



ADDIS ABABA UNIVERSITY
COLLEGE OF HUMANITY, LANGUAGE STUDIES, JOURNALISM
AND COMMUNICATION
SCHOOL OF JOURNALISM AND COMMUNICATION

TRENDS AND PRACTICES OF ICT ADOPTION FOR ENHANCING
STRATEGIC COMMUNICATION AND ORGANIZATIONAL
PERFORMANCE: EVIDENCE FROM THE ETHIOPIAN BANKING
SECTOR

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College of Humanity, Language Studies, Journalism and Communication
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**Trends and Practices of ICT Adoption for Enhancing Strategic
Communication and Organizational Performance: Evidence from the
Ethiopian Banking Sector**

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DEDICATION

This dissertation is dedicated
To
My Late Mother Tiru Balemi

Statement of author

I, the undersigned, hereby declare that I am the author of the dissertation entitled "***Trends and Practices of ICT Adoption for Enhancing Strategic Communication and Organizational Performance***: Evidence from the Ethiopian Banking Sector". I solemnly declare that this dissertation has not been submitted to any other institution to receive an academic degree, diploma, or certificate, aside from the articles in the dissertation, which were submitted to journals in partial fulfillment of the requirements for the Ph.D. degree at Addis Ababa University. I have appropriately cited and credited all sources used in this work per the generally accepted standards of practice. I am aware that failing to uphold the standards of academic honesty and integrity and misrepresenting or fabricating any idea, data, fact, or source will be sufficient grounds for the university to take disciplinary action.

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Abbreviations and Acronym

AIB:	Awash International Bank
ATM:	Automated Teller Machine
CBE:	Commercial Bank of Ethiopia
CAPI:	Computer Assisted Personal Interview
CRM:	Customer Relationship Management
DB:	Dashen Bank
DIT:	Diffusion of Innovation Theory
DOI:	Diffusion of Innovation
DV:	Dependent Variable
EF:	Environmental Factor
ERP:	Enterprise Resource Planning
FDRE:	Federal Democratic Republic of Ethiopia
GDP:	Gross Domestic Product
ICT:	Information Communication Technology
IDT:	Information Diffusion Theory
IS:	Information System
IT:	Information Technology
ITU:	International Telecommunication Union
IV:	Independent Variable
MICR:	Magnetic Ink Character Reader
MMR:	Mixed-Method Research
OF:	Organizational Factor
MV:	Mediator Variable
OLS:	Ordinary Least Squares
PADIS Net:	Pan African Documentation and Information Service Network
PEOU:	Perceived Ease of Use
PLS:	Partial Least Squares
PLS-SEM:	Partial Least Squares Structural Equation Modeling

POS:	Point-of-sale
PSS:	Payment Switching System
PU:	Perceived Usefulness
SAS:	Statistical Analysis System
SEM:	Structural Equation Model
SFNB:	Security First Network Bank
SIS:	Strategic Information System
SMS:	Short Message Service
SPSS:	Statistical Package for Social Science
TAM:	Technology Acceptance Model
TF:	Technological Factor
TFT:	Technology Fit Theory
TOE:	Technology Organization Environment
TPB:	Theory of Planned Behavior
TTFT:	Task Technology Fit Theory
SCT:	Social Cognitive Theory
SFNB:	Security First Network Bank
SLA:	Service Level Agreement
UNECA:	United Nations Economic Commission for Africa
UTAUT:	Unified Theory of Acceptance and Use of Technology
WTO:	World Trade Organization

Abstract:

This study examines the trends and practices of ICT adoption for enhancing strategic communication and organizational performance in the Ethiopian banking sector. The study was conducted at three banks in Ethiopia: Dashen Bank, Awash Bank, and the Commercial Bank of Ethiopia. The research employed a comparative approach, where a total of 324 respondents participated in the study, with 116 from the government bank and 208 from private banks. Data were collected using a Google Form questionnaire, administered through Computer Assisted Personal Interview (CAPI) of 306 and face to face interview with 18 respondents. The study assessed and compared the level of ICT adoption and utilization for strategic communication using mean and Standard Deviation (SD) values between private and government-owned banks. The study measured three main variables of ICT adoption and strategic communications as potential determinants, and organizational performance as outcome variables determined using regression to determine the most significant determinant factor. The level of organizational performance was compared using mean comparisons between the private and public banking sectors. A structural equation model and mediation analysis test were used, with statistical significance set at a p-value of <0.05 for hypothesis testing and model building procedures. Moreover, an exploratory mixed research design with both a qualitative approach was employed on 18 participants, selected purposefully and equally selected from each bank. Qualitative data analysis techniques were employed using MAXQDA software package to analyze the data, and the results were interpreted and discussed in relation to the research questions and conceptual framework of the study. Using independent t-test quantitative analysis, the study's data analysis and discussion produced significant conclusions about ICT adoption, utilization, and its impact on organizational performance and strategic communication in the Ethiopian banking industry. The study's data analysis and discussion revealed important findings regarding ICT adoption, utilization, and its effect on strategic communication and organizational performance in the Ethiopian banking sector. The study found that the satisfaction level of ICT adoption and utilization was high, with an average score of about 75%, in both private and government banks. This indicates the comprehensive benefits of ICTs in banking operations. Organizational factors were identified as significant determinants of ICT adoption in the banking sector. However, technological and environmental factors were not found to be significant predictors of ICT adoption for strategic communication. Findings also indicated that ICT adoption was widely accepted and held at a similar degree and pattern among employees in private and public banks. The use of ICT for strategic communication was consistent in both types of banks. The study also revealed that organizational factors had an indirect influence on strategic communication, mediating 88% of the overall effect. While technology and environment-related factors had indirect influences of 61% and 67% respectively, there was no evidence of mediation. Additionally, the study demonstrated that a one percent increase in the score for strategic communication was associated with a 0.19 percent change in organizational performance. The average scores for organizational performance did not significantly differ between public and private banks, with scores of 76.2 (SD = 1.3) for public banks and 78.2 (SD = 1.0) for private banks. A one percent increase in the level of ICT adoption score led to a 0.34 increase in organizational performance. This total effect included a direct influence coefficient of 0.27 and an indirect effect coefficient of 0.07. The use of ICT had a significant direct influence, and strategic communication played a crucial role in enhancing organizational performance both directly and indirectly. External and internal factors played a significant role in the adoption of ICTs for strategic communication in Ethiopian banks. Based on the findings of the study, the following general recommendations are suggested for banks and the board of the bank and government in Ethiopia: by increase awareness of organizational factors, emphasize ICT adoption practices, recognize the importance of strategic communication, and keep up with technology trends. Increase awareness of organizational factors: Banks should invest in creating awareness among their employees regarding the impact of organizational factors on strategic communication and overall performance. This will help align organizational practices with effective communication strategies. Effective strategic communication is crucial in this process and to enhance organizational performance, modernize operations, and gain a competitive edge in the global banking sector, banks in Ethiopia should prioritize the adoption and utilization of ICTs to increase efficiency. The government can support banks by promoting ICT adoption, strategic communication, and enhancing banking services for global competitiveness. Recognizing the importance of strategic communication as a mediating factor, banks should invest in strategies that improve communication practices. It is also essential to keep up with technology trends by implementing the latest technologies demanded by the banking industry for launching ICT-based services, enabling the delivery of innovative and efficient customer services.

Keywords: Practices, ICT Adoption; Strategic Communication; Banking Sector; Organizational Performance

CHAPTER ONE

1. GENEREAL INTRODUCTION

This study aimed to analyze and assess the trends and practices of Information Communication Technology adoption for strategic communication and organizational performance in the Ethiopian banking sector in Ethiopia. The introductory part of the research described the background from global and Ethiopian perspectives. Furthermore, it presented the problem statement, research questions, objectives, significance, scope and limitation of the study.

1.1 Background to the Study

Today, Information Communication Technologies (ICTs) had transformed organizations into virtual entities, resolving technical and geographical issues while reducing costs for global organizations. This facilitated global collaborations and enhanced the quality and efficiency of the business system, thereby stabilizing the economy (Dubihlela and Kupangwa, 2016). The adoption of ICTs in business organizations, such as banking, had shifted transaction processing systems from traditional to modern operations. The incorporation of new ICTs had accelerated the improvement of products and services, resulting in increased profits and expanded markets (Robson, 2013).

Organizational communication emerged as a field of study in the 1950s, with its own theories, building upon earlier studies of communication dating back to the 1930s. The purpose of organizational communication was to enhance organizational life and improve the output of products and services. It involved examining how the communication process contributed to the coordination of behavior in pursuit of organizational goals (Semren, 2017). Specifically, the application of Information Communication Technology in business organizations served as a strategic tool for organizational communication, activating operational transactions and ultimately increasing the output of products and services without additional input (Kenneth and Jane, 2012).

Up until the mid-1950s, organizations relied on paper records to manage their information flow. However, over the past 60 years, there has been a gradual shift towards computerization, with an increasing amount of business information and communication being digitized. Businesses have recognized the need to invest in information systems to

effectively handle their internal production functions and to compete with other key actors and rivals in their respective industries (Bal et al., 2012). The innovation and adoption of ICTs in the banking industry began in the late 1970s. During this time, businesses in the industry started digitizing their data and resources, taking advantage of the advancements in telecommunications and information technology. Notably, the Security First Network Bank (SFNB) is widely recognized as the first bank to adopt these new ICTs and offer internet banking services. SFNB pioneered internet banking in the United States and operated without physical bank branches (Devlin, 1995).

Technological communication systems, as described by (Karim, 2011), involve the interaction between people, data, processes, and interfaces to support day-to-day operations, problem-solving, and decision-making needs of management and users within a business. According to Kenneth. and Jane. (2012) since 1960, the evolution and introduction of computers have revolutionized global commerce. Information technologies have played a vital role in implementing and developing information systems that transform raw data into valuable information through input, processing, and output activities. The business sector's information needs and requirements have significantly increased, rendering manual data processing methods inadequate. Consequently, businesses have sought computerized systems, known as information systems, to better achieve their goals and meet organizational management needs. Technological advancements and the introduction of information and communication technologies have made today's business organizations highly dynamic and competitive, leading to transformative changes in societies (Osabuohien, 2008).

The establishment of Ethiopia's first bank, the Bank of Abyssinia, dates back to 1905. It was established based on a fifty-year franchise granted to the British-owned National Bank, which was controlled by the Bank of Egypt (Mauri, 2014). Prior to 1974, Ethiopia's banking sector was predominantly dominated by a single state-owned bank. However, in 1974, the privately owned Commercial Bank of Addis Ababa was established and expanded its branch network across the country's main cities. Following the political changes in 1991, several private banks began operating, including Awash International Bank (AIB), which was established as a private commercial bank on November 10, 1994 (Mauri, 2014). Although communication technologies such as e-banking were introduced to Ethiopia in 2001 by the Commercial Bank of Ethiopia (CBE), the adoption of e-banking faced various challenges. These challenges

included low rates of internet access, inadequate ICT infrastructure, and limited attention given to technology adoption for strategic communication in Ethiopia. Prior to 2001, all banks in Ethiopia relied on manual communication systems. Ethiopia adopted internet technology in 1993, with the support of the United Nations Economic Commission for Africa (UNECA), which established the Pan African Documentation and Information Service Network (PADIS Net) connected directly to Green Net's Internet gateway in London (Kidan, 2005). Oyelaran-Oyeyinka and Lal (2004) noted that due to the low rate of ICT adoption and limited ICT infrastructure development in developing countries like Ethiopia, technology diffusion has been relatively limited compared to developed countries.

Throughout this dissertation, the term ICT (information and communications technology) is used, which is often interchangeable with IT (information technology) and IS (information system). These technologies have a positive impact on achieving organizational performance in business organizations (Australian National University. et al., 2005). They serve as important tools for coordinating and controlling the functions, departments, and business processes within an organization. Each department has its own goals and processes that are supported by ICT to facilitate the overall business process and transactional activities (Laudon, 2009). ICT is designed to assist managers and professionals by processing and disseminating large amounts of information throughout the organization (Kenneth. and Jane., 2012). It provides information for strategic, tactical, and operational decision-making in all subsystems of the business organization (Chaffey and Wood, 2013). It is a system that presents data in a format suitable for managerial decision-making, planning, and monitoring of organizational activities.

