



ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS DEP'T OF BUSINESS
ADMINISTRATION (MBA)

THE EFFECT OF DIGITAL MARKETING ON CUSTOMER ENGAGEMENT IN THE
TELECOMMUNICATION SECTOR

BY;

TEMESGEN TILAHUN

ADVISED BY; TILAHUN TEKLU (Dr.)

JANUARY-2025

ADDIS ABABA -ETHIOPIA

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AND ECONOMICS DEP'T OF BUSINESS ADMINISTRATION (MBA)

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TEMESGEN TILAHUN

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TEMESGEN TILAHUN

THESIS APPROVAL SHEET

APPROVED BY THE BOARD OF EXAMINERS

TILAHUN TEKLU (Dr.)

ADVISOR

SINGNATURE

6/3/25

DATE

ASRES ABITIE (Dr.)

INTERNAL EXAMINOR

SINGNATURE

6-3-25

DATE

MESFIN WORKINEH (Dr.)

EXTERNAL EXAMINOR

SINGNATURE

Mar. 18/2025

DATE

Declaration

I, the undersigned declare that this study entitled "*The Effect of Digital Marketing on Customer Engagement in The Telecommunication Sector of Ethiopia*". This work is submitted by me for the grant of the masters of degree in Business Administration study in Addis Ababa University College of Business and Economics Department of Business Administration. It is also my original work and has not offered for a degree in any other university and that all sources of materials used for the study have duly acknowledged.

Name of Student

Signature


Date

Temesgen Tilahun

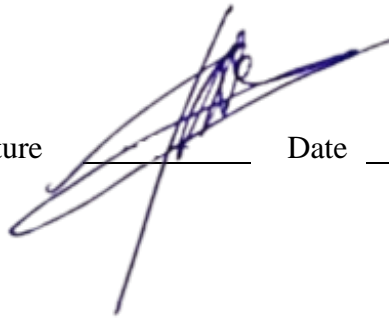
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Certification

Here with, I state that Mr. Temesgen Tilahun has carried out this research work on the topic entitled “*The Effect of Digital Marketing on Customer Engagement in. The Telecommunication Sector of Ethiopia*”: This research work is original in nature and has not presented for a degree in any university, which all sources of materials used for the study have been duly acknowledged and it is sufficient for submission for the partial fulfillment for the award of master of Business Administration study.

Confirmed By Advisor:

Tilahun Teklu (PhD) Signature



Date 6/3/2025

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Abbreviations

CTR-Click-Through Rate

ICT-Information and Communication Technologies

MS- Stands for Short Message Service.

NPS-Net Promoter Score

ROAS- Return on Ad Spend

SEO- Search engine optimization

STATA- Statistics and Data

TAM-Technology Acceptance Model

Abstract

As digital marketing strategies continue to evolve, companies such as Ethio telecom and Safaricom Ethiopia utilize platforms like social media, mobile applications, and email marketing to enhance customer interaction, loyalty, and brand support. This study examines the effect of digital marketing adoption on customer engagement. This is especially true in the service-oriented industry like telecom industry. The study used both primary and secondary sources of data. The study gathered primary data through a structured questionnaire designed based on relevant literature to ensure it captured meaningful insights from participants. Random sampling method was used, and respondents were selected accordingly. 388 questionnaire was distributed to customers of both telecoms of which totally 376 questionnaire was collected which accounts 96.91%. The data has been analyzed using explanatory research design with quantitative research approach and the analysis employed regression and correlation techniques, conducted using STATA software version 13 to examine relationships within the data. And then explanatory variables except traffic the rest have positive and significant effect on customer engagement by showing 53.31% variation on the dependent variable. Meanwhile On average the overall aggregate mean score of the variables become 4.00 which shows that nearly the respondents were agreed. The relationship between factors of customer engagement i.e. social media presence, contents sharing rate, customer feedback score, retargeting campaign success, open rate and traffic had positive strong, moderate and weak relationship with customer engagement based on their STATA outcomes at 1% level of significance. In light of the study's findings, the researcher suggests Ethiotelcom, Safaricom, and policy makers take this explanatory variable into account when formulating telecom related programs and policies in Ethiopia.

Keyword; Effect, Adopting, Digital, Marketing, Customer Engagement, Ethiopia.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Since companies want to build enduring relationships with their clients, customer engagement is a key component of contemporary marketing strategies (Brodie et al., 2011). Customer engagement, which is defined as the degree to which a person participates in and feels connected to an organization's offerings or activities (Hollebeek, 2011), has been associated with higher levels of brand advocacy, positive word-of-mouth, and loyalty—all of which are important factors in better business performance (Vivek et al., 2012).

With the introduction of tools and strategies to maximize engagement, digital marketing has completely changed how companies communicate with their clientele. Digital marketing encompasses a broad range of technology-driven and online tactics, including content marketing, email marketing, social media marketing, and search engine optimization (SEO) (Kotler et al., 2021). When properly implemented, these tactics help businesses better understand their target market, provide individualized experiences, and encourage continuous communication. According to Baines et al. (2017), these initiatives result in better customer loyalty, higher brand awareness, and improved retention.

The use of digital marketing techniques is increasing steadily in Ethiopia as companies take advantage of advancements in internet penetration and digital infrastructure. The telecom sector, where the competitive environment has recently changed significantly, is one of the top industries adopting digital marketing. The state-owned monopoly Ethio Telecom has historically controlled the industry, but new entrants like Safaricom Ethiopia have made it more dynamic and competitive (Ayele & Chanie, 2019).

Both Safaricom Ethiopia and Ethio Telecom have been prompted to investigate cutting-edge digital marketing tactics by this change in the market. With a strong foothold in the Ethiopian market, Ethio Telecom has started incorporating SMS marketing, mobile-based advertising, and social media campaigns to increase consumer interaction. In the meantime, Safaricom Ethiopia has implemented contemporary digital marketing strategies like personalized advertising, mobile

app-based engagement, and advanced analytics to forge solid client relationships by drawing on its parent company's wealth of experience in Kenya (Safaricom Ethiopia, 2023).

A rare chance to examine how the adoption of digital marketing affects customer engagement in the Ethiopian telecom industry is presented by the comparative dynamics between these two businesses. Safaricom Ethiopia's data-driven, innovative strategies provide deep insights into how various marketing practices affect customer satisfaction, loyalty, and interaction, in contrast to Ethio Telecom's traditional but evolving approach.

The purpose of this study is to assess and contrast the digital marketing tactics used by Safaricom Ethiopia and Ethio Telecom, looking at how they affect consumer interaction. Through an analysis of these businesses, the study will pinpoint best practices and offer practical suggestions for maximizing digital marketing in developing nations.

1.2 Statement of the problem

In today's digital environment, implementing digital marketing strategies successfully has become essential to business operations. Customer engagement has a significant impact on loyalty, customer satisfaction, and overall business performance in the telecommunications industry. It is crucial to assess how digital marketing tactics affect customer engagement in Ethiopia, a market undergoing substantial changes as a result of new competition and developing digital infrastructure, as telecom companies use these tactics to forge closer bonds with their clientele (Ayele & Chanie, 2019).

The telecom industry in Ethiopia is characterized by a monopoly giving way to competition, with Safaricom Ethiopia, the country's first private telecom operator, joining Ethio Telecom, the long-standing state-owned provider. To stand out from the competition and improve their client relationships, these businesses are implementing digital marketing techniques like social media campaigns, SMS marketing, and mobile app engagement. Despite these initiatives, little empirical data exists regarding how well these tactics promote consumer interaction in Ethiopia's particular technological and economic environment.

The adoption and effectiveness of digital marketing are impacted by a number of systemic issues facing Ethiopia's telecom sector. These consist of: Low ICT Development: According to Nejat

(2019), Ethiopia is ranked 152nd out of 169 countries for broadband affordability and 151st out of 157 countries for ICT development.

Digital Literacy: The efficacy of digital campaigns is diminished when specific customer segments lack familiarity with online platforms. **Infrastructure Gaps:** The scalability of digital marketing initiatives is hampered by irregular internet connectivity and mobile penetration.

According to Lopes, Porto, and Casais (2022), the effectiveness of a company's marketing campaigns has a direct impact on its profitability and competitiveness. According to Herlina et al. (2022), inadequate marketing is a major contributing factor to the failure of half of all businesses within the first five years of operation. Ineffective advertising strategies are a big issue for small businesses and can result in losses. Some hospitality managers lack effective marketing strategies that could boost their companies' profitability and sustain customer engagement.

However, there hasn't been much attention paid to how good marketing management strategies impact the patron engagement and outcomes of restaurants. Because of this, it's possible that clients' engagement, affective responses, and service satisfaction won't be given enough thought (Zhang & Du, 2020). This study aims to assist restaurant owners in developing digital marketing strategies and differentiation tactics that will boost customer engagement.

Few studies have specifically examined the relationship between digital marketing strategies and consumer engagement in the context of Cyprus' restaurant industry, despite the fact that many have examined this relationship across a variety of industries (Thao & Tran, 2023; Kuzmenko et al., 2021). The potential mediating role of service quality in this relationship is also largely unknown, which is another significant gap in the literature that this study aims to address.

There is a noticeable lack of research explicitly looking at the telecommunications industry, despite the fact that studies in Ethiopia have looked at digital marketing in other industries like consumer goods and real estate (Ayinalem, 2017; Yibeltal, 2016). Knowing how digital marketing adoption and customer engagement are related is crucial given the increasing significance of customer engagement as a differentiator in the marketplace.

This research seeks to address these gaps by evaluating the impact of digital marketing adoption on customer engagement in the Ethiopian telecommunication sector. Using examples from Ethio

Telecom and Safaricom Ethiopia, this study aims to analyze the effectiveness of digital marketing strategies in fostering customer loyalty, satisfaction, and interaction within the industry. The findings will provide actionable insights for the telecommunications sector, contributing to both academic research and practical recommendations for digital marketing optimization in Ethiopia.

1.3 Basics Research Questions

The following research questions guide the study in exploring the relationship between digital marketing adoption and customer engagement in Ethiopia's telecommunication sector:

1. How does digital marketing adoption, including social media presence and retargeting campaigns, influence customer engagement in the telecommunication sector in Ethiopia, Addis Ababa?
2. What is the relationship between key performance metrics (customer feedback score, content sharing rate, and open rate) and customer engagement in the telecommunication sector in Ethiopia, Addis Ababa?
3. How does website traffic affect customer engagement in the telecommunication sector in Ethiopia, Addis Ababa?
4. What challenges are faced in adopting digital marketing in the telecommunication sector in Ethiopia, Addis Ababa, and how can they be addressed?

By addressing these questions, this study seeks to provide actionable insights into the role of digital marketing in fostering customer engagement. The findings will offer guidance for telecommunication companies in Ethiopia, on optimizing their digital marketing practices to enhance customer interaction, loyalty, and satisfaction, ultimately driving business success.

1.4 Objective of the Study

1.4.1 General Objective

The core objective of the study is to identify the effects of adopting digital marketing on customer engagement in the telecommunication sector in Ethiopia, Addis Ababa.

1.4.2 Specific Objectives

The specific objectives of the study are:

1. To examine the effect of social media presence on customer engagement in the telecommunication sector in Ethiopia, Addis Ababa.
2. To analyze the impact of key performance metrics (customer feedback score, content sharing rate, and open rate) on customer engagement.
3. To determine the influence of retargeting campaign success on customer engagement.
4. To assess the effect of website traffic on customer engagement in the telecommunication sector

1.5 Significance of the Study

This study on the relationship between digital marketing and customer engagement in the Ethiopian telecommunication sector holds significant importance for industry practitioners, academic researchers, and policymakers. By examining how digital marketing adoption impacts customer engagement, this research aims to provide valuable insights and practical benefits in the following ways:

Informing Digital Marketing Strategies;

The study's analysis of digital marketing practices, such as customer segmentation, personalized campaigns, content dissemination, and feedback integration, can offer critical guidance to telecommunication companies in Ethiopia. By evaluating strategies employed by key players like Ethio Telecom and Safaricom Ethiopia, the findings can help marketing professionals develop more effective, data-driven digital marketing initiatives to enhance customer engagement and achieve their organizational goals.

Enhancing Customer-Centric Approaches;

By investigating the influence of customer-focused digital marketing approaches on engagement metrics such as satisfaction, loyalty, and interaction, this study can provide actionable insights to organizations seeking to adopt a more customer-centric mindset. Telecommunication companies can use these insights to better understand and meet the evolving needs of their target customers, fostering stronger relationships and improving retention.

