	Customers' information is used by the Bank to create or enhance the bank goods and services.					
3.4.	The Bank May use different methods to gather customer information so as to serve them based on their expectation.					
3.5.	The bank updates any information related with customers' business affairs.					
4	**Technology Based –CRM**					
4.1.	The bank's information systems are designed to provide complete data on each aspects of customers business need.					
4.2.	The bank CRM technology is easy to use by its employees.					
4.3.	Customers now enjoy more convenience thanks to Bank Technology products.					
4.4.	The bank deployed CRM technology to automate its marketing, sales, and service functions.					
4.5.	The bank CRM technology is appropriate for reaching out corporate customers.					
5	**Customer Experience**					
5.1.	When customers contact the bank service providers most customers are pleased with the speed with which they respond.					
5.2.	The bank's front office customer service providers are kind and knowledgeable.					
5.3.	The bank answers its customer's questions on understanding way.					
5.4.	The bank personalizes its products and services to match to individual customers' requirements.					

5.5.	Overall, most customers are satisfied with the bank's services delivery.					
6.	**Foreign currency floatation**					
6.1.	Foreign currency floating has significant effect on your bank's financial performance.					
6.2.	Foreign currency volatility enhances or weakens the impact of CRM on bank performance.					
6.3.	As a bank foreign currency fluctuations affect customer satisfaction and loyalty.					
6.4.	Please state your agreement to the extent do foreign currency fluctuations impact your bank's financial stability?					
7.	**Bank performance**					
7.1.	The bank's performance has been positively impacted by CRM initiatives in the past year.					
7.2.	Gadaa bank works on customer retention and loyalty.					
7.3.	The bank Financial performance is better its competitors namely those newly opened third generation banks or competitors.					
7.4.	The bank performance metrics, such as customer retention, revenue growth, market share and operational efficiency have improved due to CRM system.					
7.5.	The bank has excellent operational efficiencies during account management.					
7.6.	The bank has excellent operational efficiencies during credit services.					
7.7.	The bank works on customer satisfaction on optimal manner.					

Part three

3. Please give your suggestion about the effect of CRM in bank performance?

_____
_____
_____
_____

*** Note response 1-147 belongs to the bank employees and 148- 469 belongs to the bank customers.

Part two
Interview Guidelines

1. Could you explain Gadaa bank CRM system practice?
2. How well-versed are you in the various CRM dimensions, including data management, interaction management, knowledge management, technology-based CRM and customer experience and customer interaction?
3. How do market dynamic like, currency floating influence CRM dimension and their effect on bank performance?

Thank you for your time and support!!

Baankii Gadaa
New Generation's Bank

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GadaaBank

Ref. No: GB/HCM/1259/25
Date: January 08, 2025

Addis Ababa University

Addis Ababa, Ethiopia

Subject: Confirming Research Assignment at Our Bank

Mrs. Sebasegel Seyoum Gemeda had officially requested to undertake research at our Bank on title of "The Effect of CRM on Bank performance, The Case of Gadaa Bank". Accordingly, management of the bank had permitted her to conduct the research and she has been officially collecting data from her respondent over three weeks period.

This is, therefore, to cordially inform your esteemed organization that Mrs. Sebasegel Seyoum Gemeda is on the process conducting research on aforementioned research title. In the meantime, we would like to declare that our Bank is committed to support Mrs. Sebasegel to get access to all relevant relent information for successfully compliment of her research assign.

With Best Regards,

Ulfata Regasa
Director - Human Capital Management Department

Cc:

- File

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.745[a]	.556	.551	.47211	.556	115.844	5	463	.000	2.033

a. Predictors: (Constant), Know-fcy, Techno-fcy, Interaction-fcy, Data-fcy, Expo-fcy

b. Dependent Variable: Performance

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	129.103	5	25.821	115.844	.000[b]
	Residual	103.198	463	.223		
	Total	232.301	468			

a. Dependent Variable: Performance

b. Predictors: (Constant), Know-fcy, Techno-fcy, Interaction-fcy, Data-fcy, Expo-fcy