The flow of information within organizations highlights the importance of information systems as dynamic tools for achieving key business objectives (Bal et al., 2012). In the banking industry, ICT is crucial for the growth and survival of banks in the modern world. Technologies such as cloud computing and internet-based communication systems enable banks to deliver effective communication services to customers while maintaining market competitiveness and ensuring smooth information flow. Communication technology serves as a fundamental tool for banks to achieve their goals and objectives by providing efficient and effective services. It can also be used as a competitive advantage, facilitating service delivery, timely decision-making, resource optimization, and overall business organizational

development (Chairoel et al., 2015). In today's rapidly changing and highly competitive environment, the banking industry's success heavily relies on adopting appropriate technology for advancement. As mentioned by various scholars, the objective of ICT in organizations is to provide management, managers, and stakeholders with information for precise planning, monitoring, and control of business operations. The utilization of ICT systems for communication purposes has made organizations more flexible, eliminating redundant management functions in today's globalized and information-based economy. Consequently, there is a greater need to thoroughly plan and study the trends and practices of ICT in the banking sector.

1.2. Statement of the Problem

The review of the related literature showed that, over the years, a number of valuable studies have been conducted in the area of mobile banking in Europe, Asia, America, and in developing countries such as South Africa, Ghana, Nigeria, Kenya, and a few in Ethiopia. Nonetheless, researchers have not looked at ICT adoption as a tool for strategic communication in the Ethiopia's banking sector. Cognizant of the changes at global level, it has become indispensable for every business sector to adopt ICT systems encompassing both hardware and software (Hallahan et al., 2007).

Kenneth and Jane (2012) argued that adoption of communication technologies in today's business organization helps businesses to operate effectively in a dynamic and competitive environment. Adoption of communication technologies used to integrate business with the advancement of communication technology for strategic communication. In such a manner, it plays a significant part in influencing business organizations communication platform (McIver, 2019). Strategic managers of an organization need to employ and communicate through advanced communication technology systems for the benefit and achievement of their organizations' strategic goals and sustainable development (Technische, 2006). These helps organizations to improve information flow, reduce costs and make more efficient, establish linkage with suppliers and reduce response time to customer needs and expectations. Davis and Davis (2016) state communication technology adoptions improve organization performance and achieve the objective of organization. Leung et al. (2015) argue that the exponential growth and advancement of technology integrated communication system is a significant factor that influences today's organizations environment and its

communication platform. Organizations may be composed of different dispersed units that require technology through advanced integrated communication system. This, of course, has made competition among organizations to remain successful and competitive. Ruler (2018) stated strategic communication is informed and examining by the principles and plan of the organization through implementing ICT as a tool to achieve and give support of business organization. It is clear that ICT is considered a strategic tool of communication for effective and efficient services in businesses organization across different countries and governments. The emergence of ICT did not only configure the way we live, but also offers different platforms for creating social networking among actors. It significantly changes many aspects of communication relationships within business organizations and engagement among stakeholder in business organization. Rogers (2003) stated the adoption of innovation technologies for strategic communication may be affected by cultural, socio-economic, political and legal factors in both developed and in the developing countries. Depending on the general economic situation, lack of knowledge and awareness of the technology in business sector may affect the adoption.

Banks adopted the latest technology for different transactional activities to reduce their operational costs, to increase the number of customers and services. The promise of Information System (IS) in the banking sector has been to increase the customer base, reduce transaction costs, improve the quality and timeliness of response, enhance opportunities for advertising and branding, facilitating self-service and service customization, and improvement of customer communication and relationship with the business organization. Most banks in developed and some developing parts of the world are adopting and offering online banking communication services with various levels of sophistication and advantages (Belay et al., 2016).

Worku (2010) further accounted that adoption of communication technology can play a crucial role in the banking industry by creating value for banks and customers. Information and communication technology (ICT) is quickly growing and knocking the door of every organization in the world including Ethiopian banks in particular. Electronic communication systems rapidly expanded and grow in business organization throughout the world and also in Ethiopian financial sector expanding the use of the system (Tekele, 2020). However, according to Gemechu (2014), the adoption and diffusion of electronic banking (E-banking)

system is not well developed and too late to move with technological advancement in Ethiopia banks. In developing countries like Ethiopia, the equipment of banking sectors with technology is at its infancy. Gemechu's (2012) study on the Ethiopian banking industry's adoption of information systems found that all banks in Ethiopia are late to move with technological advancement. Still the banking system in Ethiopia depends on traditional manual operation system which was not well adopted technology. This creates on lack of competition among local and foreign banks as a challenge for the adoption of E-banking in the country.

According to Worku (2010), technical and managerial skills available in Ethiopian banks for the adoption of ICT are limited and influencing the choice of technology in Ethiopian banks. He also considers the opportunities and challenges of electronic banking practices in Ethiopia. Ethiopian banks today have started providing technology-based services and products like Automated Teller Machine (ATM) payment cards, Mobile banking, Internet banking, short message service (SMS) banking, and electronic fund transfer to their customers. In developing countries particularly in Ethiopia except some few limited studies of research done (Worku, 2010; Bekele, 2012; Gemechu, 2014; Tekele, 2020) on electronic banking challenges and barriers, there are no studies currently available on ICT adoption as a tool of strategic communication in Ethiopia.

According to Ahmed and Mansoori (2016), business organizations have invested their time and resources for the betterment of their services and products using ICT as critical tool for increasing the performance of the banks. Felix and Tarus (2021) argued that, banks in particular have invested huge sums of money on ICT for the success of banks and to increase the products and services. Essay (2016) asserted banks should properly understand the impact of ICT on their efficient service delivery, customer satisfaction and employee's productivity in order to maximize the return on its investment and increasing organizational performance. According to Felix and Tarus (2021), study on Impact of Information Systems on management decision-making in Nigeria business sector information systems have become an integral part of every corporate organization, especially the business industry in facilitating decision making, planning process and the prospect of achieving organizational goals and objectives to facilitate decision-making.

The result of the study clearly indicated that information systems would remove traditional, geographical and marketing limitations; hence the management of every business organization is implementing information systems. On the other hand, Agbolade (2011) claimed that, the most significant shortcoming is a wide failure of senior management in banks to grasp the importance of ICT to incorporate it into their strategic plans accordingly. According to Belay et al., (2016), banking industries should be increasing their awareness on the adoption of ICT through identifying its barriers and drivers which have impact on technology adoption as critical factors.

Strategic managers of business organizations focusing on integrated communication system of information and communication technologies (ICT), to integrate information and communication across units of an organization and abroad to achieve its mission and vision to improve organizational performance (Musheke and Phiri, 2021). ICT adoption is important because ICTs can aid in effective communication strategy, create the necessary conditions and that accelerate socio-economic development processes, improve service sectors, help create a knowledge and information-based society, modernize civil and public services, and promote good governance and reduce wastage of scarce resources (Chairoel et.,al., 2015). Adopting ICT as a tool of effective communication is crucial for business organizations to achieve its mission, vision and stay in business and more competitive. It involves exchanging ideas, thoughts, knowledge, and information accurately, efficiently, and with clarity (Kay et al., 2017). It enhances productivity and improves the quality of services and products. The key characteristics of effective communication include clarity, accuracy, completeness, precision, and reliability (Andhra, 2010).

Even though many studies have been conducted (e.g. Kyeremeh, et al , 2019) on the effect of ICT on banking performance, limited studies are available in developing countries like Kenya that investigate the effect of ICT adoption on banking sector particularly in relation to Strategic communication. The relevance of ICT adoption to address the current gap in the literature to investigate on the practice, trends of ICT adoption for improving organizational performance in Ethiopia banking sectors and finding out on key factors that affect adoption of technological communication system is very important. The researcher would argue that, little work has been done on the adoption of ICTs in Ethiopia's banking sector, especially with regards to key factors that determine ICT adoption as a tool of strategic communication. There is a gap of understanding about ICT adoption and its impact on the banks overall

objective and its potential benefits and impacts. Therefore, this study seeks to examine the trends and practice of ICT adoption and its effect on performance of banks in Ethiopian and to assess the challenges banks encounter in providing technology-based communication services. Hence, more studies are still required to understand the challenges and relevance of ICT in Ethiopian banking sectors and to give a better insight for decision makers of the industry.

Based on the aforementioned context, this study aims to identify and analyze the main factors influencing the adoption of ICT as strategic communication in the banking sector. It also aims to address the relevant issues associated with the adoption and implementation of ICT while focusing on its impact on strategic communication for improving organizational performance and achieving organizational objectives. Furthermore, this study intends to bridge the research gap observed in previous discussions by systematically investigating the overall practice of ICT and evaluating the effects of ICT adoption. Specifically, it seeks to explore the trends and practices of ICT adoption as a strategic communication tool, and identify crucial factors for successfully implementing ICT systems for strategic communication in Commercial Bank, Awash Bank, and Dashen Bank in Ethiopia.

1.3. Research Questions

In addressing the above-mentioned problems, the following four research questions are formulated:

1. What are the trends and determinants of ICT adoption for Strategic Communication in Ethiopian banking sector?
2. To what extent do ICT adoption practices influence Strategic Communication of Banks in Ethiopia?
3. What are the effects of ICT adoption and Strategic Communication on performance of Ethiopian banking sector?
4. What are the practices and challenges of technology adoption for strategic communication at state and privately-owned banks in Ethiopia?

1.4. Objectives

This study aimed at investigating the trends, practices, and the main factors that affecting ICT adoption in Ethiopian banking sector which emphasize on the effects of communication technology adoption and effective strategic communication within banking sector. So, the

main objective of the study is to explore the practices and trends of ICT adoption as tool of strategic communication to enhance organizational performance in Ethiopia's banking sector.

1.4.1. Specific objectives

More specifically the study aimed to:

1. Analyze the trends and determinants of ICT adoption for strategic Communication in Ethiopian banking sector;
2. Examine the practices and influence of information Communication Technology Adoption Practices on Strategic Communication of Banks in Ethiopia;
3. Determine the effects of ICT adoption and Strategic Communication on organizational performance in Ethiopian banking sector;
4. Assess the practices and challenges of technology adoption for strategic communication at state and privately-owned banks in Ethiopia;

1.5 Significance

The results of the research are significant for understanding factors that determine the adoption and use of ICT in the banking sectors. It also helps to examine the potential effect on strategic plan officers, ICT managers, communication professionals, and top-level managers to enhance their performance and achieve their strategic objectives. It finds out the significant factors for adoption and utilization of ICT in banking sectors to improve organizational performance and efficient decision-making. Consequently, it is significant to the different level decision-makers and customers of the banks at different levels for effective and efficient decision-making. It also gives insight to the banking sector in detecting major factors affecting communication technology adoption for strategic communication to improve effectiveness, efficiency, and enhance competitiveness of the banking sector.

The study is also significant to various banks and managers who are involved or affected by the implementation and use of information systems in the Ethiopian economy. The research findings help the commercial banks of Ethiopia, Awash International Bank, and Dashen Banks to clearly identify the root challenges and help the technology innovators in inventing solutions that help the banks in implementing strategic information for competitive advantage in the industry. It also has a useful effect on the overall banking sector by suggesting ways to

improve the benefits of ICT adoption. The study is also important for policymakers to take action based on the output and understand factors that determine technology adoption in business sectors. As there are no empirical studies conducted in this regard, this study fills the information gaps on empirical and theoretical of policymakers and how it improves service to customers and achieves strategic objectives of the banking sector.

Therefore, the study findings create opportunities for policy debates and analysis on the adoption and strategic communication systems in the banking sector. It also makes theoretical and methodological contributions to the existing academic literature on information systems adoption. The study contributes theoretically to the literature on strategic communication and enhances the limited knowledge on the use of ICT adoption as a tool for strategic communication in the development of the banking sector in Ethiopia. Moreover, the study has theoretical significance by providing a foundation for future researchers to investigate the areas under examination. Methodologically, this study employs a mediation and moderation research model to explore the adoption of ICT and identify the conditions that influence the relationship between technology and business sectors. Additionally, this research contributes to the literature on the implementation of strategic information systems in Ethiopia. Consequently, the study results have both academic and organizational implications in the discussions surrounding the adoption of technology in the banking sector of Ethiopia.

1.6. Scope

Thematically, the study scope focuses on adoption of ICT as a tool for strategic communication to achieve its objective and identifying factors that affect the adoption of ICT in the banking sectors. Spatially, the study scope is confined to Commercial bank of Ethiopia, Awash bank and Dashen bank of Ethiopia as a case study selecting purposefully on headquarters operating in capital city of Addis Ababa. In terms of its target groups, the study focused on the adoption of information communication technology in the banking sector. Interviews and surveys were conducted to gather insights from top level executives, managers, Marketing and communication professionals, ICT staff, and strategic plan officers. Therefore, the units of observation for this study were top level executives, Directors, managers, communication professionals, ICT professionals, and strategic plan officers.