Contributing to Academic Literature;

This study contributes to the academic understanding of the relationship between digital marketing and customer engagement, particularly in emerging markets like Ethiopia. It addresses a research gap in the telecommunication sector and provides a foundation for further studies exploring the effectiveness of digital marketing in other industries or geographical contexts. By offering empirical evidence and theoretical insights, this research expands knowledge on how digital marketing practices influence customer behavior and business performance.

Informing Regulatory and Policy Decisions;

The insights generated from this study can inform policymakers and regulatory bodies responsible for overseeing digital marketing practices in Ethiopia. The findings can help shape policies, guidelines, and regulations that promote ethical data use, transparency, and customer-centric approaches in the digital marketing landscape. This can encourage a fair and competitive environment in Ethiopia's telecommunication sector while safeguarding consumer interests.

Overall Value;

This study provides substantial value for digital marketing practitioners, customer-centric organizations, academic researchers, and policymakers by offering evidence-based insights to guide strategic decision-making. The findings aim to inform best practices, contribute to the growing scholarly discourse on digital marketing and customer engagement, and support sustainable growth in Ethiopia's telecommunication sector.

1.6 Research Hypotheses

The following hypotheses are proposed to evaluate the impact of digital marketing adoption on customer engagement in Ethiopia's telecommunication sector, focusing on Ethio Telecom and Safaricom Ethiopia as representative companies:

H1: Social Media Marketing Strategies and Customer Engagement

Hypothesis (H1): The adoption of targeted social media marketing strategies (such as interactive posts, influencer collaborations, and paid promotions) significantly enhances customer engagement in Ethiopia's telecommunication sector.

Empirical Basis: Research shows that brands using **strategic social media marketing** experience higher engagement levels, as it fosters real-time communication and emotional connection with customers (Kaplan & Haenlein, 2010; Dwivedi et al., 2021).

H2: Customer Feedback Utilization and Engagement

Hypothesis (H2): Incorporating customer feedback into digital marketing strategies (e.g., sentiment analysis, feedback-driven content adjustments, and personalized responses) significantly improves customer engagement.

Empirical Basis: Studies suggest that feedback-driven marketing increases customer trust, satisfaction, and responsiveness to digital campaigns (Parasuraman et al., 1988; Verhoef, 2003).

H3: Email Marketing and Website Traffic as Determinants of Customer Engagement

Hypothesis (H3): Higher email open rates and website traffic, driven by effective email marketing campaigns and SEO strategies, significantly contribute to customer engagement.

Empirical Basis: Research indicates that optimized email marketing and strong website traffic lead to higher interaction levels and conversion rates (Chaffey & Ellis-Chadwick, 2019; Kumar et al., 2013).

H4: Retargeting and Personalized Digital Advertising as Drivers of Customer Engagement

Hypothesis (H4): Personalized retargeting campaigns and AI-driven ad placements significantly increase customer engagement by reinforcing brand recall and prompting action.

Empirical Basis: Empirical evidence suggests that behavior-based retargeting significantly improves conversion rates by keeping potential customers engaged (Lambrecht & Tucker, 2013; Boerman et al., 2017).

These hypotheses are designed to address the research questions and objectives by examining specific aspects of the relationship between digital marketing adoption and customer engagement in Ethiopia's telecommunication sector.

1.7 Delimitation of the Study

This thesis study on the impact of adopting digital marketing on customer engagement in Ethiopia's telecommunication sector has the following key delimitations:

Conceptual Scope;

The study is focused on examining the relationship between digital marketing practices and customer engagement within the telecommunication sector. While digital marketing encompasses a broad range of tools and techniques, this research narrows its scope to key areas, including social media platforms, Retargeting Campaign Success, Traffic, Open Rate, Customer Feedback Score, and content sharing rate. These dimensions are evaluated in terms of their influence on customer satisfaction, loyalty, and interaction.

Temporal Scope

The data collection and analysis for this study will be conducted within the timeframe of December 2024 to January 2025. This reflects practical constraints, including the time required to design the study, collect and analyze data, and finalize the thesis.

Geographical Scope

This study is geographically focused on Ethiopia's telecommunication sector, with particular emphasis on Safaricom Ethiopia and Ethio Telecom as representative players. Due to logistical and resource constraints, the research would be primarily targeting customers and operations located in Addis Ababa, where both companies have a significant presence and customer base.

By delimiting the study to these specific conceptual, temporal, and geographical boundaries, this research ensures a focused and in-depth investigation of the impact of digital marketing on customer engagement within the Ethiopian telecommunication sector. The findings aim to provide actionable insights relevant to the industry while addressing the unique challenges and opportunities in Ethiopia's emerging digital marketing landscape.

1.8 Scope of the Study

This study on the impact of adopting digital marketing on customer engagement in the Ethiopian telecommunication sector is subject to the following limitations:

Geographical Scope;

The study is primarily focused on the operations of Safaricom Ethiopia and Ethio Telecom within

the Addis Ababa region. While Addis Ababa represents a significant portion of both companies' customer bases, the findings may not fully capture the dynamics and experiences of digital marketing and customer engagement across other regions of Ethiopia. As a result, the findings may have limited generalizability to other geographical areas within the country.

Sample Representation;

Due to practical constraints, the study's sample is limited to customers and operations in Addis Ababa. The selected sample may not comprehensively represent the diverse customer segments served by the telecommunication sector across Ethiopia. This could impact the generalizability of the findings to a broader population within the telecommunication industry.

Data Availability and Reliability;

The study relies on the availability and reliability of data provided by Safaricom Ethiopia, Ethio Telecom, and their respective customers. Potential limitations in the companies' data management systems or customer responses could affect the accuracy, completeness, or reliability of the data used in the analysis.

These limitations should be acknowledged when interpreting the findings of this study. Future research efforts could address these limitations by: Expanding the geographical scope to include additional regions and branches of the telecommunication companies. Incorporating a more diverse and representative sample of customers across Ethiopia. Extending the temporal scope of the study to capture long-term trends in digital marketing and customer engagement.

1.9 Structure of the Paper

This paper is organized into five chapters to ensure a comprehensive and structured presentation of the research:

Chapter One: Introduction;

This chapter introduces the background of the study, including the telecommunications industry in Ethiopia, digital marketing adoption, and customer engagement. It outlines the problem statement, research objectives, research questions, scope, significance, and limitations of the

study.

Chapter Two: Literature Review;

This chapter provides a comprehensive review of theoretical and empirical foundations related to digital marketing and customer engagement. It explores key concepts, models, and prior studies relevant to the research and presents the conceptual framework guiding the study.

Chapter Three: Research Methodology;

This chapter details the quantitative research methodology employed in the study. It covers the research design, context, population, sampling methods, data collection instruments, and analytical strategy used to examine the relationship between digital marketing adoption and customer engagement in the telecommunication sector.

Chapter Four: Data Analysis and Interpretation;

This chapter focuses on the analysis and interpretation of survey and interview data. It presents quantitative findings, including descriptive statistics, correlations, and regression analyses, to evaluate the impact of digital marketing on customer engagement. Comparative insights from Safaricom Ethiopia and Ethio Telecom are also discussed to illustrate trends and differences within the sector.

Chapter Five: Conclusions and Recommendations;

This chapter summarizes the key findings of the study, provides actionable recommendations for the Ethiopian telecommunication sector, and highlights practical strategies for optimizing digital marketing to enhance customer engagement. It also discusses the limitations of the study and suggests directions for future research.

Appendices;

The paper will include an appendix containing the survey questionnaire and interview guide used for data collection, as well as any supplementary data or materials supporting the analysis.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The marketing landscape has undergone a fundamental transformation due to the growing incorporation of digital technologies into business operations. In order to interact with consumers, achieve desired results, and gain a competitive edge, digital marketing has become a vital business strategy. With an emphasis on their applicability to the Ethiopian telecom industry, this chapter offers a thorough analysis of the body of research on digital marketing and customer engagement.

The chapter examines the main theoretical ideas, frameworks, and empirical research that support the connection between customer engagement and digital marketing. It looks at how digital marketing tools, like data-driven personalization, mobile applications, and social media platforms, can help create meaningful connections with clients. The literature review lays the groundwork for addressing the study's research goals by synthesizing the body of existing knowledge.

2.2 Theoretical literature review

2.2.1 Digital Marketing Landscape

Over the past ten years, technological advancements and changing consumer behavior have significantly changed the landscape of digital marketing. The rapid growth of e-commerce, the proliferation of social media platforms, and the growing use of mobile devices have all contributed to this evolution. These advancements have made it possible for companies to communicate with their clients via a range of digital platforms, opening the door to more individualized, interactive, and quantifiable marketing tactics (Kannan & Li, 2017; Lamberton & Stephen, 2016).

Data analytics, automation, and artificial intelligence (AI) are now key components of digital marketing strategies that improve campaign personalization and relevance. With the use of these tools, marketers can provide real-time engagement, anticipate consumer behavior, and customize messages to suit individual preferences. This strategy increases the efficacy of marketing while also.

Digital marketing is now essential to the telecom industry's customer engagement in a market that is becoming more and more competitive. Businesses use social media promotions, SMS campaigns, and mobile-based advertising to cultivate relationships and keep customers loyal. For instance, Ethio Telecom has incorporated digital tools like SMS marketing and customer feedback platforms to improve engagement, while Safaricom Ethiopia uses sophisticated mobile applications and focused social media campaigns to engage with its clientele.

Digital marketing has the potential to enhance customer engagement metrics like satisfaction, loyalty, and interaction, according to empirical research. For example, a study by Kotler et al. (2021) discovered that data-driven insights and personalized marketing campaigns greatly increase customer retention rates. Likewise, Baines and colleagues (2017) highlighted the significance of Omni channel marketing tactics in.

Despite these advancements, the adoption and effectiveness of digital marketing strategies vary widely across industries and regions. In emerging markets like Ethiopia, infrastructural limitations, low digital literacy, and affordability challenges can hinder the successful implementation of digital marketing campaigns. However, the telecommunication sector remains a promising area for digital innovation, with companies like Safaricom Ethiopia and Ethio Telecom paving the way for more effective customer engagement through digital channels.

2.2.2 Customer Engagement in the Digital Age

2.2.2.1 Defining Customer Engagement

Customer engagement is a concept that has gained significant attention in the marketing literature in recent years. It is defined as the intensity of an individual's participation in and connection with an organization's offerings or activities, which can be initiated by either the customer or the organization (Hollebeek, 2011). Effective customer engagement is crucial for building strong, lasting relationships with customers, leading to increased loyalty, brand advocacy, and positive word-of-mouth (Vivek et al., 2012).

2.2.2.2 Dimensions of Customer Engagement

Aspects of customer engagement include behavioral, emotional, and cognitive components, according to the literature (Brodie et al., 2011). The cognitive dimension characterizes the extent of a customer's mental processing and attention towards the business, whereas the emotional

dimension encompasses the sentiments and feelings related to the customer-brand relationship. The behavioral dimension encompasses the customer's behavior and interactions with the business, such as participation in events, word-of-mouth, and repeat business (Hollebeek, 2011).

2.2.2.3 Antecedents and Consequences of Customer Engagement

A number of factors have been identified as antecedents of customer engagement, including perceived value, brand experience, and customer involvement (Hollebeek et al., 2014; Vivek et al., 2012). These factors can affect the cognitive, emotional, and behavioral facets of customer engagement. Accordingly, successful customer engagement has been linked to several positive business outcomes, such as increased customer loyalty, brand advocacy, and improved financial performance (Brodie et al., 2011; Vivek et al., 2012).

2.2.3 Digital Marketing Strategies

2.2.3.1 Defining Digital Marketing

Digital marketing is a comprehensive and multifaceted approach to marketing that uses a range of online and digital technologies to reach, engage, and convert target audiences. It encompasses a broad range of methods and strategies, such as search engine optimization (SEO), email marketing, social media marketing, and content marketing (Kotler et al., 2021). By employing these digital marketing techniques to better understand their target audience, customize their campaigns, and maximize their advertising, businesses can improve customer interaction and spur business growth (Chaffey & Ellis-Chadwick, 2019).

2.2.3.2 Digital Marketing Channels

The literature identifies various digital marketing channels that businesses can utilize to engage with their customers, including:

1. Social media marketing: Utilizing platforms like Facebook, Twitter, LinkedIn, and Instagram to build brand awareness, foster customer relationships, and promote products/services.
2. Search engine optimization (SEO): Optimizing website content, structure, and technical elements to improve visibility and ranking on search engine results pages.
3. Email marketing: Using email communication to nurture leads, maintain customer relationships, and deliver personalized, relevant content and offers.

4. Mobile marketing: Leveraging mobile devices and technologies, such as mobile apps, SMS, and mobile advertising, to reach and engage consumer's on-the-go.
5. Programmatic advertising: The automated buying, selling, and optimization of digital ad placements, using data analytics and algorithms to deliver targeted, personalized ads.