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Sta
		B	Std. Error	Beta			Tolerance
1	(Constant)	2.039	.087		23.545	.000	
	Interaction-fcy	.042	.011	.244	3.806	.000	.233
	Expo-fcy	.079	.012	.486	6.386	.000	.165
	Data-fcy	.009	.011	.054	.844	.399	.238
	Techno-fcy	-.041	.011	-.207	-3.590	.000	.287
	Know-fcy	.030	.010	.183	2.946	.003	.248

a. Dependent Variable: Performance

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Interaction-fcy	Expo-fcy	Data-fcy	Techno-fcy	Know-fcy
1	1	5.875	1.000	.00	.00	.00	.00	.00	.00
	2	.060	9.866	.84	.01	.02	.01	.00	.02
	3	.022	16.165	.03	.08	.06	.14	.22	.38
	4	.017	18.522	.03	.58	.00	.00	.49	.05
	5	.015	19.874	.02	.01	.05	.82	.02	.46
	6	.010	23.862	.08	.32	.87	.02	.27	.09

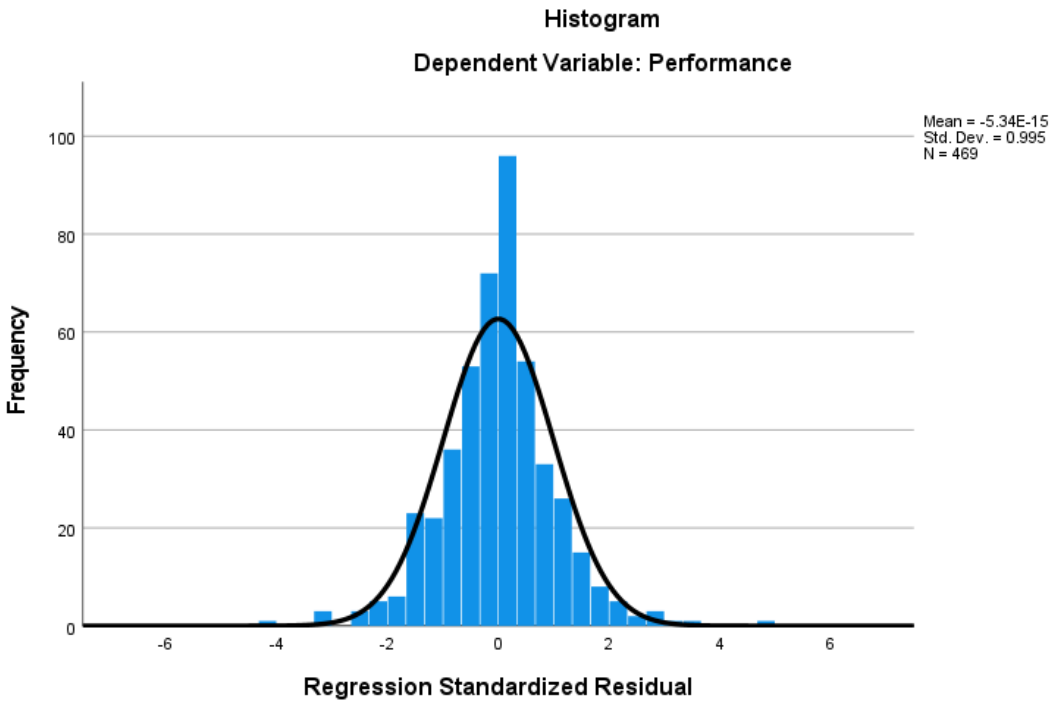
a. Dependent Variable: Performance

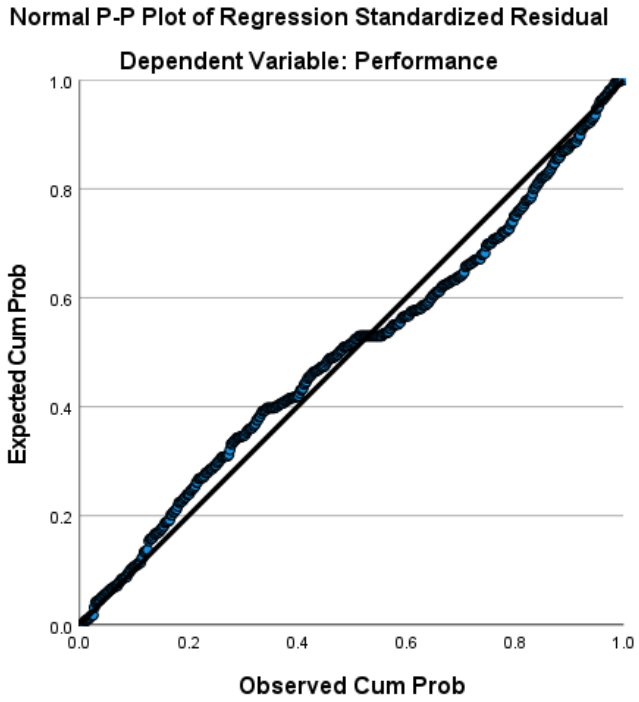
Residuals Statistics[a]