1.7. Concise Literature

1.7.1. Introduction

In this section, the researcher provides a concise overview of the existing literature on organizational communication and technology adoption and strategic communication. It serves as a foundation for the research objectives outlined in subsequent sections, with a specific emphasis on current trends, best practices, and obstacles of ICT adoption for organizational communications to achieve strategic objectives of banking sector. The review also examines the theories and models that are pertinent to research on technology adoption for organizational communication and challenges associated with ICT adoption. Furthermore, the details of specific literature relevant to each specific objective are presented in the respective sections.

1.7.2. Conceptual Review

1.7.2.1. Communication Technology Adoption

Communication is a process in which participants create and share information with one another in order to reach a mutual understanding on the idea of the message content (Rogers, 2003). Communication technology adoption as a tool for strategic communication has become very important for business organizations to achieve objectives and enhance institutional effectiveness. Communication technology adoption in business organizations like banks is very crucial for the growth of economic development. Various scholars argue that the adoption of technology in organizations nowadays has expanded to improve the performance of employees to achieve the strategic objectives of the organization (James. and George., 2011; Kenneth. and Jane., 2012). Adoption of communication technologies as strategic communication tools in banking sectors has greatly contributed to the successful operation of banks. Among other reasons, the adoption of communication technologies minimizes costs, energy, and time of employees in the banking sector. Information system in an organization is like the nervous system in the human body because it enables organizations to provide better operation and survival in global competitive environment (Kenneth. and Jane., 2012).

According to Rogers (2003), diffusion of new ideas are an innovation communicated through certain channels over time among the members of a social system. The innovation-decision

process is the mental process through which an individual decision to adopt, implementation of the new idea and confirmation of this decision. The five stages in the diffusion of innovation decision processes are knowledge, persuasion, decision, implementation and confirmation. This shows that a potential adopter passes via certain stages before decision is made on whether to adopt or reject an innovation. Gezahegn (2016) stated some technological innovation products can catch to gain acceptance immediately, whereas others take a long time which can affect its rate of adoption. The characteristics of an innovation, as perceived by the members of a social system, determine its rate of adoption. The acceptance and continued adoption and use of a product, service, and idea by consumers passes through process of technological innovation of knowledge, persuasion, decision, implementation and confirmation before they are ready to adopt a product or service. Laforet and Li (2005) mentioned innovation is perceived to be better, if the existing systems relative advantage is enhanced than others and ease of using the technology and the ability of the technology to meet the needs of the adopter influence whether the technology is adopted. Individuals can reduce the degree of uncertainty situation through adoption of information communication technology by obtaining business information from banking sector. Therefore, adoption of communication technology is the degree to which a number of alternatives are perceived with respect to the occurrence of an event and the relative probabilities of these alternatives.

1.7.2.2. Organizational Communication Technology

In my exploration of strategic communication, I find a strong resonance with the concept of organizations as dynamic entities driven by communication processes. Scholars like Rajhans (2009), Dhurkari (2017), and Miller (2012) provide insights into the nature of organizations as social arrangements designed to achieve collective goals through coordinated efforts, often facilitated by strategic communication. The historical context outlined by Servaes and Malikhao (2008), highlighting the emergence of organizational communication as a separate field of study in the 1950s, underscores the importance of communication in shaping organizational dynamics. Communication serves as a social process that enables communities, including organizations, to come to agreements and implement necessary changes, which is crucial for their existence and success.

Moreover, the acknowledgment by Grimshaw et al. (2015) that organizational communication influences the coordination of behavior in pursuit of objectives resonates deeply with the strategic communication perspective. Effective communication strategies play a pivotal role in aligning individual behaviors and efforts towards organizational goals, thus enhancing overall performance and productivity. In my study of strategic communication, I recognize the interconnectedness between communication processes and organizational functioning. By understanding how communication shapes relationships, facilitates coordination, and drives change within organizations, I can develop strategic approaches to communication that contribute to the achievement of organizational objectives and goals. This alignment ensures that communication efforts are not only effective but also strategic in driving organizational success.

In this study of strategic communication, the researcher finds a deep connection with the multifaceted nature of organizational communication and its strategic implications. Hallahan et al. (2007) present various approaches to defining organizational communication, highlighting its role not only as information transfer but also as a transactional process, strategic control mechanism, and a balance between creativity and restraint. This perspective resonates with the strategic nature of communication, emphasizing its pivotal role in shaping events, creating relationships, and assisting individuals and organizations in achieving diverse purposes.

The idea proposed by Kenneth and Jane (2012) that organizations must treat communication systems as valuable resources aligns perfectly with the strategic communication perspective. Just as organizations carefully manage and utilize other resources, such as finances or human capital, effective communication systems must be organized, managed, and disseminated strategically to enhance organizational performance. Moreover, the metaphorical likening of communication to various vital components of an organization, as suggested by Brassard et al. (2006), reinforces the importance of communication in organizational functioning. Just as blood circulates through the body, communication flows throughout the organization, facilitating the exchange of information, resources, and policies essential for its operation and success.

Furthermore, the acknowledgment by Carrigan and Coppola (2017), Robson (2013), and Miranda et al. (2016) that communication is a central component for organizational success

underscores its strategic significance. Communication directly and indirectly influences organizational performance, affecting the flow of information, resources, and policies among workgroups and stakeholders. By connecting employees and customers, as emphasized by Semren (2017), communication serves as a conduit for aligning efforts towards the achievement of company goals, mission, and vision. Thus, this study of strategic communication aligns with these scholarly insights, emphasizing the strategic importance of communication in shaping organizational dynamics, fostering relationships, and achieving goals effectively. Understanding and leveraging communication processes strategically is essential for organizational success in today's complex and dynamic business environment.

In my study of strategic communication, I find resonance with the multifaceted nature of organizational communication and its role in organizing and decision-making processes. Scholars like Chirwa et al. (2018) and Musheke and Phiri (2021) have underscored the significance of communication in directing behaviors and resources towards organizational goals. Effective communication serves as a linchpin for coordinating efforts between organizations and employees, especially during times of change (Husain, 2013). The definition of organizational communication as articulated by Christensen and Cornelissen (2011) and Semren (2017) aligns with the strategic perspective, highlighting its purposeful nature in shaping events, conveying meaning, and advancing the organization's mission. It encompasses both formal and informal communication structures, emphasizing the dynamic interplay between process, people, messages, and purpose.

Moreover, the functions of organizational communication outlined by Hallahan et al. (2007) resonate deeply with the strategic imperatives. Communication serves not only task or work functions but also social maintenance, motivation, integration, and innovation functions within organizations. It's not merely a top-down dissemination of management thinking but a bottom-up mechanism for connecting those with knowledge of necessary changes to those with the authority to enact them (Grimshaw et al., 2020).

In essence, my study of strategic communication intersects with these scholarly insights, emphasizing the pivotal role of communication in organizational dynamics, decision-making, and goal attainment. Understanding the multifunctional nature of organizational communication is crucial for developing effective strategies and fostering organizational success. In my study, I resonate deeply with the exploration of strategic communication

within organizations. Just as scholars like Pimiä (2015), and Arhin and Wiredu (2018) have emphasized, organizational communication is pivotal for achieving objectives, enhancing reputation, and influencing behaviors. It encompasses both the exchange of messages through technology-mediated channels and the conveyance of feelings, thoughts, and beliefs through various mediums.

Moreover, the definition of organizational communication as articulated by Hallahan et al. (2007) and Husain (2013) underscores its integral role in facilitating interactions within and outside the organization. From emails and memos to meetings and presentations, communication permeates every aspect of organizational functioning. It serves as a conduit for sharing information, aligning goals, and fostering collaboration among members. The notion of shared meanings and values, as highlighted by Husain (2013), resonates deeply with the concept of strategic communication. When individuals within an organization share common understandings and objectives, they can coordinate their efforts more effectively towards achieving success.

Furthermore, the acknowledgment of various directions of information flow within an organization, as discussed by Bal et al. (2012), aligns with the multifaceted nature of strategic communication. Understanding and harnessing these communication channels, whether upward, downward, horizontal, or outward/inward, are essential for orchestrating cohesive strategies and achieving organizational goals. In essence, my study of strategic communication intersects with these scholarly insights, emphasizing the critical role of communication in shaping organizational dynamics, fostering collaboration, and driving success.

In examining strategic communication within organizations, it's essential to consider the various directions and channels through which information flows. Frambach and Schillewaert (2002) highlighted the different directions of communication within an organization, including upward, downward, horizontal or lateral, and diagonal channels. These channels serve as critical pathways for disseminating strategies, objectives, instructions, and feedback throughout the organization's hierarchical structure. Effective communication processes, as noted by Heinzl (2011), are fundamental for organizational success. However, communication can also be ineffective if not properly executed. Downward communication

involves the transmission of information from top-level management to lower-level personnel, establishing a clear chain of command.

Conversely, upward communication allows lower-level workers to convey information to higher-level personnel, ensuring transparency and alignment. Lateral communication, emphasized by Semren (2017), facilitates the exchange of information across individuals or work units at the same hierarchical level. This type of communication is crucial for coordination and collaboration, both internally and externally, ultimately enhancing organizational performance. Organizational communication can be categorized based on various criteria, as articulated by Semren (2017) and Heinzl (2011), including formal and informal structures, directionality (downward, upward, and horizontal), and expression (oral and written).

These distinctions help in understanding the multifaceted nature of communication within organizations. Furthermore, the distinction between one-way and two-way communication, as mentioned by Heinzl (2011), underscores the importance of fostering dialogue and interaction among employees. Effective two-way communication encourages engagement, collaboration, and the exchange of ideas, contributing to a more dynamic and responsive organizational culture. Hence, strategic communication within organizations involves leveraging various communication channels, directions, and modes of expression to ensure clarity, alignment, and collaboration across all levels of the organization. By understanding and effectively utilizing these communication processes, organizations can enhance their performance and achieve their strategic objectives.

Organizational communication involves and affects every employee and contributes to the success of the organization (Husain, 2013). A good organizational communication can potentially stop and prevent all misjudgments and organizational success largely depends on the quality of communication, inside and outside organizational boundaries (Semren, 2017). Organizational communication technology involves the most important type of communication a person has to perform using ICT in the organization. Thus, communication technologies are key factors that influence communication in organizations as a tool that can be used to enhance the efficiency and effectiveness when used in combination with human workers of the organization for supplementing efforts of human workers and decision makers in the organization.

Information communication technology is a term that encompasses all forms of technology utilized to create, capture, manipulate, communicate, exchange, present, and use information in its various forms (business data, voice conversations, still images, motion pictures, multimedia presentations, and other forms, including those not yet conceived) (Ryssel et al., 2004). The success of an organization is almost unimaginable without the involvement of the computer. All other information technology tools described above need a computer system to be implemented. Information systems are becoming an essential tool to undertake day to day activities, easy decision making, creating value to operation and increase accessibility, productivity, to automate operation to reduce error with increased effectiveness and efficiently serve customers competitiveness in the organization.

According to Musheke and Phiri (2021), organizations have implemented intricate computer-based communication systems to enhance their operations. These systems encompass various types of organizational communication technologies, such as computer technology systems utilized for different operational activities. These technologies amplify the organization's communication capabilities. For instance, they enable the use of email as a means of organizational communication, as well as various platforms for sending instant messages to specific individuals, broadcasting information to large groups within the organization, collaborating with individuals worldwide, and exchanging and revising lengthy and intricate documents.

In addition, as a form of the evolving technology, the Web serves to communicate with customers, and to conduct business of all kinds and to increase organizational productivity. Analogously, authors such as (Grimshaw et al., 2020; Saleem et al., 2020) stated, organizational technologies allow for faster message transmission than that of traditional organizational communication media. Using different communication system like audio, video, and computer conferencing can allow participants at different locations to take part in meetings that formerly would have required hours, days and weeks to travel to communicate with each other's. Al-dosari (2021) argued that the use of computer technology changes the way communication occurs in organizations by using integrative model of Information systems for organizational communication. This interactive means of strategic communication is used to fit so as to enhance effective communication channels for bank

Industry in order to increase effectiveness and efficiency of the work flow in their organization performance.