By using these digital marketing strategies, companies can better understand the preferences, habits, and problems of their target audience. This helps them to tailor their marketing campaigns and enhance customer engagement, which in turn leads to increased business growth. Digital marketers can improve their overall marketing performance by using data-driven insights and advanced analytics to measure the success of their efforts, make data-informed decisions, and continuously improve their strategies (Kotler et al., 2021; Chaffey & Ellis-Chadwick, 2019; Ledford, J. L. 2015; Tuten, T. L., & Solomon, M. R. 2017; Lieb, R. 2012).

2.3 Challenges in Implementing Digital Marketing

Adopting digital marketing strategies successfully is not without its difficulties. Companies have to deal with the need for specialized skills and resources, the quick speed of technological change, and the blending of digital and traditional marketing strategies (Kotler et al., 2021). Furthermore, digital marketing campaign measurement and optimization can be challenging, necessitating ongoing observation and improvement (Chaffey & Ellis-Chadwick, 2019).

2.3.1 Digital Marketing and Customer Engagement

2.3.1.1 The Impact of adopting digital Marketing on Customer Engagement

Digital marketing has completely changed how companies interact with their clientele. A more dynamic, personalized, and interactive customer engagement experience has been made possible by the integration of multiple digital channels and technologies (Brodie et al., 2011; Hollebeek et al., 2014).

I. Improved Customer Understanding:

Digital marketing provides businesses with access to a wealth of customer data, including browsing behavior, purchase history, and demographic information (Chaffey and Ellis-Chadwick, 2019). By leveraging data analytics and customer insights, businesses can develop a deeper understanding of their customers' preferences, needs, and pain points (Aaker, Kumar, and Day, 2013).

II. Personalized Interactions:

Digital marketing channels, such as websites, mobile apps, and social media, enable businesses to tailor their interactions with customers based on individual preferences and behaviors (Kotler, Kartajaya and Setiawan, 2021).

III. Ongoing Interactions and Relationships:

Digital marketing platforms facilitate continuous and two-way interactions between businesses and customers (Brodie et al., 2011; Hollebeek et al., 2014). Engagement Metrics and Optimization: Digital marketing provides businesses with a wealth of engagement metrics, such as click-through rates, time spent on pages, and social media interactions (Chaffey and Ellis-Chadwick, 2019).

By enhancing customer understanding, providing personalized interactions, cultivating enduring relationships, and facilitating data-driven optimization, the successful adoption of digital marketing strategies can have a substantial impact on customer engagement (Chaffey and Ellis-Chadwick, 2019). Increased customer advocacy and loyalty as well as better business performance are possible outcomes of this improved customer engagement.

2.4. Theoretical Frameworks

Several theoretical frameworks have been proposed to explain the relationship between digital marketing and customer engagement. For instance, consumers use digital marketing channels to fulfill specific needs and desires, such as social interaction, entertainment, and information gathering, in accordance with the Uses and Gratifications Theory (Katz et al., 1973). The Customer Engagement Cycle is an iterative process of customer engagement that encompasses connection, interaction, satisfaction, retention, commitment, and advocacy (Sashi, 2012).

2.5 Empirical Literature Review

The relationship between digital marketing and customer engagement has been extensively studied across various industries, including banking, telecommunications, and online brand communities. This section critically reviews empirical studies to identify key determinants of customer engagement, the effectiveness of digital marketing strategies, and gaps in the existing literature.

2.5.1 Empirical Studies on Digital Marketing and Customer Engagement

Empirical research consistently demonstrates that various digital marketing tools—such as social

media marketing, content marketing, email marketing, and search engine optimization (SEO)—enhance customer engagement (Ayele & Chanie, 2019; Diro & Getinet, 2021; Makgosa & Molefhi, 2020). Studies in the banking and telecommunications sectors have found that social media interactions, mobile marketing, and targeted content significantly improve brand awareness, customer retention, and engagement levels (Belay & Teshome, 2020; Girma, 2016).

However, the extent to which different digital marketing strategies influence engagement varies across industries. For example, research in online brand communities suggests that engagement is not only driven by marketing tactics but also by social interaction, brand identification, and emotional connections (Dessart, Veloutsou, & Morgan-Thomas, 2015). This indicates that while digital marketing is an essential tool, the effectiveness of engagement strategies may be moderated by customer psychology and brand perception.

2.5.2 Digital Marketing Strategies and Customer Engagement

Empirical research consistently demonstrates that various digital marketing tools such as social media marketing, content marketing, email marketing, and search engine optimization (SEO) enhance customer engagement (Ayele & Chanie, 2019; Diro & Getinet, 2021; Makgosa & Molefhi, 2020). Studies in the banking and telecommunications sectors have found that social media interactions, mobile marketing, and targeted content significantly improve brand awareness, customer retention, and engagement levels (Belay & Teshome, 2020; Girma, 2016).

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2.5.2 The Role of Customer Feedback in Enhancing Engagement

A growing body of research highlights the importance of customer feedback mechanisms in driving engagement. Studies show that brands that actively collect and integrate customer feedback—whether through surveys, reviews, or direct interactions—achieve higher engagement and brand loyalty (Parasuraman et al., 1988; Verhoef, 2003). Customer feedback-

driven content marketing enables businesses to tailor their digital campaigns to customer preferences, thereby improving responsiveness and satisfaction (Girma, 2016).

Despite these findings, there is limited research on how Ethiopian telecommunication companies systematically leverage customer feedback in their digital marketing strategies. Existing studies have primarily focused on banks (Cheru & Rao, 2021; Belay & Teshome, 2020), leaving a gap in understanding how customer feedback influences engagement within telecom businesses like Ethio Telecom and Safaricom Ethiopia.

2.5.3 The Impact of Email Marketing, Website Traffic, and Retargeting on Customer Engagement

Email marketing and website traffic have been identified as critical drivers of customer engagement (Chaffey & Ellis-Chadwick, 2019; Kumar et al., 2013). Higher email open rates indicate customer interest, while increased website traffic suggests effective digital marketing efforts. Empirical studies from Ethiopia's banking sector suggest that well-targeted email campaigns and SEO strategies contribute significantly to customer interaction and service adoption (Girma, 2016). Additionally, retargeting campaigns—which serve personalized ads based on users' past interactions—have been shown to increase customer engagement and conversion rates (Lambrecht & Tucker, 2013; Boerman et al., 2017). However, empirical research within the Ethiopian telecommunication industry is limited, particularly regarding how personalized retargeting campaigns influence engagement levels.

2.5.4 Gaps in Existing Literature and Justification for the Study

While numerous studies have explored digital marketing's impact on customer engagement, the following research gaps remain:

- **Industry-Specific Insights:** Most existing studies focus on banking and retail sectors, with limited research on Ethiopia's telecommunication sector (Ayele & Chanie, 2019; Diro & Getinet, 2021). This study aims to fill this gap by analyzing Ethio Telecom and Safaricom Ethiopia.
- **Comparative Analysis:** Previous research tends to analyze single organizations or industries (Girma, 2016; Cheru & Rao, 2021), rather than comparing different companies' digital marketing strategies.
- **Customer Feedback Integration:** While studies highlight feedback-driven marketing as a

key engagement factor, empirical evidence on its structured implementation in Ethiopia's telecom sector is lacking (Belay & Teshome, 2020).

- **Personalized Digital Advertising:** Existing research recognizes the importance of retargeting campaigns, but empirical data on their effectiveness in Ethiopia's telecom industry is scarce (Lambrecht & Tucker, 2013).

Given these gaps, this study aims to provide comprehensive insights into how digital marketing strategies influence customer engagement within Ethiopia's telecommunication sector, offering practical recommendations for enhancing digital customer interactions.

2.5.5 Digital Marketing in the Telecommunication Sector

2.5.5.1 The Telecommunication Industry in Ethiopia

The Ethiopian telecommunication sector has undergone significant changes in recent years, with the introduction of private sector participation and the entry of new players like Safaricom Ethiopia (Ayele & Chanie, 2019). This increased competition has prompted telecom companies to explore innovative digital marketing approaches to differentiate their offerings and foster stronger customer relationships.

2.5.5.2 Digital Marketing Strategies in the Ethiopian Telecommunication Sector

While research on digital marketing in Ethiopia's telecommunication sector remains limited, existing studies highlight its growing significance. Social media marketing has been identified as a key driver of customer engagement, enabling companies to reach a broader audience, foster two-way communication, and gather valuable customer feedback (Diro & Getinet, 2021; Yordanos, 2019).

Key digital marketing strategies being employed by Ethiopian telecom providers include:

- **Social Media Campaigns:** Platforms like Facebook, Twitter, and Instagram are leveraged to promote services, share updates, and engage with customers directly.
- **SMS-Based Marketing:** Both Safaricom Ethiopia and Ethio Telecom use SMS to deliver personalized offers and service updates to their customer base.
- **Mobile App Engagement:** Mobile apps are used to enhance customer convenience, offering features like account management, bill payments, and promotional notifications.

- **Content Marketing:** Blogs, videos, and educational materials are employed to build trust and provide value to customers beyond transactional interactions.

Despite these efforts, there remains a need for empirical research to evaluate the effectiveness of these strategies in driving customer engagement outcomes

2.6 Research Gap

While digital marketing's role in customer engagement has been extensively studied in global contexts (Chaffey & Ellis-Chadwick, 2019; Kotler et al., 2021), empirical research within Ethiopia's telecom sector remains scarce. Most Ethiopian studies have focused on broader topics, such as consumer decision-making (Yibeltal, 2016), social media usage (Zerihun, 2017), and organizational performance (Hanan, 2021), rather than examining the direct impact of digital marketing on customer engagement.

As digital marketing adoption grows in Ethiopia, there is still limited empirical evidence on its effectiveness in improving customer satisfaction, retention, and engagement within the telecommunication sector. This study aims to bridge this gap by examining the relationship between digital marketing adoption and customer engagement, focusing on Safaricom Ethiopia and Ethio Telecom as industry representatives.

2.7 Conceptual Framework

A conceptual framework for examining how implementing digital marketing tactics affects consumer engagement is put forth in this study. The Technology Acceptance Model (TAM) and the ICT Diffusion Variance Model are two well-known theories and models that serve as the foundation for the conceptual framework.

According to Miles and Huberman (1994, p. 18), conceptual frameworks are "visual or written product[s], one that 'explains, either graphically or in narrative form, the main things to be studied—the key factors, concepts, or variables—and the presumed relationships among them.'" The conceptual framework offers a framework for comprehending the connections between customer engagement results and digital marketing strategies in the context of this study.

Independent Variable	Indicators	Dependent Variable	Indicators
Adoption of Digital Marketing	Social Media Presence	Customer Engagement	Engagement Rate (likes, shares, comments)
	Open Rate		Click-Through Rate (CTR)
	Traffic		Average Session Duration
	Content Sharing Rate		Social Shares and Comments
	Customer Feedback Scores		Net Promoter Score (NPS)
	Retargeting Campaign Success		Return on Ad Spend (ROAS)

The core premise of the framework is that various digital marketing tools and strategies can influence key measures of customer engagement. Specific digital marketing elements included in the framework are social media presence, content sharing rate, customer feedback score, retargeting campaign success, open rate and traffic,

The proposed conceptual framework suggests that the effective adoption digital marketing (independent variables) can positively affect customer engagement (dependent variables)