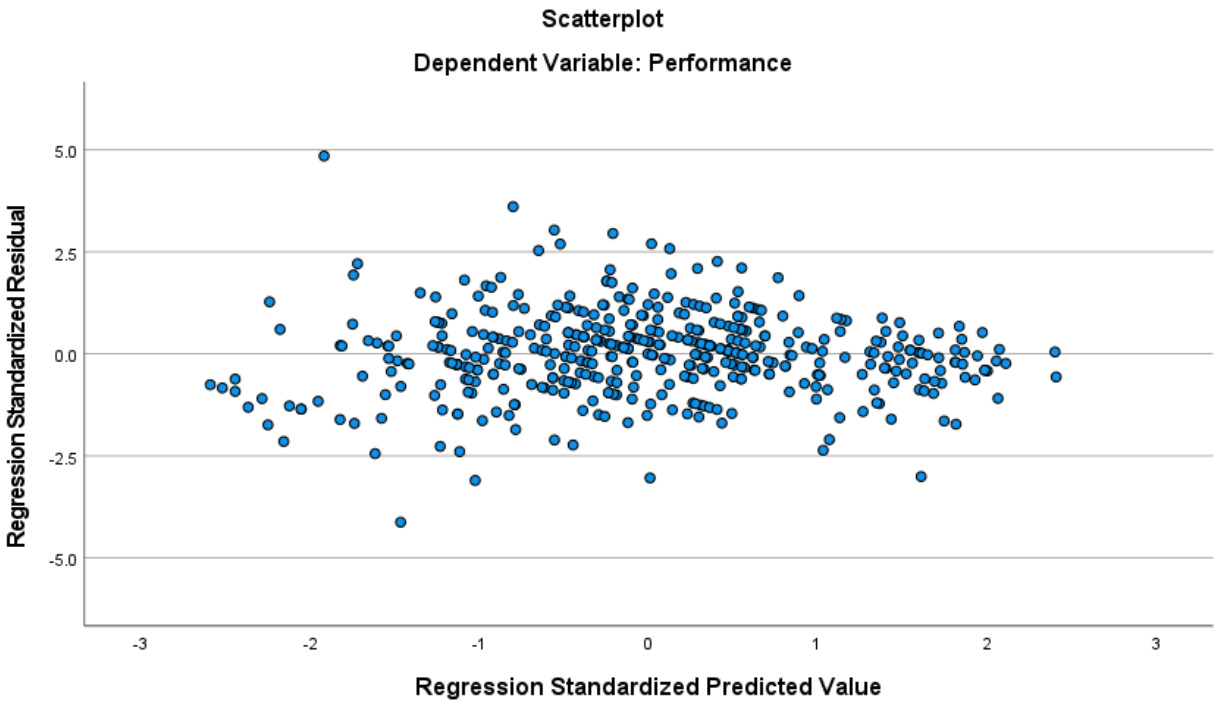
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.3575	4.9818	3.7176	.52522	469
Residual	-1.94804	2.28950	.00000	.46958	469
Std. Predicted Value	-2.590	2.407	.000	1.000	469
Std. Residual	-4.126	4.849	.000	.995	469

a. Dependent Variable: Performance

Charts


Histogram
Dependent Variable: Performance
Mean = -5.34E-15
Std. Dev. = 0.995
N = 469
Frequency
100
80
60
40
20
0
-6
-4
-2
0
2
4
6
Regression Standardized Residual


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


Scatterplot
Dependent Variable: Performance
Regression Standardized Residual
5.0
2.5
0.0
-2.5
-5.0
-3
-2
-1
0
1
2
3
Regression Standardized Predicted Value