1.7.2.3. Strategic Communication

The concept of strategy is indeed subject to different definitions and perspectives among scholars from various fields. It is considered a fundamental element of long-term strategic planning. However, within the realm of strategic communication, scholars offer specific viewpoints on how communication plays a strategic role in organizational success. Strategic communication, as highlighted by Falkheimer (2014) and Ranta (2016), refers to intentional and purposeful communication endeavors that seek to propel an organization's mission forward. This perspective recognizes that strategic communication encompasses various forms of communication that are aligned with organizational goals and strategies. It acknowledges the multidisciplinary nature of strategic communication, emphasizing the importance of considering different aspects of communication within an organization. This includes understanding how communication functions as a social actor, how individuals interact through communication technology, and how leaders, employees, and communication practitioners intentionally present and promote the organization.

In contrast, Hallahan et al. (2007), Zerfass et al. (2018), Version et al. (2020) offer a slightly divergent interpretation of strategic communication. They define it as the management of communication processes within the context of ongoing strategy development. Their perspective highlights the role of communication in supporting an organization's strategy. It emphasizes how organizations purposefully utilize communication to fulfill their mission, effectively convey their strategy, and implement it successfully. These two perspectives highlight the strategic nature of communication within organizations. Both emphasize the purposeful and intentional use of communication to align with and advance organizational goals. Meanwhile, Coffman (2004) and Thomas (2018) concentrate on the broader multidisciplinary dimensions of strategic communication. As emphasized by Grimshaw et al. (2020) and Version et al. (2020) strategic communication specifically highlights the management of communication processes within the framework of strategy development. Thus, strategic communication is a multifaceted concept that involves purposeful communication aligned with an organization's mission and strategy.

Scholars offer different definitions and perspectives, with some emphasizing the multidisciplinary nature of strategic communication. While, others focus on the management of communication processes within the context of ongoing strategy development. Kulvisaechana (2001) defined it as; it is the intentional use of communication by organizations to achieve their mission as the interactive process of generating and strategically understanding messages within the organization. Suter et al. (2009) emphasize the importance of selecting appropriate communication tools to achieve organizational objectives.

Hallahan et al. (2007) further highlight the characteristics of well-designed, audience-centered, evidence-based, engaging, multi-dimensional, and cost-effective communication, which aims to have a significant impact on behavior and societal change. The emergence of strategic communication provides researchers with an opportunity to study how organizations present themselves, promote their activities, and engage with the public. According to (Sandhu, 2009; Fredriksson & Pallas, 2016), emphasize the importance of focusing on communication message strategy and channel selection in strategic communication research. According to Hallahan et al. (2007) the nature of strategic communication for the bank industry is as the purposeful use of communication by an organization or industries to fulfill its mission in order to monitor and evaluate their performance like, management, marketing, public relations, technical communication, political communication, and information/social marketing campaigns.

Strategic communication, within this framework, involves the deliberate planning and execution of communication strategies to achieve organizational objectives and goals across multiple disciplines. It integrates diverse communication functions to ensure consistency, coherence, and effectiveness in messaging and engagement with stakeholders. For instance, in management communication, strategic communication plays a crucial role in aligning internal messaging with organizational goals, facilitating employee engagement, and fostering a cohesive organizational culture. In marketing communication, strategic communication is essential for developing and implementing marketing strategies that resonate with target audiences and drive brand awareness and loyalty.

Similarly, in public relations, strategic communication involves managing relationships with various stakeholders, including media, customers, investors, and the community, to enhance

reputation and maintain organizational credibility. Technical communication requires strategic planning to effectively convey complex information to diverse audiences in clear and understandable ways. Political communication involves strategic messaging to influence public opinion, shape policy outcomes, and navigate political landscapes effectively. Social marketing campaigns rely on strategic communication to raise awareness, change behavior, and achieve social impact. In summary, strategic communication operates within the realm of integrated communications by synthesizing various communication disciplines to develop comprehensive strategies that advance organizational goals and objectives across multiple contexts and audiences.

Putri (2018) argues that, strategic communication results from a strategic thinking process conducted by top managers who make decisions about the organization's goals and implement communication plans accordingly. UNAIDS (2008) highlights on the role of strategic communication in understanding the audience and selecting appropriate messages. Chirwa et al. (2018) state, effective implementation of strategic communication is crucial for organizational success. Cornish et al. (2011) underscores the importance of understanding the information environment and aligning it with the organization's goals for effective strategic communication implementation.

Implementing Strategic Information Systems (SIS) with computer technology at any organizational level can bring about changes in goals, operations, products, and services, leading to organizational improvement and competitive advantage (Laudon, 2009). Fredriksson and Pallas, (2016) defines strategy as a plan of action aimed at achieving specific goals. Hallahan et al. (2007) highlights the strength of strategic communication focus on strategy rather than specific tactics, as well as its holistic understanding of communication. He notes that the increasing complexity of a global and digital society has posed challenges for organizations in engaging in long-term strategic planning and effective communication.

Strategic communication ensures that an organization's design, action plan, and workforce align to fulfill their tasks (Servaes and Malikhao, 2008). Consequently, adopting information and communication technology (ICT) in business organizations enables the provision of customer services such as account access, balance inquiries, internet shopping, fund transfers, Short-Message-Services (SMS) for transaction history, and electronic bill payments. Automated Clearing Services using Magnetic Ink Character Reader (MICR) facilitate check

processing, while ATMs allow cash withdrawals with immediate debiting of the account. These advantages contribute to the profitability of the banking sector.

Effective communication in an organization involves clear channels of seamless information transfer, analysis for decision-making, and internal communication (Ramaswamy & Mosher, 2014). Managers play a crucial role in motivating and monitoring employees to understand and act on messages. Communication effectiveness significantly impacts an organization's performance and its ability to coordinate and utilize human resources (Al-Omari et al., 2020). According to Husain (2013) highlights, evaluating effectiveness can consider accuracy and cost efficiency during organizational changes. The importance of shared understanding through effective communication, aided by technological advancements. Skill, motivation, and knowledge are directly contributed to communication effectiveness and competence (Suter et al., 2009).

Effective strategic communication aligns with the organization's mission, vision, values, and stakeholders (Sandhu, 2009). It is developed through a communication plan and activities that aim to align communication with stakeholders. Suter et al. (2009) also highlight the importance of setting mission, vision, and goals for effective strategic communication, which guide objectives, resource assessment, target audience identification, partner selection, media choice, and performance monitoring. Organizational change involves moving an organization from its current state to a desired future state to enhance effectiveness (Chirwa et al., 2018). Firms invest in information systems to achieve various business objectives, such as operational excellence, new product/service development, customer intimacy and service, improved decision-making, competitive advantage, and survival (Laudon, 2009).

1.7.2.4. Importance of Effectively Implementing Communication Strategies

Effective implementation of communication strategies is essential for organizations to achieve their strategic aims (Suter et al., 2009). Strategic communication positively influences employee productivity and job satisfaction, contributing to organizational success (Anty, 2017). The use of ICT as a strategic communication tool enhances operational efficiency and output without increasing labor and the likelihood of organizational success (Kenneth and Jane, 2012). Implementing communication strategies is crucial for managerial and organizational success (Kulvisaechana, 2001). UNAIDS (2008) emphasizes the goals of

communication strategies in enhancing efficiency and promoting teamwork towards common organizational goals. Grimshaw et al. (2020) highlights the role of effective strategic communication in supporting and strengthening organizational effectiveness in achieving primary goals and mission. Strategic communication enables companies to operate efficiently and achieve their mission, vision, and goals. Additionally Putri (2018), stated strategic communication provides essential information for day-to-day operations, such as customer and vendor transactions.

1.7.2.5. Factors Affecting Implementation of Effective Communication Strategies

The implementation of effective organizational communication technology strategies in business organization is influenced by factors including information overload, communication anxiety, unethical communication, message distortion, lack of respect, insufficient information, and minimal feedback (Kibe, 2014). Ineffective execution of communication strategies stems from the organization's challenges in managing the interaction between strategy, policy, and action (Kenneth and Jane, 2012). Aligning the demands of internal and external stakeholders with strategic priorities poses a challenge when implementing communication strategies (Cornish et al., 2011). Barriers to effective implementation include a lack of agreement, knowledge, and understanding regarding the organization's mission and vision, insufficient leadership to guide employees towards organizational goals, inadequate connection between strategic content and process, lack of coherence between strategic planning and resource allocation, and absence of strategic feedback.

In the dominion of strategic communication, the successful implementation of organizational communication technology strategies is influenced by various factors. These factors include information overload, communication anxiety, unethical communication practices, message distortion, lack of respect, insufficient information dissemination, and minimal feedback mechanisms (Kibe, 2014). The ineffectiveness in executing communication strategies often stems from challenges within the organization in managing the interplay between strategy, policy, and action (Kenneth and Jane, 2012).

Aligning the needs and expectations of both internal and external stakeholders with strategic priorities presents a significant challenge when implementing communication strategies (Cornish et al., 2011). Barriers to effective implementation can include a lack of consensus, knowledge gaps, and misunderstanding regarding the organization's mission and vision. Additionally, inadequate leadership to steer employees towards organizational goals, a disconnect between strategic content and process, a lack of coherence between strategic planning and resource allocation, and the absence of strategic feedback mechanisms all contribute to hindering effective implementation (Mokgautsi, 2017). In essence, the central idea emphasizes the complex interplay of factors influencing the successful execution of communication strategies within organizations. It underscores the importance of addressing various barriers and challenges to align strategic communication efforts with organizational goals effectively.

1.7.2.6. ICT and Organization Performance System

Organizational communication practices, including the integration of technology, are shaped by various factors such as politics, organizational culture, and work relationships. It is widely believed that effective communication within an organization can significantly enhance its performance, decision-making processes, employee commitment, and overall job satisfaction (Semren, 2017). Since the 1960s, information systems have become indispensable resources in the banking sector. Organizations in this industry have made significant investments in Information and Communication Technology (ICT) to streamline information collection, processing, storage, and sharing (Schwartz, et al., 2016). ICT plays a pivotal role in providing high-quality information, facilitating organizational decision-making, and contributing to overall performance and organizational objectives (Agboola, 2006).

In the banking sector specifically, ICT is increasingly recognized as a strategic communication tool that drives performance improvement and goal attainment. It is widely utilized for various purposes, including transactions, instructions, and the global delivery of products and services. In today's competitive world, ICT has become indispensable for the growth and survival of organizations (Dhurkari, 2017). Organizational communication technologies provide a wide range of benefits that cannot be fully listed here. These technologies prioritize timely decision-making, a crucial organizational function. Information

technology empowers employees and managers by facilitating effective job performance, timely access to information, information sharing, and informed decision-making. It eliminates the need for manual data collection, omitting errors and repetitions, and enables seamless information exchange and communication between employees and decision-makers (Kenneth and Jane, 2012).

According to Agbolade (2011) ICTs have a positive effect on competitive strength, market segmentation, improved revenue, proper forecasting, modernization for global impact, time-saving, error rate reduction, management decisions, and transaction speed for local effect. ICT has become essential in the banking industry for creating a new product of infrastructure and offering a competitive advantage over competitors for the global economy. For instance, electronic communication in the banking system has revolutionized financial transactions, making electronic banking communication systems useful and easy to use (Alamitu, 2014; Binuo, 2017; Standing et al., 2014). It directly influences managerial decision-making, planning, product offerings, and online communication services in the banking industry, transforming the organization of banks and their corporate relationships worldwide and providing innovative devices to enhance service delivery to customers.

The adoption of ICT brings benefits such as increased productivity, profitability, efficiency, faster service, customer satisfaction, convenience, flexibility, space and cost savings (Alamitu, 2014). According to Saleem et al. (2020), the benefits gained from ICT usage can be categorized into four main areas: strategic benefits, informational benefits, transactional benefits, and organizational transformational benefits. Informational benefits involve improved quality, quantity, availability, and flexibility of business and other information. Strategic benefits include creating competitive advantages, aligning business strategies with organizational goals, introducing new products or services, and enhancing customer relationships. Transactional benefits encompass communication efficiencies, systems development, and general business process improvements, leading to cost savings. Organizational transformation benefits result in positive organizational changes, such as improved skill levels, new business plans and models, expanded capabilities, and enhanced structure and processes. Additionally, information plays a critical role in decision-making by reducing uncertainty and providing timely and accurate data for effective management, planning, and decision-making (Saleem et al., 2020). Relevant information increases

knowledge and reduces uncertainty, allowing decision-makers to make informed decisions. Information systems enable organizations to collect raw data and transform it into useful and meaningful information for decision-making (Olumoye, 2013).