Independent Variable

Dependent Variable

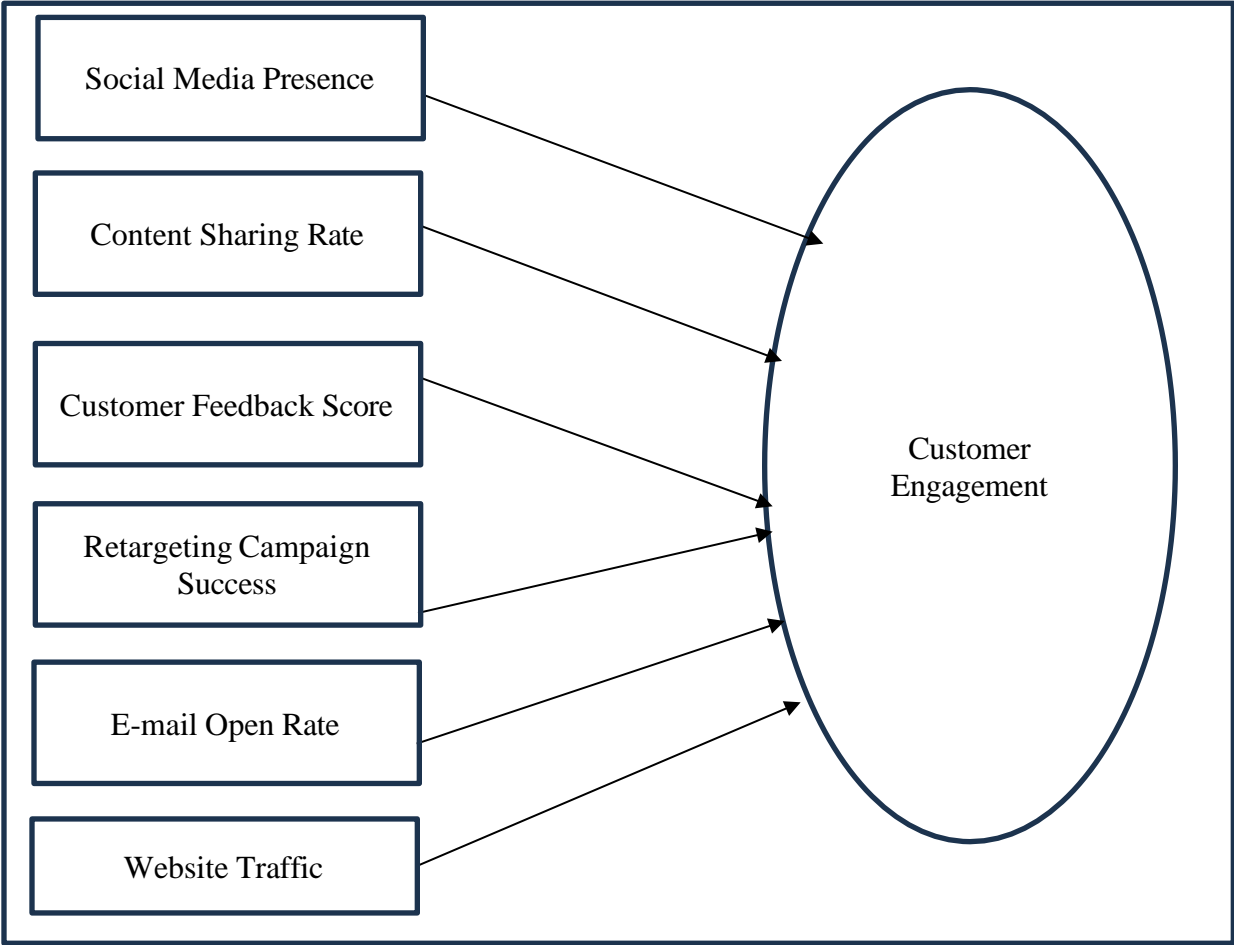


Figure 1 Conceptual framework.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter outlines the research methodology employed in this study to investigate the impact of adopting digital marketing on customer engagement in the Ethiopian telecommunication sector. It provides a detailed discussion of the research design, methods of data collection, data sources, sampling techniques, tools of data collection, procedures for data collection, methods of data analysis, and strategies for validating and triangulating the collected data. The study integrates these elements in a logical sequence to ensure methodological rigor and reliability.

3.1 Research Approach

This study employed a quantitative research approach, grounded in the positivist paradigm, which emphasizes objective measurement, statistical analysis, and generalizability of findings. The research was designed to systematically assess the impact of digital marketing adoption on customer engagement using a structured, standardized questionnaire as the primary data collection instrument.

A cross-sectional survey design was utilized, allowing for data collection at a single point in time to capture the relationship between digital marketing strategies and customer engagement. This approach aligns with Babbie (1990), who emphasized that survey-based research facilitates the generalization of findings from a sample to a broader population. The positivist paradigm asserts that knowledge is derived from empirical observation and measurement (Creswell, 2003). Accordingly, this study relied on statistical techniques to analyze data, identify patterns, and test hypotheses, ensuring objective and replicable results.

Quantitative Component

- **Objective:** To assess customer perspectives on digital marketing and its impact on engagement metrics such as satisfaction, loyalty, and usage.
- **Method:** A structured survey administered to customers of Safaricom Ethiopia and Ethio Telecom.

- Variables: The survey measured customer demographics, usage patterns of digital marketing channels, perceived value of digital marketing efforts, satisfaction levels, and loyalty indicators.
- Outcome: This component provided statistically robust insights into customer experiences and engagement levels, allowing for comparisons between the two companies.

By employing a rigorous quantitative methodology, this study ensures empirical validity, reliability, and statistical accuracy, contributing to a data-driven understanding of how digital marketing strategies influence customer engagement in the Ethiopian telecommunication sector.

3.2 Research Design

This study employed a cross-sectional survey design, which is well-suited for analyzing the relationship between digital marketing adoption and customer engagement at a specific point in time. The cross-sectional approach allows for data collection from a sample of customers and facilitates statistical analysis to determine correlations between variables.

A research design provides a structured framework for integrating the different components of the study in a coherent and logical manner, ensuring the research problem is adequately addressed. Ngechu (2004) defines survey research design as an approach that enables researchers to describe attitudes, opinions, behaviors, or characteristics of a population based on data collected from a sample. In line with this definition, this study utilized a structured survey to gather quantitative data on customer engagement levels and digital marketing adoption.

Furthermore, this study adopted an explanatory research design, which aims to identify and clarify causal relationships between variables. This approach is essential for evaluating the impact of digital marketing adoption on customer engagement, as it allows for hypothesis testing using statistical techniques. Variables of the study:

Six factors that affect the dependent variable (i.e. Customer Engagement) are defined as Social Media Presence, Content Sharing Rate, Customer Feedback Score, Retargeting Campaign Success, Open Rate and Traffic. Customer Engagement is defined as dependent variable.

3.3 Data Collection Methods

3.3.1 Quantitative Data Collection

The study employed structured surveys to collect quantitative data from customers of Safaricom Ethiopia and Ethio Telecom. These surveys were designed to measure customer engagement levels and assess the impact of digital marketing adoption.

The survey collected data on the following key areas:

- Demographic Characteristics
 - Age, gender, education level
- Usage of Digital Marketing Channels
 - Frequency of using mobile apps, websites, social media platforms, SMS campaigns, and email marketing
- Perceived Effectiveness of Digital Marketing
 - Customers' opinions on the relevance, value, and impact of digital marketing campaigns
- Customer Engagement Metrics
 - Level of interaction with digital content (e.g., sharing, commenting, participation in promotions)
 - Willingness to provide user-generated content (e.g., reviews, testimonials, social media mentions)
- Customer Satisfaction and Loyalty
 - Overall satisfaction with digital marketing strategies
 - Perceived impact on customer relationships and long-term brand engagement

Survey Administration

The survey was distributed through both offline and online methods to ensure broader accessibility:

- Offline distribution: Conducted in-person at company offices and service centers
- Online distribution: Shared via email and Google Forms

This hybrid approach enhanced data diversity and inclusivity, ensuring responses from a broad spectrum of customers.

3.4 Sampling Techniques

For the data collection component of this study, a sample of participants would be selected. The total population size is **2,500**, consisting of: 2,000 Ethio Telecom customers visiting their offices during the data collection period. 500 Safaricom Ethiopia customers visiting their offices during the data collection period. 2 Safaricom Ethiopia staff, primarily working in marketing and customer experience roles. 3 Ethio Telecom staff, primarily working in marketing and customer service roles. To determine the appropriate sample size for the quantitative phase, Cochran's formula was used. This formula is widely recognized for calculating sample sizes for large populations and is expressed as:

$$n_0 = [Z^2 \times p \times (1 - p)] / e^2$$

Where:

- **n₀** = Initial sample size (for infinite populations).

- **Z** = Z-value corresponding to the confidence level (e.g., 1.96 for 95%).
- **p** = Estimated population proportion (commonly 0.5 for maximum variability).
- **e** = Desired margin of error (e.g., 0.05 for ±5%).

Step 1: Calculate the Initial Sample Size (n_0)

Substituting the values:

$$n_0 = [1.96^2 \times 0.5 \times (1 - 0.5)] / 0.05^2$$

$$n_0 = [3.8416 \times 0.25] / 0.0025$$

$$n_0 = 0.9604 / 0.0025$$

$$n_0 = 384.16$$

For an infinite population, the required sample size is approximately 384 participants.

Step 2: Adjust for Finite Population ($N = 2,500$)

Since the total population is finite, the sample size is adjusted using the following formula:

$$n = n_0 / [1 + (n_0 - 1) / N]$$

Substituting the values:

$$n = 384.16 / [1 + (384.16 - 1) / 2,500]$$

$$n = 384.16 / [1 + 383.16 / 2,500]$$

$$n = 384.16 / [1 + 0.1409]$$

$$n = 384.16 / 1.1409$$

$$n \approx 336.68$$

To account for non-response or incomplete surveys, the sample size was increased by 15%: Final Sample Size = $336.68 \times 1.15 \approx 388$ participants. Proportional Allocation of Sample across Subpopulations. The sample was proportionally allocated across the subpopulations based on their relative sizes:

Table 3.1 Sample Proportionality

Subpopulation	Total Population	Proportion	Sample Size
Ethio Telecom customers	2,000	$2,000 / 2,500 = 0.8$	$388 \times 0.735 = 310$
Safaricom Ethiopia customers	500	$500 / 2,500 = 0.2$	$388 \times 0.2 = 78$
Total			388

Total	2,500		
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Participants would be selected using a systematic random sampling technique. A sampling frame will be developed based on:

- A list of customers visiting the Ethio Telecom and Safaricom Ethiopia offices during the data collection period.

To ensure randomness, every 6th customer or staff member from the sampling frame will be invited to participate in the survey. The sampling interval K is calculated as: $k = \text{Total Population} / \text{Sample Size} = 2,500 / 388 \approx 6$

Rationale for Using Cochran’s Formula; Cochran’s formula is widely used and validated in research involving large and finite populations. It is particularly suitable for this study due to its ability to provide a statistically robust sample size, accounting for variability in population characteristics. References supporting this method include Cochran (1977) and studies on applied sampling methods (Bartlett, Kotrlik, & Higgins, 2001; Israel, 1992).

This sampling approach ensures that the data collected is representative of the larger population, allowing for meaningful generalizations about customer and staff engagement with digital marketing initiatives in Ethiopia’s telecommunication sector.

3.5. Measurement of Variables/ Instrument

Creswell (2003) highlights how measuring variables separately is important for producing clear and reliable research findings. Kaplan (1964) describes measurement as a structured process that helps us explain, interpret, and even predict the events and ideas that shape our daily lives. This study uses a cross-sectional survey design to gather both numbers and narratives—quantitative and qualitative data—to explore the key variables.

On the quantitative side, the study uses measurement scales to break down and analyze responses. Bhattacharjee (2012) explains that rating scales, especially ordinal ones, provide a clear way to organize and evaluate different characteristics. For this study, a Likert scale was chosen as the main tool for collecting data. Known for its popularity in social sciences, the Likert scale helps measure people’s attitudes and levels of agreement with specific statements (Bhattacharjee, 2012). This method not only strengthens the accuracy of the analysis but also

supports the study's focus on uncovering cause-and-effect relationships, all while capturing subtle perspectives in a structured way

3.5.1. Measurement of Independent Variables

The response scale is a five-point Likert-type scale ranging from 1) Very positively, 2) Positively, 3) Neutral, 4) Negatively, 5) Very negatively. With listed items scale which is designed by different empirical literatures to measure participants customer engagement issues through Social Media Presence, Content Sharing Rate, Customer Feedback Score, Retargeting Campaign Success, Open Rate and Traffic under the case study.

3.5.2. Measurement of Dependent Variable (customer engagement)

Danaher and Haddrell (1996) categorized customer feedback measurement into three primary types of scales: performance scales, disconfirmation scales, and satisfaction scales. Performance scales offer response options such as "very strongly disagree," "disagree," "neutral," "agree," and "strongly agree." Disconfirmation scales assess expectations through responses like "worse than expected" or "better than expected." In contrast, satisfaction scales focus on emotional reactions, providing options that range from "very unhappy" to "very satisfied." These measurement tools are specifically designed to evaluate various dimensions of customer perceptions through carefully crafted questions.

In the current study, the questionnaire comprises one dependent variable and six independent variables, with questions formulated around these measurement scales to evaluate the relevant constructs. Furthermore, the initial section of the questionnaire collects demographic data, including gender, age, education level, and job type, to establish a comprehensive profile of the respondents.

3.6. Data Analysis Approach

After collecting the distributed questionnaires, the responses will be carefully compiled, reviewed, and prepared for coding. The data will then be analyzed using the statistical software STATA version 13. To ensure a comprehensive analysis, the study will apply several statistical methods, which are outlined briefly below

3.6.1. Descriptive Statistical Analysis

Descriptive statistics, including frequency distributions, were used to analyze and summarize the demographic profile of respondents. Additionally, measures such as mean and standard deviation

CFBSi – Customer Feedback Score

RCSi- Retargeting Campaign Success

$\beta_1, B_2, B_3, B_4, B_5$ and B_6 - the intercept of the regression (regression coefficient)

E_i - the random (error) term

Assumption;

1. The random variable (E_i) is independent of the explanatory variables (since independent variables are exogenous). This means there is no correlation between the random variable and the Explanatory variable.
2. No autocorrelation between the errors. I.e. the value which the error term assumed in the existing time limit does not depend on the value expected in any other time.
3. No, perfect multi-co linearity between independent variables. That is, no explanatory variable can be written as a linear function of other explanatory variables. The details of test results will be presented in results and discussion part.
4. Heteroskedasticity test
5. Linearity test

3.7. Reliability and Validity Analysis

3.7.1. Analysis of Reliability

As Christensen (1997) explains, reliability measures the internal consistency or stability of a tool. It reflects the extent to which an instrument produces consistent results when used under similar conditions. In this study, the reliability of the measurements will be assessed using Cronbach’s alpha test to evaluate consistency. According to Nunnally (1978), a Cronbach alpha value of 0.70 or higher is considered acceptable and indicates sufficient reliability.

Table 3.2 Reliability Test For the dependent and independent variable

Test scale = mean(unstandardized items)

Item	Obs	Sign	item-test correlation	item-rest correlation	average interitem covariance	alpha
CustomerEn~t	376	+	0.7780	0.6686	.1304962	0.6758
SocialMedi~e	376	+	0.7215	0.5827	.136155	0.6932
ContentSha~e	376	+	0.3131	0.1250	.1936685	0.7812
CustomerFe~e	376	+	0.7919	0.6725	.1232697	0.6693
Retargetin~s	376	+	0.6775	0.5356	.1447806	0.7053
OpenRate	376	+	0.7854	0.6406	.1184968	0.6739
Traffic	376	+	0.3077	0.0865	.1966167	0.7967
Test scale					.1490691	0.7499

Source : STATA computed result based on primary data (2024)

Based on this in this study the Cronbach alpha coefficient range ~ between 0.7 and 0.8 for all scales and this suggest a satisfactory degree of internal consistency for all the metric variables since all the reliability statistics measured well above 0.7.

3.7.2. Analysis of Validity

Validity refers to the degree to which a measurement accurately reflects the underlying concept it is intended to assess (Bhattacharjee, 2012). Essentially, construct validity determines whether the instrument is genuinely measuring the intended concept rather than overlapping with related but different constructs. A tool is considered valid if it measures precisely what it is designed to measure. Validity can be categorized into content and face validity.

Content validity ensures that the instrument adequately covers the subject matter or concepts it is intended to evaluate. In this study, the questionnaire's content was developed to align with the core constructs under investigation. Face validity, on the other hand, relates to how appealing, clear, and professionally presented the instrument appears to respondents (McMillan & Schumacher, 2006).

To establish validity, the researcher sought input from their advisor and colleagues, who reviewed, commented on, and refined the instrument. Additionally, efforts were made to administer the questionnaire directly to participants whenever possible. This approach aimed to ensure that the respondents themselves completed the questionnaire without delegating it to others. Based on these measures, both content and face validity were ensured in this study.

3.8 Ethical Considerations

This study would adhere to the following ethical principles to ensure the integrity and fairness of the research process:

1. Informed Consent:

All participants would receive a detailed explanation of the study's purpose, procedures, and potential benefits and risks. Participants' consent would be obtained prior to data collection through signed consent forms for both qualitative and quantitative phases.

2. Confidentiality and Anonymity:

Personal information of participants will be kept confidential, and any identifying details will be anonymized in the research reports.

3. Voluntary Participation:

Participants would be informed of their right to withdraw from the study at any time without penalty.

4. Data Protection:

All data would be securely stored on password-protected devices and accessible only to the research team. Data protection practices would comply with relevant regulations to safeguard participants' privacy.

5. Beneficence and non-maleficence:

The study would be designed to minimize any potential risks or harm to participants while maximizing the benefits of the research for both the participants and the telecommunication industry. By adhering to these ethical principles, the study ensures respect for participants' rights and contributes to trustworthy and reliable research outcomes.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.0 Introduction

This chapter outlines the findings and interpretations derived from the survey responses. The first section summarizes the demographic and other key characteristics of the respondents who participated in the study. The second section focuses on the descriptive statistics, providing an overview of the data collected. Next, the third section presents the results of the correlation analysis, while the final section discusses the outcomes of the regression analysis. The regression analysis examines the relationships between the independent variables—Social Media Presence, Content Sharing Rate, Customer Feedback Score, Retargeting Campaign Success, Open Rate, and Traffic—and the dependent variable, Customer Engagement, specifically within the context of Ethio Telecom and Safaricom Ethiopia offices.

4.1. Respondents Profile

This section provides an overview of the respondents' demographic and professional background. It includes details about their age, gender, educational qualifications, and job type

4.1.1. Response Rate

The target audience for this study comprised customers of Ethio Telecom and Safaricom. A total of 388 questionnaires were distributed, out of which 376 were deemed valid and included in the analysis, resulting in a response rate of 96.91%. However, 12 responses (3.09%) were considered invalid and excluded. This high response rate is sufficient to ensure the reliability of the subsequent analysis. The percentage distribution and frequency characteristics of the respondents are summarized in the table below

Table 4.1 Respondents Demographic Status

	Parameters	Represented Symbol	Frequency	Percent
Age	Less than 18 years	1	49	13.0
	18 – 21 years	2	201	62.2

	25-34 years	3	93	24.7
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	35-44 Years	4	33	8.78
	Total		376	100.0
Gender	Male		243	64.6
	Female		133	35.4
	Total		376	100.0

	Parameters	Represented symbol	Frequency	Percent
Educational Background	High school	1	11	2.93
	Diploma	2	32	8.5
	Bachelor	3	225	59.84
	Masters	4	106	28.2
	Phd.	5	2	0.53
	Total		376	100.0
	Employment Status	Student	1	138
Employed		2	230	61.2
Self –Employed		3	8	2.13

	Total		376	100.0
	Parameters	Represented symbol	Frequency	Percent
Telecom sector	Ethio -Telecom	1	305	81
	Safaricom Ethiopia	2	71	19
	Total		376	100.0

Source : STATA computed result based on primary data (2024)

According to the table above, the respondents' ages were distributed as follows: 13% (n=49) were under 18, the majority, 62.2% (n=201), were between 18 and 21, 24.7% (n=93) fell in the 25–34 age range, and the smallest group, 8.78% (n=33), were between 35 and 44 years old. This shows that most respondents were aged 18–21, while the 35–44 age group had the fewest participants.

Regarding gender, 64.6% of the respondents (n=243) were male, while 35.4% (n=133) were female, meaning there were significantly more male participants than female in this study. When looking at educational background, 88.57% (n=333) of respondents had a first degree or higher, 8.5% (n=32) held diplomas, and 2.93% (n=11) had completed high school. This diversity in educational levels reflects that most respondents were well-educated, which adds depth to the data collected.

As shown in Table 4.1, the largest share of respondents, 81% (n=305), were customers of Ethio Telecom, while the remaining 19% (n=71) were Safaricom Ethiopia customers. In terms of employment status, 36.7% (n=138) were students, 61.2% (n=230) were employed, and 2.13% (n=8) were self-employed.

4.2. Descriptive Analysis of the Research Variables

The questionnaire gathered feedback on seven dimensions, encompassing both outcome and explanatory variables. Based on participants' responses, composite mean scores and standard deviations were calculated for the dependent and independent variables.

The composite mean value represents the average of all respondents' opinions on a specific dimension. On the other hand, the standard deviation measures the variation in responses. A high standard deviation indicates a greater diversity in participants' perceptions, suggesting a wide range of opinions on a particular dimension. Conversely, a low standard deviation reflects a more consistent agreement among respondents on the given matter.

Table 4.2 below presents the descriptive statistics (mean and standard deviations) for the seven variables examined in the study: Social Media Presence, Content Sharing Rate, Customer Feedback Score, Retargeting Campaign Success, Open Rate, and Traffic. These are analyzed in relation to the dependent variable, Customer Engagement, as outlined in the questionnaire.

According to Kidane (2012), a "rule of thumb" exists for interpreting variable ranges on a five-point scale. This involves dividing the difference between the maximum and minimum scores by the maximum score, yielding an interval of 0.8. As a result, composite mean values are interpreted as follows: 1.00 to 1.80: Very Poor, 1.81 to 2.60: Poor, 2.61 to 3.40: Average, 3.41 to 4.20: Good, 4.21 to 5.00: Very Good.

This framework, as referenced by Sileshi Solomon (2016), was applied to assess respondents' perceptions using the five-point Likert scale.

4.3 Respondents 'view on Customers engagement and related perceptions

Table 4.2 below summarizes the responses, showing that the mean and standard deviation values for all dimensions are within a reasonable range. These figures represent the average ratings given by respondents for each variable and highlight the consistency (or variation) in their perceptions about customer engagement and related factors.

Table 4.2 Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
CustomerEn~t	376	4.047367	.6654412	1.57	5
SocialMedi~e	376	3.960372	.7021862	2	5
ContentSha~e	376	4.011782	.6038285	2	5
CustomerFe~e	376	4.066489	.739978	1.5	5
Retargetin~s	376	3.896995	.6584315	2	5
OpenRate	376	3.881649	.8394179	1.75	5
Traffic	376	4.111755	.7025235	1.5	5

Source : STATA Computed result based on primary data (2024)

As shown above, the overall composite mean scores for the variables (both dependent and independent) range from a minimum of 3.88, recorded for the "Open Rate" explanatory variable, to a maximum of 4.11, observed for "Traffic." This indicates that, on average, respondents generally agreed with the statements provided on the Likert scale.

According to Kidane's (2012) rule of thumb, the independent variables—Customer Engagement, Social Media Presence, Content Sharing Rate, Customer Feedback Score, Retargeting Campaign Success, Open Rate, and Traffic—exhibit varying levels of influence on the dependent variable, Customer Engagement. The composite mean and standard deviation values for these variables were as follows: Customer Engagement (M = 4.047, SD = 0.665), Social Media Presence (M = 3.960, SD = 0.7021), Content Sharing Rate (M = 4.011, SD = 0.600), Customer Feedback Score (M = 4.066, SD = 0.740), Retargeting Campaign Success (M = 3.897, SD = 0.658), Open Rate (M = 3.88, SD = 0.840), and Traffic (M = 4.11, SD = 0.7025).

The relatively low standard deviation values across all variables suggest that respondents' views were consistent, with minimal variation. This indicates a strong alignment among participants regarding their perceptions of these factors. On average, the overall aggregate mean score for all variables is 4.00, which suggests that respondents generally agreed with the statements provided in the questionnaire.

4. 4 Correlation Analysis

Using the Pearson correlation coefficient, the survey examined the relationship between the independent and dependent variables. The analysis was conducted at a 95% confidence level, allowing the study to establish whether a statistically significant relationship exists. Specifically, this analysis explored the connection between the independent variables (Social Media Presence, Content Sharing Rate, Customer Feedback Score, Retargeting Campaign Success, Open Rate, and Traffic) and the dependent variable (Customer Engagement). Additionally, it determined the direction of the relationships, indicating whether they were positive or negative.

According to Dancy and Reidy (2004), as cited by Sileshi Solomon (2016), the correlation coefficient ranges from -1 to +1, with the sign indicating the direction of the relationship. A correlation value of 0 signifies no relationship between the variables. Values between 0.1 and 0.3 indicate a weak relationship, those between 0.4 and 0.6 suggest a moderate relationship, and values between 0.7 and 0.9 reflect a strong relationship. A coefficient of 1 represents a perfect relationship.