1.7.2.7. ICT and Decision-Making

ICT comprises interconnected components that gather, process, store, and distribute information to aid decision-making, coordination, and control within organizations, while also supporting problem analysis and product development (Miranda, et al., 2016). Decision-making involves selecting the best course of action based on organizational plans and goals, guiding strategic planning and operational tactics (Ismail, 2011). Technology facilitates the collection, analysis, and dissemination of accurate information for daily business operations, enhancing decision-making through computer-assisted as a strategic tools in organization (Chaffey and Wood, 2013). ICT systems continuously provide managers with relevant data for decision-making, optimizing internal business operations as strategic tool of organization (Ismail, 2011). In addition, Ismail (2011) categorizes decisions into programmed, which follow predefined rules, and non-programmed, which involve unique and unstructured situations requiring creativity and judgment. Decision support systems, such as spreadsheets and data mining tools, assist in gathering data and assessing options to facilitate well-informed and timely decision-making. Similarly, according to Anucha (2018), it refers to a computer-based system aimed at consistently supplying managers with pertinent information tailored to their decision-making and areas of responsibility, serving as an effective tool for organizational communication.

ICT plays a crucial role in collecting relevant data, organizing it into meaningful insights, and providing recommendations based on summarized data, which can be stored for future use (Beckinsale et al., 2011). It serves as a system that facilitates the organized flow of information within an organization and enables the integration of different subsystems to support effective decision-making. Business information systems broaden the range of options available to decision-makers and have an impact on various stakeholders, including customers, suppliers, and business partners (Chaffey and Wood, 2013). According to Dhurkari (2017), decisions can be categorized as unstructured, semi-structured, or structured. Computer support is particularly advantageous for semi-structured problems, where certain aspects of the analysis can be systematized, while the decision-maker's insights and judgment

are necessary for control and processing. Thus, ICT serves as a strategic communication tool for decision-making within the banking sector, facilitating the collection, analysis, and dissemination of information critical for operational and strategic decisions. It supports organizational planning, enhances decision-making processes through technology-assisted tools, and aligns with organizational goals to drive innovation and competitive advantage.

1.7.2.8. Impact of Information Communication Technology in Business Organization

The banking sector serves as an example of an industry where information systems have significant implications. According to Felix and Tarus (2021), the development of ICT has become essential to address growth challenges and diversify services. Today, banks are increasingly focusing on meeting customer needs and preferences, particularly in terms of service availability and diversification. Customer service and satisfaction are key aspects of any technology system. The implementation of information systems has a profound impact on business sectors and overall development strategies for service delivery (Kamel, 2010). Technology has facilitated the introduction of new products, services, markets, and efficient delivery channels within the banking industry (Shah, 2014). The application of ICT in business supports day-to-day operations by enabling effective and efficient communication within organizations (Al-hatmi, 2012).

Shah et al. (2007) conducted a study on the critical success factors of online financial businesses. The findings highlighted that organizational flexibility and speed of service delivery were of utmost importance. Individual characteristics, such as age, sex, and education, also influenced the time it took for individuals to complete the adoption process. Communication technologies facilitate the functioning of virtual teams, which work across time, space, and organizational boundaries. Organizational communication technologies also contribute to knowledge management within organizations. The integration of information and communication technology (ICT) is essential for sustainable work organizations, and various dimensions, such as communication tool applications and design solutions need to be considered for effective knowledge management (Raharja and Tresna, 2019). Furthermore, communication technology assists organizations in adapting to crises. During times of disaster, ICT adoption enables access to necessary resources and contacts for recovery. There

is evidence to suggest that using multiple technologies together can facilitate post-disaster recovery in organizations (Chewning et al., 2013).

In today's organizational landscape, technology is ubiquitous and has demonstrated its ability to enhance organizational performance, efficiency, effectiveness, and learning. Consequently, organizations implement information systems with the aim of improving their efficiency and effectiveness. To meet their information processing needs, organizations must gather relevant data for manipulation and processing in order to generate valuable outputs for internal or external users (Shaukat and Zafarullah, 2010). A well-designed information system supports sound decision-making, enhances organizational performance through efficiency and effectiveness, improves service delivery, and boosts employee productivity. Information technology (IT) enables organizations to expand their business, offer services, redefine job roles, redesign workflows, and modify business control mechanisms to ensure effective information handling and decision-making and ultimately leading to increased output (Hailu, 2014).

ICT has significant effects on various aspects of organizational operations, providing both tangible and intangible benefits while meeting customer demands with quality outputs. ICT plays a vital role in organizational communication, influencing the organization's functions, performance, and productivity. It supports management functions in marketing, finance, production, and personnel, enhancing their efficiency. The proliferation of electronic communication systems has increased upward communication within organizations using communication technology (Kenneth and Jane., 2012).

The impact of communication technology on group interaction and trust is particularly important for global work groups that face challenges related to geography and culture. Social networking sites, such as MySpace, Facebook, and Twitter, have emerged as intriguing web technologies that have the potential to reshape organizational communication patterns. These platforms offer valuable avenues for discussing various work-related issues. Technology also has the ability to reshape work structures and organizational design. It enables communication across long distances and at asynchronous times, eliminating the need for individuals to be physically present in the same location. A study by Kishore and Sequeira (2016) on the adoption of information systems in the banking sector in India

revealed that people had not fully embraced technology despite its numerous advantages. Additionally, the interpretive processes related to IT in organizational change programs play a significant role. Simply communicating about an IT-related change program may not be sufficient to achieve desired outcomes, as different groups may have disparate perspectives and interpret communications differently.

1.7.2.9. Impact of ICT Adoption Factors on Strategic Communication and Organizational Performance

Information and communication technologies (ICTs) are recognized as powerful tools for enhancing business growth and attaining a competitive advantage. ICT-based network competence plays a crucial role in establishing and maintaining long-term relationships with customers, suppliers, and other relevant stakeholders. The mediating role of ICT-based network competence is significant in the connection between strategic competency and the enhancement of firms' competitive advantage and performance (Al-dosari, 2021). As El-Dalabeeh (2019) noted ICT can act as a mediator between effective communication and firm performance, serving as a key determinant factor in achieving competitive advantage within the organization. The adoption of ICT is positively correlated with improved organizational performance (Jalagat and Al-Habsi, 2017).

Determinant factors for ICT adoption can be categorized into individual, organizational, environmental, technological, and economic factors. Individual factors encompass elements like top management commitment, educational background, age, skills, and information system culture. Organizational factors include enterprise size, human capital, and organizational culture. Technological factors involve existing technology and infrastructure. Environmental factors consist of competitive pressure, customer innovation, public policies, and economic factors such as macroeconomic costs. These factors were identified by Kwabena et al., (2021) ICT is considered a crucial prerequisite for effective communication, serving as a critical determinant for a business firm's success, survival, and improved performance, ultimately enabling the firm to gain a competitive advantage directly and indirectly.

The adoption of Information and Communication Technology (ICT) is influenced by various factors such as cultural norms, personal attitudes, and perceived benefits. These factors are

crucial in understanding the dynamics of technology adoption in organizational settings, especially in strategic communication. Lin (2011) emphasizes that technological, organizational, and environmental factor all contribute significantly to the acceptance of ICT solutions. Therefore, strategic communication efforts need to consider these variables to effectively implement ICT initiatives.

ICT adoption has a profound impact on business organizations, offering significant benefits across four main categories. Firstly, in terms of performance, ICT enhances efficiency, effectiveness, and competitiveness. Secondly, it supports growth through productivity gains, strategic expansion, and increased sales. Thirdly, ICT facilitates organizational expansion, improves supply chains, and enhances international communication. Lastly, ICT fosters the development of new products and services, improves product quality, and enhances customer satisfaction, as underscored by Marei et al. (2022).

The literature indicates that various factors influence the adoption of ICT. Nasri (2011) explored factors impacting mobile banking adoption and found that social risk, social influence, and perceived usefulness significantly influence consumers' intention to adopt and use mobile banking. Kishore and Sequeira (2016) conducted research in Taiwan, identifying security and internet connectivity costs as primary concerns affecting mobile banking adoption and resistance. Borraz-Mora et al. (2017) focused on barriers to mobile banking adoption in New Zealand, using descriptive design and analyzing data through correlation and frequency analysis. Their findings highlighted security concerns as the main barrier to mobile banking adoption, while factors such as perceived risk, service quality, and demographic variables like education and employment influenced consumers' choices in electronic banking.

1.7.2.10. Theoretical Model Reviews

Several researchers have utilized various models and frameworks to investigate the adoption of new ICT. In the subsequent discussion, the researcher explores some of these frameworks that have been developed based on prior studies.

1.7.2.11. Theories of Organizational Communication and Technology

Various theories and frameworks have been developed to understand factors influencing the adoption of information and communication technology (ICT) within organizations. This section provides an overview of some important theoretical perspectives and models pertaining to organizational communication and ICT adoption. The media richness model posits that individuals choose communication media based on the richness of the medium in relation to the task's ambiguity. However, it is important to recognize that organizational members may have additional goals when making communication choices. Frambach and Schillewaert (2002) suggest that the widespread adoption of new communication technologies relies on the existence of a critical mass of individuals who use the technology and are connected through it. In summary, there exist several theories and frameworks that shed light on the factors influencing ICT adoption within organizations.

Various theoretical models such as Rogers and Shoemaker's adoption model, Calbraith's theory of organizational information processing, the media richness model, and the social information processing model contribute insights into communication technology adoption and utilization. Researchers like Sheer & Chen (2004) have identified criteria such as instant feedback availability, use of multiple cues, natural language utilization, and personal focus to differentiate media's information-carrying capacity. Fulk et al. (1987) argue that communication dynamics within organizations involving coworkers, supervisors, and customers influence media choice. Managers can enhance effectiveness by selecting communication media that matches task ambiguity levels. The media richness model asserts that effective communication technology selection hinges on matching medium richness with communication task complexity.

Sheer & Chen (2004) propose that media richness enhances strategic communication through multimedia formats like audio, video, images, and info graphics. Online media with multimedia features enrich media richness, fostering user interactivity and information dissemination, crucial for dialogic communication in strategic contexts. The social information processing model extends the media richness model by examining how communication shapes attitudes and behaviors toward technology adoption. It underscores the role of communication patterns, technology impacts on content, patterns, outcomes, and organizational structure in virtual workplaces. Thus, while the media richness model emphasizes rational media choice based on task ambiguity, the social information processing

model highlights the influence of social environment and communication dynamics on technology adoption.

1.7.2.12. Theories of Technology Innovation and Organizational Change

Kenneth and Jane (2012) discuss the significance of technological innovation in driving organizational change. Given the dynamic nature of the world, organizations must undergo both radical and incremental changes. Sustainable development necessitates the adoption of technological innovations, prompting organizations to transform their operations and the products/services they offer. Growth through innovation does not always rely on breakthrough advancements but can involve integrating existing or developing technologies into high-value solutions. Dhurkari (2017) emphasizes successful adoption of new technologies within organizations hinges on participatory change strategies, effective user training, and initiatives to build organizational confidence. The authors identify four factors that warrant careful consideration when introducing new technologies into existing work practices: technology strategy and plan, method of introduction, user attitudes and experiences, and organizational culture. Generally, the literature suggests that embracing technological innovation is crucial for organizations to evolve and thrive in a dynamic environment, necessitating careful planning, strategic implementation, and organizational readiness to leverage technological advancements effectively for organizational change.

1.7.2.13. Task Technology Fit Theory and Technology-Organization Environment Model

The theory of task-technology fit argues that there is a strong correlation between information technology (IT) and individual performance, emphasizing the importance of aligning tasks with technology to enhance output and success (Mushore and Kyobe, 2022). A match between business tasks and IT is crucial for explaining and predicting the success of information systems (Ballarini et al., 2009). Numerous studies have confirmed as a positive association between task-technology fit and measures of information system success across different task and technology scenarios (Rammile and Nel, 2012). The concept of task-technology fit helps to identifies critical aspects that support specific business tasks and contribute to the success of technological innovations (Junglas and Watson, 2006). The theory of task-technology fit argues that there is a strong correlation between information technology (IT) and individual performance, emphasizing the importance of aligning tasks

with technology to enhance output and success (Mushore and Kyobe, 2022). A match between business tasks and IT is crucial for explaining and predicting the success of information systems (Ballarini et al., 2009). Numerous studies have confirmed a positive association between task-technology fit and measures of information system success across different task and technology scenarios (Rammile and Nel, 2012). The concept of task-technology fit helps to identify critical aspects that support specific business tasks and contribute to the success of technological innovations (Junglas and Watson, 2006).