The analysis tested six alternative hypotheses, each positing a positive relationship between the six independent variables and Customer Engagement. Based on these parameters and hypotheses, the results presented in the table below show a positive relationship between all dimensions (independent variables) and Customer Engagement (dependent variable)

Table 4.3 Correlation Matrix

	Social~e	Conten~e	Custom~e	Retarg~s	OpenRate	Traffic	Custom~t
SocialMedi~e	1.0000						
ContentSha~e	0.1160	1.0000					
CustomerFe~e	0.4921	0.1425	1.0000				
Retargetin~s	0.5668	-0.0340	0.4079	1.0000			
OpenRate	0.5022	0.1217	0.5590	0.5358	1.0000		
Traffic	-0.0119	-0.0626	0.1504	0.0647	0.1099	1.0000	
CustomerEn~t	0.4943	0.2263	0.6862	0.4231	0.5140	0.0871	1.0000

Source : STATA computed result based on primary data (2024)

Specifically, based on attributes of the dimension of customer engagement constructs correlation between customer engagement and explanatory instrument which is Social media presence ($r = 0.5$) has positive and moderate relationship with customer engagement using the data gathered from the case study; the other variable contents sharing rate ($r = 0.2$) which has positive and

weak relationship, customer feedback score ($r = 0.7$) which has positive and strong relationship which means that this attribute has high bonding with the customer driving factors of customer engagement that changes dramatically in the same direction ; retargeting campaign success ($r = 0.4$), which has positive and moderate relationship; open rate ($r = 0.5$) which has moderate and positive relationship with the customer engagement under the case study and finally traffic has ($r = 0.1$) in which it has positive and very weak relationship with customer engagement according to the data collected in the case study. All relationships are statistically significant at the 99% confidence level. The relationships between the factors (independent variables) are classified as strong, moderate, or weak, based on the STATA results at a 1% level of significance. Lastly, the model is free from multicollinearity.

4.5 Regression Analysis

4.5.1 Regression Assumption Checks

A. Multi-co linearity checks

Prior to hypothesis testing, the assumption of multi-collinearity was assessed. One method for detecting high multi-collinearity is the Variance Inflation Factor (VIF), which quantifies how much the variance of an estimator increases due to multi-collinearity. According to Gujarati D.N. (2004), a VIF of 1 implies no correlation between independent variables, whereas a VIF exceeding 10 suggests a potential problem. In this study, all VIF values were found to be below 1.51 (as shown in Table 4.4), indicating that multi-collinearity is not an issue. Furthermore, the tolerance level of each variable is above 0.2, reinforcing that multi-collinearity does not pose a problem

Table 4. 4 VIF For all constructs

```
. vif
```

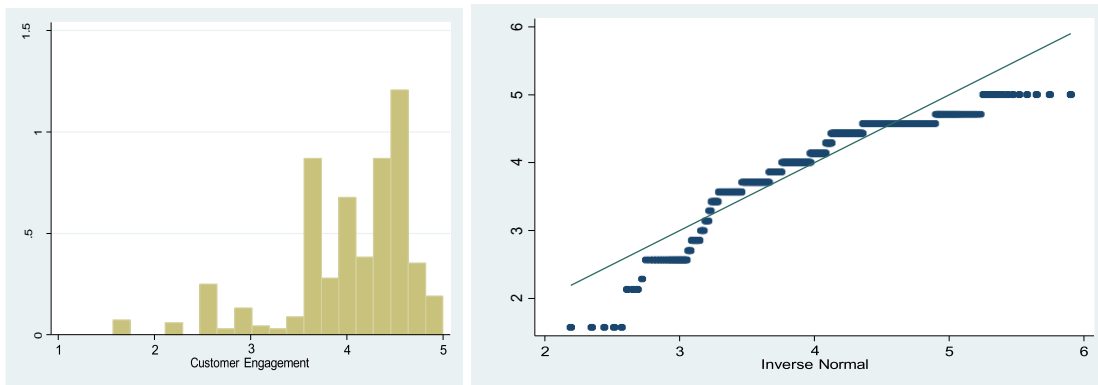
Variable	VIF	1/VIF
OpenRate	1.81	0.553689
SocialMedia	1.76	0.569197
Retargeting	1.73	0.577475
CustomerFeedback	1.64	0.609908
ContentShare	1.06	0.944080
Traffic	1.05	0.956047
Mean VIF	1.51	

Source : STATA Computed result based on primary data (2024)

B. Normality test p-p plot and histogram method

Parametric tests assume that the variable follows a normal distribution, meaning it is not skewed in any direction from a normal distribution. In this study, the population is found to be normally distributed (not skewed), as evidenced by the histogram, which has a bell-shaped curve. Additionally, the P-P plot shows a straight line with no outliers, further confirming normality.

Figure 4.1 Normality test using Histogram and P-P Plot



Source : STATA Computed result based on primary data (2024)

C. Normality test using Shapiro Wilk test method

Table 4.5 Test of Normality Shapiro Wilk

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
CustomerEn~t	376	0.88828	29.102	7.998	0.00000
SocialMedi~e	376	0.91354	22.521	7.389	0.00000
ContentSha~e	376	0.93360	17.296	6.763	0.00000
CustomerFe~e	376	0.93621	16.615	6.668	0.00000
Retargetin~s	376	0.94779	13.600	6.193	0.00000
OpenRate	376	0.93563	16.768	6.689	0.00000
Traffic	376	0.91124	23.119	7.452	0.00000

Source : STATA Computed result based on primary data (2024)

The Shapiro-Wilk test is one of three general tests used to assess normality and is comparable in power to the other two tests. It is designed to detect any deviations from a normal distribution. The test rejects the hypothesis of normality if the p-value is less than or equal to 0.05.

F. Test of model Specification

Table 4.6 Test of model Specification

. linktest

Source	SS	df	MS			
Model	89.0404273	2	44.5202136	Number of obs =	376	
Residual	77.0140661	373	.206472027	F(2, 373) =	215.62	
Total	166.054493	375	.442811982	Prob > F =	0.0000	
				R-squared =	0.5362	
				Adj R-squared =	0.5337	
				Root MSE =	.45439	

CustomerEn~t	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
_hat	1.66512	.4425722	3.76	0.000	.7948703	2.535369
_hatsq	-.0887687	.0587144	-1.51	0.131	-.2042214	.0266839
_cons	-1.216937	.8286333	-1.47	0.143	-2.846316	.412441

Source : STATA Computed result based on primary data (2024)

The dependent variable of the original regression is regressed against both the squared prediction and the original regression's prediction in order to test this. There is proof that the model is mis specified if the test regression's squared prediction regressor is significant.

We can determine whether our model is appropriately specified by using the command link test. The model is rebuilt in this test using the linear predicted value (referred to as `_hat`) and the linear predicted value squared (`hatsq`). In our opinion, `_hatsq` is statistically non-significant, while `_hat` is statistically significant. According to Table 4.5, the coefficients of (`_hat`) and (`hatsq`) were statistically significant ($p=0.000$) and statistically insignificant ($p=0.131$) at the 5% level of significance, respectively. The two hypotheses that the models had fit.

4.5.2 Regression Result Analysis

A regression was run to determine the predictive power of the independent variables: social media presence, contents sharing rate, customer feedback score, retargeting campaign success, open rate and traffic are distributed over dependent variable customer engagement under the case study. The results are presented in Table 4.7. The predictive power of the model is indicated by the R-Square value, which measures how well the model predicts changes in the actual data. R-Square ranges from 0 to 1 (Gujarati D.N., 2004).

The regression analysis presented in Table 4.7 indicates that the independent variables (social media presence, contents sharing rate, customer feedback score, retargeting campaign success, open rate and traffic) explain 53.31% of the variation in customer engagement at (< 0.05 and 0.01) level of significance. This tells us out of 100% these independent variables explain the dependent variable by 53.31% whereas the remaining amount 46.69 & was occupied variables which are not found in the model.

Table 4.7 Regression result of variables

Source	SS	df	MS			
Model	88.5684816	6	14.7614136	Number of obs =	376	
Residual	77.4860117	369	.209989192	F(6, 369) =	70.30	
Total	166.054493	375	.442811982	Prob > F	= 0.0000	
				R - squared =	0.5334	
				Adj R - squared =	0.5258	
				Root MSE	= .45825	

CustomerEngagement	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
SocialMediaPresence	.1170535	.0446683	2.62	0.009	.0292172	.2048898
ContentSharingRate	.1437752	.0403334	3.56	0.000	.064463	.2230873
CustomerFeedbackScore	.4609102	.0409479	11.26	0.000	.3803897	.5414307
RetargetingCampaignSuccess	.0967636	.0472939	2.05	0.041	.0037641	.189763
OpenRate	.0776724	.0378854	2.05	0.041	.003174	.1521708
Traffic	.0025787	.0344495	0.07	0.940	-.0651632	.0703206
_cons	.4435232	.2624916	1.69	0.092	-.0726438	.9596902

Source : STATA Computed result based on primary data (2024)

4.5.3 Result and discussions of Social Media Presence

Regarding Social Media Presence, the regression analysis shows a significant positive effect on customer engagement at the 1% level of significance. The unstandardized beta coefficient is 0.117, with a p-value of 0.009 (less than 0.05), and a t-value of 2.62. These results suggest that Social Media Presence has a positive and significant impact on customer engagement.

Based on this, the researcher accepts the alternative hypothesis H1, which posits that Social Media Presence has a significant effect on customer engagement.

Customer engagement in telecommunications refers to the ongoing interactions between customers and service providers. Engagement can be influenced by a variety of factors, including service quality, customer support, and digital interactions. Engaged customers are more likely to stay with a telecom provider, make repeat purchases, and recommend the service to others.

Social media serves as a direct communication channel between businesses and customers, eliminating barriers and facilitating seamless interactions. Through comments, messages, and live chats, customers can engage with brands in real-time, asking questions, providing feedback, and expressing concerns. The results indicate that, keeping all other independent variables constant, Social Media Presence practices significantly influence customer engagement. The findings further confirm that this variable has a positive and significant effect on customer engagement, as demonstrated by the collected data. This suggests that digital marketing has revolutionized customer interactions in various industries, and the telecommunications sector is no exception. Companies like Ethio telecom and Safaricom have embraced digital tools such as social media, mobile apps, and email marketing to build stronger relationships with their customers. An increment in engagement on social media platforms would be useful for customer support via social media. To mean that as 1% increase in Social Media Presence leads to 11.70% increase in customer engagement to same direction.

While research on digital marketing in Ethiopia's telecommunication sector remains limited, existing studies highlight its growing significance. Social media marketing has been identified as a key driver of customer engagement, enabling companies to reach a broader audience, foster two-way communication, and gather valuable customer feedback (Getinet, 2021; Yordanos, 2019). Professional

4.5.4 Result and discussions on Content sharing rate

As far as Content sharing rate is concerned, at the 1% level of significance, the regression at unstandardized beta coefficient was 0.1437, its p value < 0.01 and t value, (t = 3.56), suggesting that there is a positive and significant effect on customer engagement.

Therefore, the researcher accepts alternative hypothesis **H2** that is; pay as an instrument have significant and positive effect on employee productivity. Content sharing is an essential metric for assessing the effectiveness of digital marketing campaigns, particularly in the context of social media and online platforms. Ethio telecom and Safaricom ability to produce engaging and

shareable content has contributed significantly to its brand visibility, customer engagement, and word-of-mouth marketing. Content sharing refers to the act of users sharing branded content—such as articles, videos, info graphics, or social media posts—on their personal social media channels, which extends the reach of the content beyond its initial audience.

Importance of Content Sharing for. Ethiotelcom and Safaricom, content sharing is a powerful tool for organic growth and customer advocacy. When customers share Ethiotelcom and Safaricom content, they are essentially endorsing the brand, which adds credibility and social proof to the content. Shared content serves as a form of peer-to-peer recommendation, which can be more effective than traditional advertising in reaching new potential customers. Ethiotelcom and Safaricom content sharing strategy revolves around producing high-quality, relevant, and engaging content that resonates with its target audience and motivates them to share.

The results revealed that holding other independent variables constant as Content sharing rate increase by one unit, customer engagement would also increase by 14.37% in the same direction, using data collected from the case study Content sharing rate has more influence on customer engagement.

Furthermore, this result is similar with researchers who have investigated the impact of various digital marketing strategies on customer engagement. Kandampully et al. (2015) found that content marketing, in the form of informative and entertaining brand-related content, can positively influence customer engagement. Appel et al. (2020) revealed that the strategic use of influencer marketing can enhance customer engagement and brand trust.

4.5.5 Result and discussions of customer feedback score

Regarding the customer feedback score, the linear regression analysis indicates a significant positive effect on customer engagement at the 1% level of significance. The unstandardized beta coefficient is 0.46, with a p-value of 0.000 ($p < 0.01$) and a t-value of 11.26. These results, based on collected cross-sectional data from the case study, suggest that the customer feedback score has a positive and significant impact on customer engagement.

Hence, the researcher endorses the alternative hypothesis **H3** that is; customer feedback score has significant effect on customer engagement. The results revealed that holding other independent variables constant, customer feedback score has the highest influence on customer

engagement according to the gathered data in the case study.

In addition to its proactive engagement, Ethiotelcom and Safaricom also monitors social media conversations through social listening tools. By tracking mentions of their brand, services, and relevant keywords, Ethiotelcom and Safaricom gains valuable insights into customer sentiments, concerns, and preferences. This allows Ethiotelcom and Safaricom to respond quickly to customer feedback, address negative sentiments, and adapt its marketing strategies in real-time.