The TAM framework, developed by Davis (1989), proposes that users' intention to adopt a technology hinges on two primary factors: perceived usefulness and perceived ease of use. Perceived usefulness relates to users' beliefs about how a technology can enhance their job performance or productivity, while perceived ease of use concerns how effortless the technology is to use. This model has been widely applied across various domains to predict user acceptance, drawing on sociological theories of innovation adoption (Davis, 1989; Premkumar, 2003). It posits that individual's progress through stages of adoption: awareness, evaluation, trial, and adoption. Furthermore, Frambach and Schillewaert (2002) demonstrated the successful application of TAM across various cultural contexts, underscoring the flexibility and universal applicability of communication frameworks. This indicates that strategic communication strategies should be adaptable and culturally sensitive when implementing ICT initiatives across diverse organizational environments. Moreover, Weigel et al. (2014) integrated TPB and DIT into TAM to forecast behavioral intentions related to adopting internet banking, illustrating the benefits of incorporating multiple theories or constructs into strategic communication frameworks. This stresses the necessity of taking a comprehensive and interdisciplinary approach to grasp and manage the factors affecting the adoption of technological innovations within organizations.

In my research of strategic communication, I leverage these findings to construct a model that accounts for the intricate interaction among cultural, attitudinal, and organizational elements influencing ICT adoption. Through the integration of pertinent theories and frameworks, my goal is to devise strategic communication strategies that support effective adoption of technological innovations, thereby improving organizational dynamics and operational outcomes. The influential theory of organizational information processing introduces three key concepts: information processing needs, information processing capability, and the

alignment between the two for achieving optimal organizational performance (Gaskin and Lyytinen, 2010; Zelt et al., 2018). This theory emphasizes the importance of understanding the fit between information processing requirements and capabilities within organizations. Within the realm of organizational communication, two notable models are the media richness model and the social information processing model.

1.7.2. 14. Unified Theory of Acceptance and Use of Technology (UTAUT)

The UTAUT theoretical framework is extensively employed in studying technology adoption across diverse domains, facilitating its adaptation for research purposes. It provides a comprehensive perspective on the critical factors influencing technology adoption, guiding strategies for effective implementation and utilization of new technologies. The UTAUT model, proposed by Venkatesh et al., (2003) and also used by Kwabena et al., (2021) integrates eight different existing models. The UTAUT framework identifies four primary factors influencing technology adoption: performance expectancy, which refers to users' belief in the technology's performance improvement; effort expectancy, reflecting ease of use perceptions; social influence, encompassing social norms' impact on adoption; and facilitating conditions, relating to resource availability and support. This comprehensive framework underscores these factors' collective influence on users' behavioral intentions and actual usage behavior (Venkatesh et al., 2003).

UTAUT offers a comprehensive understanding of technology adoption by integrating various factors and recognizing how individual characteristics and contextual elements moderate relationships among its constructs. Demonstrating strong predictive capability across diverse contexts and suitability for meta-analyses, UTAUT has been critiqued for its oversight of individual differences and contextual nuances. Its universal model of technology adoption may not fully encompass complexities in different contexts or user groups, potentially neglecting emotional and cultural considerations. According to Venkatesh et al., (2003) When applying UTAUT in specific contexts, researchers should consider its limitations and potential moderating factors. UTAUT recognizes variables such as gender, age, experience, and voluntariness of use as moderators that can affect the relationships between its constructs. These factors highlight that individuals may respond differently to technology adoption based on their personal traits and the context in which they operate.

1.7.2.15. Technology-Organization-Environment (TOE) theory

The theory of technology organization environment, that was adapted by Dwivedi et al. (2012) and Kwabena et al. (2021) explores the factors influencing the adoption of new technological innovations. This framework comprehensively considers technological, organizational, and environmental factors influencing technology adoption within organizations. TOE has been widely utilized in studies examining the adoption of new technologies and practices, as evidenced by research conducted by Bekele (2012), Dhurkari, (2017), Leung et al., (2015), and Lin (2008), which have employed this framework to examine various innovation adoption processes.

The TOE framework is a comprehensive model that explains technology adoption and implementation within organizations by considering three key domains: technology, organization, and environment. The technology domain focuses on characteristics like complexity, compatibility, observability, and relative advantage. The organization domain includes internal factors such as structure, culture, resources, capabilities, and readiness for change. The environment domain considers external factors such as market conditions, regulations, competitive pressures, and partnerships. Emphasizing the interplay between these domains, the TOE framework recognizes that successful technology adoption hinges on aligning factors across them. It provides a holistic view of the adoption process and has been widely utilized in organizational technology adoption research, demonstrating strong predictive power and suitability for meta-analyses. However, critics note its complexity, which may pose challenges in application and validation across specific contexts and its potential limitations in fully capturing individual-level perceptions and motivations.

Researchers should carefully assess the applicability, relevance, and limitations of theoretical frameworks when applying them in studies. Both the Unified Theory of Acceptance and Use of Technology (UTAUT) and the Technology-Organization-Environment (TOE) framework are widely employed in technology adoption research due to their established predictive power. Despite their strengths, it is crucial to acknowledge criticisms and constraints that may affect their utility in predictive modeling and meta-analyses. While both UTAUT and TOE have demonstrated efficacy in explaining technology adoption across diverse contexts

and have undergone rigorous validation, contextual variables, individual variations, and inherent limitations must be taken into account when employing these frameworks. Therefore, the TOE framework, which specifically addresses technological, organizational, and environmental factors influencing ICT adoption and organizational performance, is extended for this study in the banking sector of Ethiopia.

1.7.2.16. Empirical review

Mobile banking has been extensively studied in regions such as Europe, Asia, America, and in some African countries like Ghana, Nigeria, and Kenya, but there is a shortage of research on this topic in Ethiopia. Junglas and Watson (2006) discovered that adopting information and communication technology (ICT) in the business sector can lead to globalization and increased competition, but it may also weaken the local banking industry. According to Bamoriya (2012) and Borraz-Mora et al.(2017) moonshined, mobile banking communication provides customers with additional channels to access information about their banks. Banks have implemented proactive communication strategies, such as sending SMS alerts about account balances and important transactions. Nasri (2011) and Kazi (2013) identified key quality attributes of e-banking, including accuracy, security, network speed, user-friendliness, user involvement, perceived usefulness, and convenience. Sahin and Rogers (2006) found that attributes of the innovation diffusion model, such as relative advantage, compatibility, and ease of use, significantly influence attitudes towards adopting mobile banking communication.

Cruz and Laukkanen (2010) found that higher investments in ICT were associated with lower average production and higher average overhead costs in organizations. They also added, the functional and psychological barriers have a positive and significant impact on the non-adoption of mobile banking. Boateng and Forson (2019) highlighted the positive impact of ICTs on various aspects such as competitive strength evaluation, market segmentation, revenue improvement, forecasting accuracy, global modernization, time-saving, error reduction, management decision-making, and transaction speed at the local level. Boateng and Forson (2019) stated, customer desires can negatively influence their perception of the usefulness of mobile banking services, indicating a negative relationship between resistance to innovation and the intention to use mobile financial services. In Lin's (2011) study on mobile banking adoption, knowledge-based trust and innovation attributes like ease of use,

relative advantage, compatibility, integrity, and competence significantly shaped attitudes and behavioral intentions. Positive attitudes, driven by these factors, fostered intentions to adopt mobile banking services. Furthermore, ongoing customer satisfaction with service quality emerged as pivotal in determining whether users continue with the service (service renewal) or switch to alternatives (service switch). Similarly, Momeni and Pahlavanyali (2015) explored barriers to internet banking and e-commerce adoption in Oman, highlighting security concerns, data confidentiality issues, susceptibility to hackers and viruses, and insufficient top management support as critical impediments.

Rammile and Nel (2012) and Alsamydai (2014), found that customers' resistance to adopting communication technology affects their behavioral intention through the mediator variables of usefulness and ease of use. Barati and Mohammadi (2009) contended that resistance to mobile banking increases when the intention to use mobile banking decreases. Alsheikh and Jamil (2012) identified factors such as perceived credibility, perceived financial cost, and perceived self-efficacy that influence the behavioral intention of mobile banking users. They also found that a lack of consumer understanding and knowledge about mobile banking systems significantly affects perceived usefulness in a negative way. Chung and Kwon (2009) reported that user experience has a negative impact on the perceived usefulness of mobile banking. Alsamydai (2014) found a negative relationship between customer habits and the perceived usefulness of adopting mobile banking. Chisenga (1999) pointed out that governments in sub-Saharan Africa intentionally limit information availability for political and security reasons by neglecting ICT development and adoption. Gomez and Pather (2012) argued that governments should prioritize the development of ICT infrastructure to alleviate poverty.

Worku's (2010) study found that the lack of suitable legal and regulatory frameworks, political factors, high illiteracy rates, and the absence of interbank networks were significant obstacles to e-banking adoption in Ethiopia. Kidan (2005) identified security issues, lack of customer trust, absence of payment laws and regulations, shortage of skilled manpower, and frequent power disruptions as the main barriers to ICT adoption. Similarly, Gemechu's (2014) study on the challenges of technology adoption in the Ethiopian banking sector utilized the technology organization framework. The findings identified major barriers to the adoption of electronic banking, including security risks, lack of trust, absence of legal and regulatory

frameworks, inadequate ICT infrastructure, and limited competition between local and foreign banks. The study suggests measures that the banking industry and the government could take to address these challenges, such as establishing clear legal frameworks, investing in ICT infrastructure, and promoting technological innovation competition in the banking sector.

Thus, the adoption of technology plays a crucial role in achieving organizational strategic objectives, improving banking services' efficiency and effectiveness, maximizing company profits, gaining a competitive advantage, and enhancing business processes and collaboration within workgroups. As a result, the banking industry heavily relies on ICT services, which have positively impacted customer interactions and service provision. ICT's role extends across various business sectors, and organizations now recognize its potential for strategic purposes, including driving organizational direction, redefining industry standards, and reshaping strategies.

1.7.2.17. Challenges of ICT adoption in banking sector

While ICT adoption and applications offer numerous benefits as strategic communication in the banking sector, there are also several challenges associated with ICT implementation. Bekele (2012) highlights that limited internet penetration and underdeveloped telecommunication infrastructure hinder the smooth development and advancement of e-commerce in developing countries. Previous research has identified various challenges, including security, infrastructure, regulatory and legal issues, and socio-cultural challenges. Anigbogu (2013) specifically emphasizes that security is a major challenge for e-communication systems, as businesses and financial institutions that rely on ICT are highly vulnerable. This vulnerability affects consumer confidence and trust in traditional payment systems, making customers hesitant to adopt new technologies.

The dominance of new technologies in the market is dependent on customers' confidence in the protection of their privacy and the assurance of adequate security measures. Bekele (2012) adds that challenges related to ICT adoption include the security of private data and the risk of unauthorized access by hackers using fake websites to collect credit card information, as well as the potential for financial loss due to illegal alterations. Khaund (2023) also note that implementing information systems entails various challenges, such as

information overload, high costs, rapidly changing technologies, employee mistrust during system implementation, and security breaches.

Kumar (2021) conducted an assessment on the impact of e-banking services on customer satisfaction in the Nigerian banking industry. They found that bank customers in Nigeria are well aware of the positive developments in information technology and telecommunications, which have led to the introduction of new delivery channels. Yahya et al. (2022) focused on the effect of electronic payment on customer service delivery and the challenges faced in satisfying customers' needs in banks. The study concluded that e-payment has a significant impact on the service provided by the banking industry, leading to improvements in customer service delivery, management efficiency, increased profitability, and customer satisfaction in the specific area studied. According to the literature, the implementation of information technology in the banking sector, particularly in developing nations, faces various challenges. Wresch and Fraser (2011) identify these challenges as including unstable legislation, a weak financial sector, inadequate technological infrastructure, and low internet and computer penetration.

However, recent years have seen developing nations, such as Ethiopia, making increasing investments to build and enhance their technology infrastructure. In the case of Ethiopia, the banking industry is undergoing an information system revolution driven by a combination of regulatory and competitive factors, which have highlighted the growing importance of total banking automation (Essay, 2016). Bultum (2014) highlights that the adoption of ICT systems in the Ethiopian banking industry faces major obstacles, such as a low level of ICT infrastructure, underdeveloped legal frameworks for technology adoption, and concerns regarding security and trust. Similar challenges in ICT adoption are observed across Africa, except for South Africa, including inadequate internet infrastructure, insufficient legal and regulatory frameworks for e-commerce, concerns regarding the validity of electronic contracts and digital signatures, protection of intellectual copyright, limitations on encryption technologies, and high illiteracy rates (Adam, 2003).

In addition, Demeke's (2014) study on ICT adoption in Ethiopia highlights a significant lack of ICT diffusion in the country. The development of e-banking communication systems depends on Internet technologies, technical support, and the expertise of individuals. Kejela and Porath (2022) found in their research on mobile banking in Ethiopia that perceived ease

of use and awareness do not strongly influence the adoption of e-banking communication. Worku (2010) adds that the low literacy rate in Ethiopia poses a significant challenge to e-banking adoption, limiting citizens' access to banking services due to a lack of basic ICT literacy. He also notes that e-banking systems need to consider the need for robust security measures, including multilateral security keys, as software failures can pose significant security challenges and lead to substantial losses. Furthermore, the lack of suitable legal and regulatory frameworks for e-commerce and e-payment, the high cost of the internet, and the absence of reliable power supply are additional challenges in the development of e-banking in Ethiopia (Worku, 2010).

In summary, in developing nations like Ethiopia, implementing information technology in the banking sector encounters several challenges, including unstable legislation, weak financial sectors, limited technological infrastructure, and low ICT penetration. Despite these challenges, e-banking services can improve banks' public image and customer loyalty. Efforts are underway to enhance technology infrastructure, driven by regulatory and competitive pressures towards full banking automation. Specific challenges within Ethiopia include insufficient ICT infrastructure, undeveloped legal frameworks, low literacy rates, high internet costs, unreliable financial networks, inconsistent power supply, and cyber security issues. Customer resistance to technological changes, lack of awareness about technology benefits, and unreliable power supply further complicate e-banking operations in Ethiopia.

1.7.2.18. Mediation Effect of ICT on Organizational Performance

ICT can serve as a mediator for enhancing value and providing benefits, especially when prioritizing informational advantages. These benefits enable quick and easy access to accurate and reliable internal and external information, as well as greater flexibility in manipulating information content and format. The introduction of new technology systems in organizations brings about changes in structure and functioning, improving decision-making and organizational management. The relationship between technology and communication in modern organizations adds complexity to the organizational structure, and implementing ICT systems aims to improve overall organizational performance (Agbolade, 2011; Almasradi et al., 2022).

In mediation, the focus is on understanding the mechanism between independent variables and the outcome, exploring how the independent variables influence the dependent variables. Predictor and mediator variables act as conduits for causal effects and are assumed to be related to each other (Hayes, 2009). Mediation occurs when a third variable intervenes between independent and dependent variables (Memon et al., 2018). It can be seen as an internal effect that comes between the dependent and independent variables (Jose, 2013 and Hong, 2015). According to Hayes (2009) a variable is considered a mediator when: a) its variation is significantly explained by an independent variable, b) the independent variable substantially contributes to variation in a dependent variable, c) the mediating variable substantially contributes to changes or variations in the dependent variable when controlling for the independent variable, and d) the impact of the independent variable on the dependent variable significantly decreases when both the mediating and independent variables are used to explain the dependent variable. Similarly, Jose (2013) explained that a variable functions as a mediator when the independent variable (IV) is significantly correlated with the mediator variable (MV), the MV is significantly correlated with the dependent variable (DV), and when paths a and b are controlled, a previously significant relationship between the IV and DV becomes insignificant, with the strongest mediation demonstrated when path c is zero.

According to Jose (2013) mediation refers to the process of acting as a link between two variables and transmitting the effect of one variable to the other. To test mediation using structural equation modeling (SEM), researchers conduct multiple regressions to explore the relationship between the predictor variable (ICT adoption factor) and the criterion variable (organizational performance) through intervening pathways. The regression analyses involve: a) regressing the mediator variable (ICT) on the predictor variable (ICT adoption factor), b) regressing the dependent variable (organizational performance) on the predictor variable (ICT adoption factor), and c) regressing the dependent variable (organizational performance) on both the predictor variable (ICT adoption factor) and the mediator variable (ICT adoption).

Researchers often propose models that include one or more intervening variables, referred to as mediators, to understand how an independent variable exerts its influence on a dependent variable (Jose, 2013). These mediators are conceptualized as mechanisms through which the independent variable impacts the dependent variable. According to Hayes (2009) in a mediation model with a mediator variable (ICT) situated between the independent variable

(ICT adoption factor) and the dependent variable (organizational performance), coefficient a represents the effect of ICT adoption factors on the mediator variable ICT and strategic communication, while coefficients b and c' represent the effects in a model predicting organizational performance from both the mediator and independent variable, respectively. Investigators interested in examining the mechanisms through which the independent variable influences the dependent variable, including both direct and indirect pathways through mediators, utilize process modeling.

1.7.2.19. Direct, Indirect and Total Effects of Mediation Variables

In mediation analysis, the direct relationship represents the connection between the independent variable and the dependent variable, while considering the influence of the mediating factor. The direct effect measures the difference in the dependent variable (Y) between two cases that differ by one unit on the independent variable (X), independent of the mediating factor's (M) influence on Y . The direct effect is typically assessed using regression coefficients in a regression model. To compute the partial mediating effect of technology adoption on business organization performance, the bootstrapping procedure is employed, following the recommendations of (Memon et al., 2018). This procedure allows for estimating the indirect effect of the mediating variable through resampling techniques. Partial mediation occurs when the independent variable influences the criterion variable both directly and indirectly (Memon et al., 2018). Chaouali et al. (2017) suggests estimating a PLS-SEM model and assessing both direct and indirect effects, which collectively contribute to the total effects. Partial Least Squares Structural Equation Modeling (PLS-SEM) is a statistical technique used for analyzing complex relationships between multiple variables in a structural equation model. It used to analyze a complex relationship between latent constructs or variables.

In mediation analysis, the total effect on the endogenous variable should be greater than the direct effect when a mediating variable is involved. The structural model specifies relationships that include direct and indirect effects, which combine to form the total effects. Direct effects occur when an independent variable (X) directly influences a dependent variable (Y) without the involvement of a mediating variable (M) (Memon et al., 2018). Indirect effects occur when X influences Y through the mediating variable M . Indirect effects

can be quantified using OLS regression and path analysis. The total effect of X on Y is the sum of the direct and indirect effects (Samani, 2016). The relationship between the independent and dependent variables can be influenced by specific circumstances (Leung et al., 2015). A mediating variable acts as an intermediary, creating an indirect effect. An indirect relationship occurs when the independent variable is connected to the dependent variable through a mediating variable. The indirect effect measures the difference in the dependent variable between two cases that differ by one unit on the independent variable, as a result of the independent variable's impact on the mediator, which subsequently influences the dependent variable. The indirect effect examines whether the independent variable's effect on the dependent variable is transmitted through the mediating variable, forming a causal chain.

Memon et al. (2018) highlight that in cases of complete mediation; the total effect can be determined by combining the two pathways of influence, which are derived from regressing the dependent variable on the independent variables. When a mediator is present, the direct effect of the independent variable on the dependent variable becomes null. Furthermore, the authors explain that partial mediation occurs when the independent variable exerts both direct and indirect influences on the criterion variable. When evaluating the relationships among constructs in the structural model, it is advisable to prioritize the assessment of the total effect over the direct effect. Similarly, Hayes (2009) states that the total effect of the independent variable on the dependent variable is composed of both the direct effect and the indirect effect through mediator variables. Samani (2016) suggests that the total effect remains relatively stable in size and is typically larger than the direct effect, which tends to diminish and lose significance when an indirect relationship is included in the model.

1.7.2.20. Conceptual Framework

This study examines the determinant factors of ICT adoption and its effect on strategic communication in organizational performance. The independent variables considered are technology, individual, economic, organizational, and environmental factors. The aim is to investigate the mediators for ICT adoption and its relationship with organizational performance. The modified research model explores the effects of ICT adoption as a strategic communication tool, examining relationships between ICT adoption, organizational factors,

environmental factors, strategic objective achievements, and organizational performance. Organizational performance is measured by growth, new products and services, expansion, strategic objective achievements, effective communication and decision-making. The impacts of technological, organizational, individual, environmental, and economic factors on organizational performance are mediated by ICT adoption and strategic communication on performance of banking sector.

Various frameworks are employed by researchers to study the adoption of Information communication technology. One such framework is the Contextualized technology adoption framework, which acknowledges that contextual factors, including organizational culture, leadership support, and resource availability can influence technology adoption like ICT. It emphasizes the importance of considering the specific context and recognizes that different factors may be significant in different contexts. These frameworks provide a structured approach for researchers to analyze critical factors, understand complex dynamics, and devise for effective strategies of implementing new information communication technologies.

The Technology-Organization-Environment (TOE) framework provides a comprehensive theoretical model explaining technology adoption within organizational contexts. It delineates three crucial domains: the technology domain, focusing on characteristics like complexity, compatibility, observability, and relative advantage; the organization domain, encompassing internal factors such as structure, culture, resources, capabilities, and readiness for change; and the environment domain, which considers external influences like market conditions, regulations, competitive pressures, and partnerships. The TOE framework underscores the interconnectedness of these domains and emphasizes that successful technology adoption requires alignment across them. Widely applied in research, particularly in organizational settings, the TOE framework demonstrates strong predictive capability and is suitable for meta-analyses across studies. However, its complexity and potential limitations in capturing individual-level perceptions warrant careful consideration when applying it in specific contexts and the researcher extends to use TOE model for this study in the banking sector of Ethiopia.

1.7.2.20.1. Conceptual Framework of the study

Conceptual Framework for (Research Model) illustrated by the researcher as in Fig.1 below. It is sketched based on the research questions and/or objectives set above and the empirical, theoretical and conceptual literature reviewed above. At the extreme left are factors that supposed to affect ICT adoption. At the extreme right is organizational performance under which the five indicators that are contextually working for the study under consideration are shown. And at the middle are the ICT adoption and strategic communication that serves as direct and indirect mediator variables, respectively, between determining factors that affect ICT adoption and organizational performance.

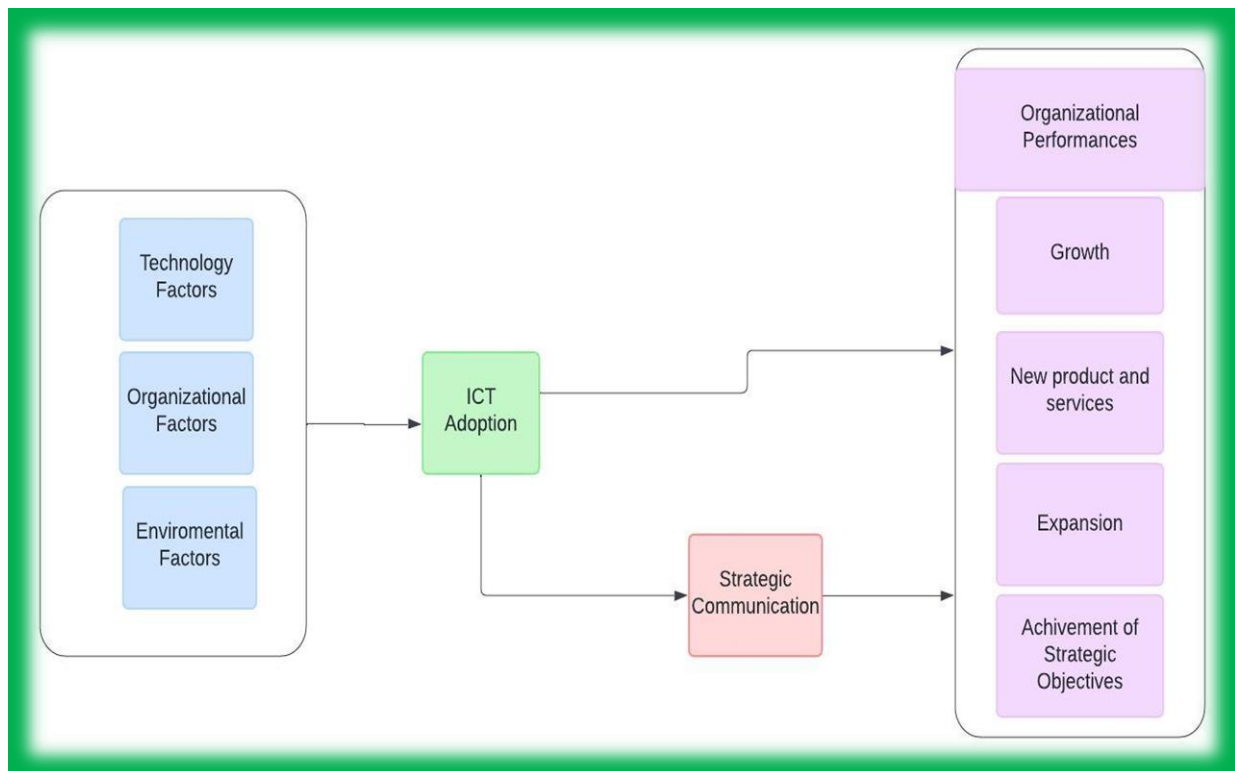


Figure 1-1: Conceptual Framework (Research Model) of the study

Source: Author's perspective based on the literature

1.8. Method and Materials

1.8.1. Introduction

The aim of this study is to describe and investigate the trends, practices, and determinant factors of ICT adoption and its effect on performance of Ethiopia's banking sector. It evaluates ICT adoption and effective strategic communication of both state and privately-

owned banks in Ethiopia. Through a mixed-methods approach that employ both descriptive and explanatory research design on ICT adoption for the achievement of organization objectives of the banking sector. The following section outlines the overall research design and methodologies, identifies the sampling technique, sample size, data sources, data collection instruments and techniques of analysis are present in this section.