For instance, if a particular service outage or issue receives widespread attention on Twitter, Ethiotelcom and Safaricom can respond promptly by providing updates and offering solutions. This responsiveness contributes to building customer trust and loyalty. It shows that an increase of a one unit in customer feedback score, is comfortable for customer engagement it will also increase by 46%.

4.5.6 Result and discussions of Retargeting Campaign Success

Usually the p-value and unstandardized regression estimate is the statistical tool which is used to test significance level, and the amount of effect independent variable has on the dependent variable. To test the hypotheses of the multiple regression analysis the researcher has been used general guideline, (GujaratiD.N. 2004): -

Retargeting, also known as remarketing, is a powerful digital marketing strategy that allows companies to reconnect with customers who have previously interacted with their brand but have not yet completed a desired action, such as making a purchase or signing up for a service. Ethiotelcom as well as Safaricom here in Ethiopia has successfully implemented retargeting campaigns as part of its broader digital marketing efforts, aiming to improve customer engagement, drive conversions, and increase overall revenue. Through personalized messaging and targeted advertisements, Ethiotelcom and Safaricom has managed to bring back potential customers and guide them through the final stages of their purchase journey.

Therefore, the researcher rejects the null hypothesis and accepts the alternative hypothesis H04, stating that Retargeting Campaign Success has a significant effect on customer engagement. The T-value ($t = 2.05$) and the associated p-value ($p = 0.041$), along with the unstandardized beta coefficient of 0.09676, indicate a direct, positive, and significant effect on customer engagement. Consequently, it can be generalized that there is a direct, significant, and positive effect on

customer engagement, derived from the data gathered in the case study.

Ethiotelcom and Safaricom retargeting campaigns are designed to re-engage visitors who have shown interest in its products or services but have not yet taken the desired action. These visitors may have visited Ethiotelcom and Safaricom website, browsed through product offerings, or interacted with Ethiotelcom and Safaricom ads but left without converting. By utilizing data-driven insights, Ethiotelcom and Safaricom can craft personalized ads that remind customers of what they viewed or interacted with, offering them further incentives to complete the action.

Ethiotelcom and Safaricom retargeting campaigns are based on a few key strategies designed to increase relevance and drive conversions: **Segmented Audience Targeting:** Ethiotelcom and Safaricom segments its audience based on their previous interactions with the brand. For example, visitors who abandoned their shopping cart or left a specific page (such as a product or service page) without completing a purchase are retargeted with ads highlighting the exact product or service they viewed. This approach ensures that customers receive highly relevant messages, which increases the likelihood of conversion.

Personalized Ads: Ethiotelcom and Safaricom uses dynamic ads that display personalized content, such as product recommendations or special offers based on the customer's previous behavior. For example, a customer who viewed a particular mobile plan may be shown a retargeted ad featuring that plan with an exclusive discount or added benefits.

Multi-Platform Retargeting: Ethiotelcom and Safaricom retargets customers across multiple platforms to ensure continuous engagement. For example, a user who browsed Ethiotelcom and Safaricom website may see a follow-up ad on their Facebook feed, followed by an Instagram ad showcasing a special promotion for the product they viewed. This multi-platform approach increases the chances of keeping Ethiotelcom and Safaricom top-of-mind for the customer.

Incentivized Offers: To encourage conversions, Ethiotelcom and Safaricom often incorporates incentives into its retargeting ads, such as limited-time discounts, extra data for mobile plans, or free trials for new services. These offers provide additional motivation for customers to return and complete their purchase or sign-up process.

The company's retargeting strategy primarily revolves around the use of online advertising platforms, such as Google Ads, Facebook Ads, and Instagram, to display customized ads to users across multiple touch points. Ethiotelcom and Safaricom uses cookies and tracking pixels to

monitor user behavior, ensuring that the right ads reach the right audience at the right time. Due to that, this Retargeting Campaign Success will affect customer engagement by 9.677%. Finally, this regression outcome become simmer with (Ayele & Chanie, 2019).

4.5.7 Result and discussions of Email -Open Rate

According to Table 4.7, the Open Rate shows a notable influence on customer engagement. This is confirmed by a p-value ($p < 0.05$) of 0.041, a T-value of 2.05, and an unstandardized beta coefficient of 0.0776. The multiple regression analysis suggests that H5 will be supported.

As a result, the researcher confirms that the Open Rate positively and significantly impacts customer engagement, supporting the hypothesis H5. Open rate refers to the percentage of email recipients who open or view a particular email campaign out of the total number of recipients who received the email. It is a key performance metric used in email marketing to measure the effectiveness of email campaigns and gauge subscriber engagement.

The open rate is a key metric in email marketing that measures the percentage of recipients who open a particular email compared to the total number of emails delivered. For Ethiotelcom and Safaricom, the open rate is a crucial indicator of the effectiveness of its email marketing campaigns, which are often used to engage customers, promote offers, and communicate important information. A high open rate suggests that Ethiotelcom and Safaricom emails are relevant and engaging enough to prompt recipients to open and read them.

The open rate serves as a barometer for the initial effectiveness of Ethiotelcom and Safaricom email campaigns. If the open rate is high, it indicates that Ethiotelcom and Safaricom subject lines, preview text, and overall messaging resonate with its audience. Conversely, a low open rate may indicate that the subject line or the content is not compelling enough to encourage recipients to open the email.

By tracking open rates, Ethiotelcom and Safaricom can make informed decisions about optimizing its email campaigns to boost engagement, refine its targeting strategy, and ensure that the emails it sends are reaching the right people at the right time. Several factors influence the open rate of Ethiotelcom and Safaricom email marketing campaigns. By understanding these

factors, Ethiotelcom and Safaricom can fine-tune its email strategies to achieve better results: Then here Open rate has substantial impact on customer engagement according to the gathered data.

Subject Line: The subject line is one of the most important factors determining whether an email will be opened. Ethiotelcom and Safaricom uses subject lines that are attention-grabbing, concise, and clearly convey the value of the email’s content. Personalization, such as including the recipient’s name or referencing their past interactions with Ethiotelcom and Safaricom, can further increase open rates.

Email List Segmentation: Ethiotelcom and Safaricom segments its email list based on customer data, such as location, purchasing history, and preferences. By sending targeted emails to specific segments, Ethiotelcom and Safaricom ensures that the content is relevant to the recipient, which increases the likelihood of the email being opened. For example, customers who have recently inquired about a new mobile plan may receive a personalized offer for that plan.

Timing and Frequency: The timing and frequency of emails also impact the open rate. Ethiotelcom and Safaricom carefully schedules its emails to be sent at times when recipients are most likely to engage. For example, promotional emails may be sent early in the morning or in the evening when customers have more time to browse. Ethiotelcom and Safaricom email fatigue by ensuring the frequency of emails is balanced also helps maintain high open rates.

4.5.8 Summary Results of Alternative Hypotheses

Table 4.8 Summary results of the Hypothesis

No.	Independent variables	Reject alternative Hypothesis	Accept alternative Hypothesis
1	Social media presence		✓
2	Contents Sharing Rate		✓
3	Customer Feedback Score		✓
4	Retargeting Campaign Success		✓
5	Open rate		✓
6	Traffic	✓	

Source : STATA Computed result based on primary data (2024)

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0. Introduction

This chapter summarizes the key research findings in relation to the study objectives and presents the conclusions drawn. It also includes recommendations on addressing the identified problem. Lastly, suggestions for future research are provided.

5.1. Summary of the findings

The primary objective of the study was to discover the extent to which affects adopting digital marketing on customer engagement in the telecommunication sector in Ethiopia, Addis Ababa city. Due to this thus study collected data to find out Social Media Presence, Content Sharing Rate, Customer Feedback Score, Retargeting Campaign Success, Open Rate and Traffic affect customer engagement in the case of Ethiopia, Addis Ababa.

The total target population for the study was extensive, leading to a sample size of 388 respondents. Out of these, 376 respondents completed and returned the five-point Likert scale questionnaires. The research utilized an explanatory design with a mixed-methods approach. Two data analysis techniques were employed: descriptive statistics and inferential statistics. Descriptive statistics helped in summarizing key aspects of the data, which were interpreted through frequency tables, means, and standard deviations. For inferential analysis, the researcher used correlation and multiple regression analysis to draw conclusions about the entire population.

The composite mean scores for the dependent and independent variables ranged from a minimum of 3.88 for the Open Rate explanatory variable to a maximum of 4.11 for Traffic. This suggests that, on average, customers in the case study agreed with the provided Likert scale based on the collected data. According to Kidane (2012), the rule of thumb indicates that, based on the ranges of the independent variables, customer engagement, social media presence, content sharing rate, customer feedback score, retargeting campaign success, open rate, and traffic influence the dependent variable, customer engagement. The corresponding mean scores and standard deviations are as follows: customer engagement ($M = 4.047$, $St. Dev = 0.665$), social media presence ($M = 3.960$, $St. Dev = 0.7021$), content sharing rate ($M = 4.011$, $St. Dev = 0.60$), customer feedback score ($M = 4.066$, $St. Dev = 0.74$), retargeting campaign success ($M = 3.897$,

St. Dev = 0.658), open rate (M = 3.88, St. Dev = 0.84), and traffic (M = 4.11, St. Dev = 0.7025). The correlation coefficient can range from -1 to +1, with the sign indicating the direction of the relationship. A value of 0 suggests no relationship between the variables, while values between 0.1 and -0.1 indicate a weak relationship. Values ranging from 0.4 to 0.6 and 0.7 to 0.9 suggest moderate and strong relationships, respectively, among the variables.

The regression results above table 4.7 revealed that independent variables (social media presence, contents sharing rate, customer feedback score, retargeting campaign success, open rate and traffic) explain 53.31% of the variation in customer engagement at (< 0.05 and 0.01) level of significance. This tells us out of 100% these independent variables explain the dependent variable by 53.31% whereas the remaining amount 46.69 & was occupied variables which are not found in the model.

The following conclusions were drawn from the analysis of the interviews: All people over the age of eighteen who reside in both urban and rural areas make up the company's target market. By establishing a brand identity in the eyes of consumers, both companies have positioned their products for both enterprise and residential clients. Such as pre-paid, postpaid, and 3G mobile bundle services. Safaricom and Ethiopian Telecom have only divided up their enterprise clientele. For residential clients, there is no segmentation. In terms of competition, there aren't any direct rivals for services like internet, fixed lines, or GSM, but some rivals have started offering web hosting. The business lacked a planned and organized strategy to win the

5.2. Conclusion of the study

Drawing from the results and summary of findings, the following conclusions can be made. Overall, the primary conclusion of this study is to determine the extent to which various factors of adopting digital marketing on customer engagement in the telecommunication sector in Ethiopia, Addis Ababa.

Factors related to factors of adopting digital marketing on customer engagement in the case of telecommunication sector in Ethiopia, Addis Ababa. The research findings show a positive relationship between social media presence, contents sharing rate, customer feedback score, retargeting campaign success, open rate and traffic with customer engagement. Therefore, there

is a need for special attention to the social media presence, contents sharing rate, customer feedback score, retargeting campaign success, open rate and traffic.

The social media presence of Ethiotelcom and Safaricom, as evidenced by post frequency, platform activity, and content interaction, has a significant impact on customer engagement, according to the regression analysis. Ethiotelcom and Safaricom can optimize their social media strategies to boost customer satisfaction, strengthen brand loyalty, and increase engagement by comprehending and utilizing these relationships.

An essential measure of the effectiveness of Ethiotelcom as well as Safaricom email marketing campaigns is the open rate. Ethiotelcom and Safaricom have been able to increase their open rates and audience engagement by concentrating on elements like tailored subject lines, efficient segmentation, mobile optimization, and interesting content. By monitoring and improving open rates, Ethiotelcom and Safaricom can improve their email marketing strategy and make sure that the right customers receive their messages and engage in meaningful interactions.

Brand awareness, customer engagement, and customer loyalty are all greatly aided by Ethiotelcom and Safaricom content sharing strategy. Ethiotelcom and Safaricom have successfully raised their content sharing rate by producing shareable, pertinent, and emotionally impactful content, which has resulted in a wider audience and more involved clients. Ethiotelcom and Safaricom are able to consistently improve their content strategy and sustain a robust social media presence by utilizing user-generated content, offering incentives for sharing, and monitoring important metrics.

Based on the feedback from interviewees and the responses gathered through the questionnaire, the researcher concludes that there are insufficient indicators of coordinated, efficient, and effective strategies to maintain customer engagement in the case study. This conclusion is supported by the findings from descriptive statistics, Pearson correlation, and multiple regression analysis of the dependent variables (i.e., customer engagement).

In addition to that the quantitative and qualitative analysis on determinants of customer engagement group mean becomes $m=4$ which is respondents agreed on the issues raised. Based on the responses collected from the questionnaire and the adjusted R^2 result (53.31%) along with the customer engagement mean ($M = 4.05$), which indicates a somewhat positive result (i.e., not

very much), it can be concluded that the efforts made by Ethiotelcom and Safaricom did not significantly enhance customer engagement in the case study based on the provided indicators. The explanatory variables—Social Media Presence, Content Sharing Rate, Customer Feedback Score, Retargeting Campaign Success, Open Rate, and Traffic—were found to be significant predictors of customer engagement. This suggests that any increase (or decrease) in the value of these variables leads to a corresponding increase (or decrease) in customer engagement in the case study.

5.3. Recommendations

i. Enhance Social Media Presence:

- How to Apply: Both companies should increase the frequency of their social media posts, improve interaction with followers, and focus on creating valuable, engaging content that resonates with customers. They can also utilize analytics to track engagement rates and optimize their content based on customer preferences.
- Impact on Customer Engagement: By strengthening their social media presence, Ethiotelcom and Safaricom can drive more customer interactions, leading to greater brand awareness and loyalty. Increased engagement on social media platforms could directly lead to more customer trust, as they will feel more connected with the brand. In the quantitative context, monitoring metrics like the engagement rate (likes, comments, shares) can help track improvements and ensure that engagement levels are rising over time.

ii. Optimize Content Sharing Strategies:

- How to Apply: The companies should develop shareable content that encourages customers to engage and spread the message. Incentivizing customers for sharing content (e.g., offering discounts or rewards) can encourage viral growth. They can also focus on content that aligns with customer interests and emotional triggers.
- Impact on Customer Engagement: Content sharing directly correlates with broader brand visibility and engagement. By making content more shareable, Ethiotelcom and Safaricom will not only reach a wider audience but also increase engagement rates through organic channels. Quantitative data, such as the number of shares and the viral reach of posts, will indicate whether the content strategy is effectively boosting customer

engagement.

iii. Improve Customer Feedback Mechanisms:

- How to Apply: The companies should integrate more comprehensive feedback loops, such as post-interaction surveys or email feedback requests, to understand customer experiences better. They can employ sentiment analysis tools to quantify customer satisfaction and identify areas for improvement.
- Impact on Customer Engagement: Consistent and positive responses to customer feedback led to higher levels of customer satisfaction and engagement. By implementing a more structured and data-driven feedback system, the companies can measure and act on customer sentiments more efficiently. The quantitative analysis of feedback scores, such as Net Promoter Score (NPS) or customer satisfaction ratings, can be used to track the effectiveness of the engagement efforts over time.

iv. Optimize Retargeting Campaigns:

- How to Apply: Retargeting campaigns should be personalized based on user behavior, such as abandoned carts or past interactions with the company. Data from website analytics can be used to create targeted ads that appeal to customers based on their previous actions, ensuring that the content is relevant and timely.
- Impact on Customer Engagement: Well-executed retargeting campaigns lead to higher conversion rates and increased engagement, as they ensure that the right content reaches the right customers. In a quantitative approach, metrics such as conversion rates, click-through rates (CTR), and return on investment (ROI) for these campaigns can be closely monitored to assess their impact on customer engagement.

v. Increase Email Marketing Open Rates:

- How to Apply: Ethiotelcom and Safaricom can focus on improving email marketing strategies by creating personalized subject lines, optimizing emails for mobile devices, and ensuring that content is valuable and targeted to the recipient's preferences. A/B testing of subject lines and email content can help identify the most effective tactics.
- Impact on Customer Engagement: Higher open rates are directly linked to better customer engagement, as they reflect a customer's interest in the content being shared.

By implementing these recommendations, Ethiotelcom and Safaricom will enhance their digital marketing strategies and increase customer engagement. The application of these strategies will create more meaningful interactions with customers, leading to improved brand loyalty, satisfaction, and long-term customer retention. Quantitative metrics such as engagement rates, customer satisfaction scores, and conversion rates will provide clear indicators of the success of these efforts. Continuous monitoring and optimization based on data will ensure that the companies remain responsive to customer needs, further strengthening their engagement and ultimately enhancing their competitive position in the market.

5.4. Limitation of the study

The researcher faced some limitations while doing so. To begin with, time frame for the completion of this research was a major limitation factor which affected the conduct of a comprehensive study. Lack of readily organized data was another limitation. Lack of experience in conducting similar research which is intern resulted in consuming much time & effort to carry out the study. Some respondents would not give values to the questionnaire and some others were not returned it totally. Besides this, some others see the questionnaire politically. Furthermore, since respondents were in a tight, some was not as such willing to fill the questionnaires and shortage of time to carry out the research was faced. It is very important to note that these limitations did not have any significant hindrance with the result of the study.

5.5 Areas for further research

Research across sectors and countries can provide broader insights into the factors that affect customer engagement in the telecom industry. By comparing data from various industrial sectors and countries, this research can provide a more comprehensive analytical view of how certain factors affect customer engagement.

The recommendation for further research in this area is to broaden the scope of the variables studied and use a more robust research design. Studies that involve collecting data from time to time (longitudinal) or using an experimental approach can provide a deeper understanding of the cause-and-effect relationships between factors that affect customer engagement.

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Dear respondents;

This questionnaire is prepared to collect essential information to meet the objective of a study being conducted on the “*The Effect of Digital Marketing Adoption on Customer Engagement in The Telecommunication Sector*”. The researcher would like to assure you that the information you provide will only be used for academic purposes. Therefore your cooperation and willingness in providing correct and true answer is highly important for the success of this study. Thus, I kindly request you to give your golden time for me to fill your honest information. I thank you in advance for your collaboration and support in this study.

Thank you in advance!

No need have express your name

Date _____

Section I: - Customers Demographic Related Questions

Please circle the number that best represents your response

1. What is your age?

- 1) Under 18,
- 2) 18–24,
- 3) 25–34,
- 4) 35–44,
- 5) 45–54,
- 6) 55 and above

2. What is your gender?

- 1) Male, 2) Female, 3) Other

3. What is your highest level of education?

- 1) High school, 2) Diploma, 3) Bachelor's, 4) Master's, 5) PhD

4. What is your employment status?

Options:

- 1) Student, 2) Employed, 3) Self-employed, 4) Unemployed

5. Which telecommunication provider do you primarily use?

Options:

- 1) Ethio Telecom
2) Safaricom Ethiopia
3) Both

Section II-Customer engagement

1) How satisfied are you with your telecom provider's digital marketing efforts?

- 1) Very Unsatisfied, 2) Unsatisfied 3) Neutral 4) Satisfied 5) Very Satisfied

2) How likely are you to recommend your telecom provider based on their digital engagement?

- 1) Very likely, 2) Likely, 3) Neutral, 4) Unlikely, 5) Very unlikely

3) How much do you feel your telecom provider's digital marketing understands your needs?

- 1) Very much, 2) Somewhat, 3) Neutral, 4) Not much, 5) Not at all

4) How satisfied are you with the responsiveness of your telecom provider's digital customer support?

- 1) Very satisfied, 2) Satisfied, 3) Neutral, 4) Dissatisfied, 5) Very dissatisfied

5) How often does your telecom provider's digital marketing influence your decisions to use their services?

- 1) Always, 2) Often, 3) Sometimes, 4) Rarely, 5) Never

Section –III Social Media Presence

1. Which social media platforms do you use most frequently? (Select all that apply)

- 1) Facebook 2) Instagram
2) Twitter 3) LinkedIn 4) TikTok 5) Other

2. How many hours do you spend on social media daily?
 - 1) Less than 1 hour
 - 2) 1-2 hours 3) 3-4 hours 4) 5+ hours
3. Which content type do you find most engaging from telecommunication brands?
 - 1) Promotions and offers
 - 2) Informative posts (e.g., service updates, tech tips)
 - 3) Interactive content (e.g., polls, Q&A)
 - 4) Customer service responses
 - 5) Perception of Social Media Efforts
4. How effective do you think telecommunication brands are in using social media for customer engagement?
 - 1) Very effective 2) Effective 3) Neutral
 - 4) Ineffective 5) Very ineffective
- 5) Do social media campaigns by telecommunication brands influence your decision to use their services?
 - 1) Strongly agree 2) Agree 3) Neutral 4) Disagree 5) Strongly disagree
- 6) How likely are you to engage with social media content from telecommunication brands?
 - 1) Very likely 2) Likely 3) Neutral 4) Unlikely 5) Very unlikely

Section VI- Retargeting Campaign Success

- 1) How often do you see retargeting ads for telecommunication services?
 - 1) Very frequently 2) Frequently 3) Occasionally 4) Rarely 5) Never
- 2) Have retargeting ads from telecommunication brands ever prompted you to take the following actions?
 - 1) Visit their website again 2) Subscribe to a service 3) Engage with their social media
 - 4) Ignore the ad
- 3) How personalized do you find retargeting ads by telecommunication brands?
 - 1) Highly personalized 2) Moderately personalized 3) Neutral
 - 4) Poorly personalized 5) not personalized at all

4) Do retargeting ads influence your purchasing decisions regarding telecommunication services?

1) Strongly agree 2) Agree 3) Neutral 4) Disagree 5) Strongly disagree

5) How do you perceive retargeting ads by telecommunication brands?

1) Very helpful 2) Helpful 3) Neutral 4) Annoying 5) Very annoying

Section –V Customer Feedback Score

1) How easy is it to provide feedback to your telecom provider through digital platforms?

1 = Very Difficult, 2 = Difficult, 3 = Neutral, 4 = Easy, 5 = Very Easy

2) How often does your telecom provider address your feedback or concerns?

1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Very Often

3) How effective are your telecom provider's efforts to act on customer feedback?

1 = Not Effective, 2 = Slightly Effective, 3 = Neutral, 4 = Effective, 5 = Very Effective

4) How likely are you to recommend our brand to others?

1) Very likely, 2) Likely, 3) Neutral, 4) Unlikely, 5) Very unlikely

5) How satisfied are you with the quality of our product/service?

1) Very Unsatisfied, 2) Unsatisfied 3) Neutral 4) Satisfied 5) Very Satisfied

6) How would you rate your overall experience with our customer service team? (1-5 scale)

1) Very personalized, 2) Personalized, 3) Neutral, 4) poorly personalized, 5) Not personalized at all

Section –VI Content sharing rate

1. How personalized do you find the ads or offers you receive from your telecom provider?

1 = Not Personalized, 2 = Slightly Personalized, 3 = Neutral, 4 = Personalized, 5 = Very Personalized

2. How important is it for you to receive personalized offers from your telecom provider?

1 = Not Important, 2 = Slightly Important, 3 = Neutral, 4 = Important, 5 = Very Important

3. How well do the personalized messages from your telecom provider meet your needs?

1 = Not at All, 2 = Slightly, 3 = Neutral, 4 = Well, 5 = Very Well

4) How often do you like, comment on, or share your telecom provider's content?

1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Very Often

5) How frequently do you click on ads or promotions from your telecom provider?

1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Very Frequently

6) How long do you typically spend interacting with your telecom provider's digital content?

1 = Very Briefly, 2 = Briefly, 3 = Neutral, 4 = Long, 5 = Very Long

Section VII - Email Open rate

1) How often do you check emails from our brand?

1) Daily, 2) Weekly, 3) Monthly, 4) Never

2) What encourages you to open an email from us?

1) Compelling subject line, 2) Exclusive offers, 3) Personalized content, 4) Other

3) How satisfied are you with the relevance of our email content?

1) Very satisfied, 2) Satisfied, 3) Neutral, 4) Dissatisfied, 5) Very dissatisfied

4) How do you feel about the frequency of the emails you receive from us?

1) Too frequent, 2) Just right, 3) Too few

5) Have you ever unsubscribed from our emails?

1) Yes 2) No

Section VIII- Website Traffic

1) Website Traffic; How often do you visit our website?

1) Daily, 2) Weekly, 3) Monthly, 4) Never

2) How did you first find out about our website? (Search Engine, Social Media, Referral from a friend, other)

3) What type of content do you find most engaging on our website?

1) Blog posts, 2) Product pages, 3) Testimonials, 4) Videos, 5) Other

4) How easy is it to navigate our website? (1-5 scale)

1) Very Difficult, 2) Difficult, 3) Neutral, 4) Easy, 5) Very Easy

Section-X Interview Questions (For both telecom companies)

1. How would you describe your company's digital marketing significant role in the Ethiopian telecommunication sector?

2. What is the roll of Social media platforms in shaping your digital marketing adoption?

3. What challenges does your company face in implementing and optimizing digital marketing campaigns?

4. How does digital marketing influence customer loyalty and retention in your organization?