Addis Ababa Sub City Map and location of Study area

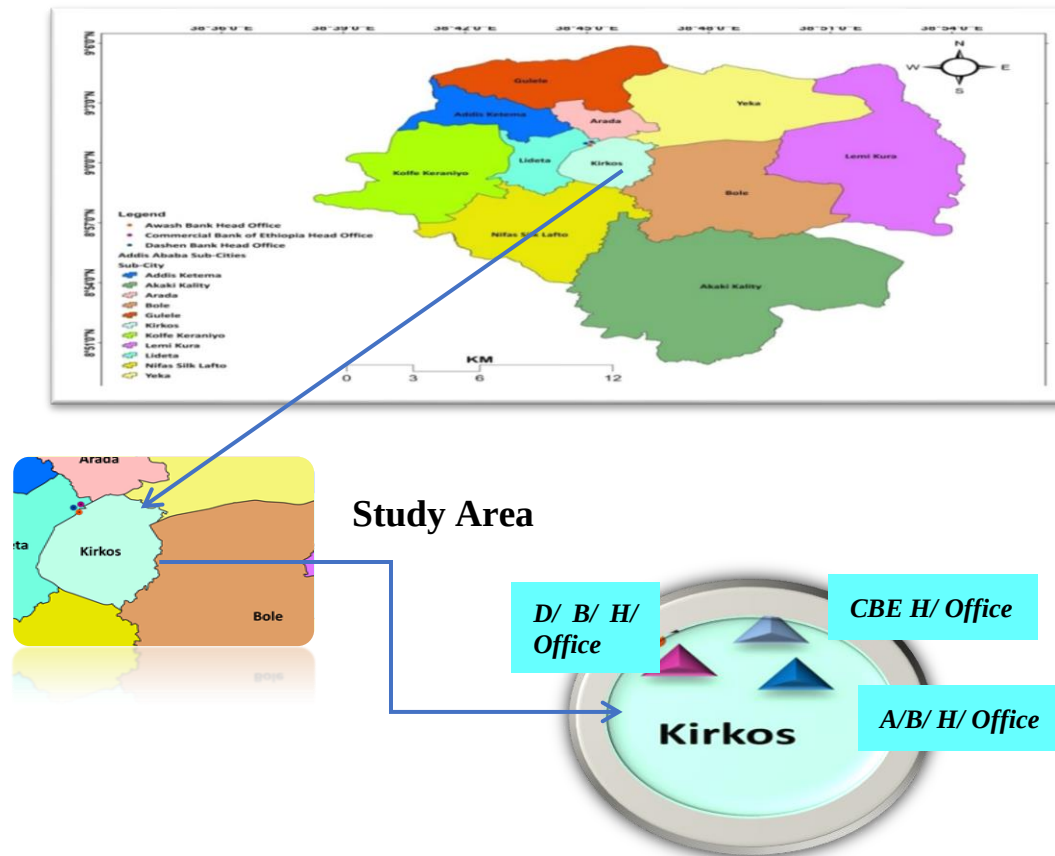


Figure1-2: Addis Ababa Sub City Map and location of Study area GIS sketch.

1.8.2. Setting of the study area of bank Industry

The State Bank of Ethiopia was founded in the wake of Ethiopia's freedom in 1942, when it had two branches and forty-three staff. Operating as the nation's principal commercial bank, it was founded in April 1943 and was governed by a Canadian governor. Ethiopia's first development bank was founded in 1951 (Abate & Kaur, 2023; Harvey, 1996). The largest state-owned bank in Ethiopia at the moment is the Commercial Bank of Ethiopia (CBE), which was established in 1942. It was granted legal status as a share corporation in 1963. In the same year that the Investment Bank of Ethiopia was founded, the Development Bank of

Ethiopia and Ethiopian Investment Corporation were also established. Following its merger with the privately held Addis Ababa Bank in 1974.

In 1963, the implementation of a new banking legislation resulted in the creation of two government banks: the National Bank of Ethiopia and the Commercial Bank of Ethiopia. This law also granted the Addis Abeba Bank the status of the largest foreign bank authorized to operate within the country (Harvey, 1996). Additionally, the government established two state-owned development banks. The Agricultural and Industrial Development Bank (AIDB) was founded in 1970, while the Housing and Savings Bank came into existence in 1975 through the merger of two previous housing finance institutions established in 1962 and 1965 (Harvey, 1996). The overthrow of the imperial government in 1974 marked a significant turning point in Ethiopia's economic policy, as the country was declared a socialist state. As part of this declaration, the government took control of the entire economy and nationalized major corporations. By 1975, Grind-lays Bank, a British-owned company, held a 40% ownership stake in Addis Ababa Bank and operated in 26 branches. In that same year, two additional foreign commercial banks, Banco di Roma and Banco di Napoli, were established (Harvey, 1996).

Subsequently, in 1976, the three privately owned banks, Addis Ababa Bank, Banco di Roma, and Banco di Napoli, merged to form Addis Bank, becoming the second largest bank in Ethiopia. This merger occurred after the nationalization of foreign participation in these banks in early 1975. Later on, by proclamation No. 184 on August 2, 1980, Addis Bank and Commercial Bank of Ethiopia S.C. were merged, becoming the sole commercial bank in the country until the establishment of private commercial banks in 1994 (Ahmed et al., 2021).

Following the downfall of the Dergue regime in 1991, the transitional government implemented a series of policies aimed at liberalizing the financial sector. This included breaking the state monopoly in the banking industry and creating opportunities for private sector involvement (Harvey, 1996). Subsequently, banking licenses were granted to applicants who could fulfill the minimum paid-up capital requirements. Initially, the requirement was set at 10 million birr until the end of 1994 (Löscher, 2019). It was later raised to 75 million birr in 1999 (Abate & Kaur, 2023), and further increased to 500 million birr starting from 2011. However, ownership of private commercial banks remained restricted

to Ethiopian citizens exclusively (Hagos, 2014). As of June 30, 2020/21, the Commercial Bank of Ethiopia (CBE) had established a nationwide network of 1,489 branches, with 431 branches located in Addis Ababa.

The Commercial Bank of Ethiopia (CBE) utilized business process reengineering and information and communication technology (ICT) to integrate its resources and improve customer satisfaction. They employed various software and online technologies like SMARTBANK and TEMENOS for operational efficiencies, Oracle for employee management, and online training and examination of internal vacancies (Abebe, 2016). CBE launched its mobile banking service, CBE Birr, on December 11, 2017, allowing authorized clients to access banking services using their mobile numbers and identification numbers. Electronic banking was introduced in Ethiopia in late 2001 when CBE, the largest state-owned commercial bank, introduced ATMs for local users (Bultum, 2014). Although CBE became a Visa member in November 2005, limited infrastructure hindered its full utilization. The bank also implemented a core banking system, enabling customers to access their accounts through various channels such as ATMs, point-of-sale systems (POS), internet banking, and mobile banking. Additionally, CBE pioneered the introduction of Western Union Money Transfer Services in Ethiopia and collaborated with other money transfer agents like MoneyGram, Atlantic International, and Xpress Money since the early 1990s (Worku, 2010). Payment card services were introduced by the bank in 2001. As of June 30, 2019, CBE had 22 million account holders, 2.5 million mobile and internet banking users, over 8 million ATM card holders, more than 11,796 POS machines, and a total of 37,894 employees, out of which 22,000 were permanent.

Awash Bank, established in 1994 as the first privately-owned bank in Ethiopia, played a crucial role in the establishment of other private commercial banks (Bayisa, 2007). Awash International Bank, the inaugural private commercial bank, commenced operations on February 13, 1995, with a paid-up capital of Birr 24.2 million and 486 founder shareholders. It is registered as a public shareholding company following the regulations of the "licensing and supervision banking business" proclamation No. 84/94, now replaced by proclamation No. 592/2008, "A proclamation to provide for banking business," and the commercial code of Ethiopia 1960. The bank's vision, mission, and values strive to become the preferred bank by delivering efficient, competitive, diversified, and profitable banking services to a growing customer base, while also upholding social responsibility and leveraging modern banking

technology. Awash Bank operates through 350 area banks, one foreign bureau, 450 point-of-sale (POS) terminals, and 270 ATMs, serving approximately 350,000 cardholders as of June 2020. By the end of June 2020, the bank employed over 6,100 individuals and had a customer base exceeding 1.5 million.

Awash Bank initiated its payment card project in 2005, allocating a budget of approximately ETB 20 million. The project officially launched in 2006 with the objective of distributing 30,000 branded ATM cards within its first year. The bank's ATMs are capable of accepting international cards like VISA, MasterCard, and Union Pay, thereby facilitating foreign currency transactions (Awash-Bank, 2019). In compliance with the "national payment system proclamation" No. 718/2011 and the "regulation of mobile and agent banking services" directives 01/2012 issued by the National Bank of Ethiopia, Awash Bank has also introduced internet banking, mobile banking, and agent banking services. These technologies enable customers to access services such as viewing account balances, statements, conducting fund transfers, and uploading salary information free of charge. Furthermore, Awash Bank has collaborated with United Bank, Nib Bank, Addis Bank, Birhan Bank, and Cooperative Bank of Oromia to establish the Payment Switching System (PSS). This membership in the PSS allows for the expansion of the technology to other banks (Awash-Bank, 2016).

Dashen Bank, established in 1995 as a privately owned financial institution, has a registered paid-up capital of ETB 2,704,558,000. As of June 30, 2020, the bank operated 428 branches nationwide, with 156 branches in Addis Ababa. It employed 6,545 permanent employees and served 2.1 million customers. As part of its new strategic plan, the bank's IT function has adopted an IT governance framework. To enhance ICT service delivery, the bank developed project management and change management guiding documents, upgraded its core banking system, migrated to the latest SWIFT system, and implemented an enterprise-wide unified communication network system and video conferencing. Additionally, Dashen Bank aimed to design and build a Tier3 data center and disaster recovery site to improve service delivery, system availability, and security and compliance (Dashen-Bank, 2020).

Dashen Bank strategically positioned its ATMs to provide to its cardholders, with a total of 355 ATMs deployed across various locations as of June 2020. The bank also expanded its payment card services by installing 1,397 point-of-sale (POS) terminals, offering functionalities like cash withdrawal, balance inquiry, mini statements, and fund transfers

between accounts associated with a single card. Additionally, Dashen Bank enabled Amex and Visa cardholders to utilize their cards on ATMs connected across all banks. Gezahegn (2016) noted that Dashen Bank was the first private bank in Ethiopia to adopt e-commerce and mobile merchant transactions, utilizing innovative technology to facilitate seamless fund transfers between accounts (Bultum, 2014). When it comes to e-payment systems, Dashen Bank has continued a leading position compared to the Commercial Bank of Ethiopia, which initially introduced ATM-based payment systems and acquired Visa membership. Since 2006, Dashen Bank has remained the sole participant in the field of e-banking (Worku, 2010).

After the significant expansion of Ethiopia's financial infrastructure in 1994, the country currently has a total of 19 banks, with 17 privately owned and 2 state-owned. There are also plans to establish additional private banks. According to the National Bank of Ethiopia's annual report for 2020/21, the number of bank branches increased from 6,511 in the previous year (2019/20) to 7,344 by the end of 2020/21, including the newly opened 19th bank, ZamZam Bank. Approximately 34.5% of these branches are located in Addis Ababa, resulting in an uneven distribution of banking services. The share of private banks in the overall branch network rose to 72.5% in 2020/21, compared to 70.5% in the previous year.

The total capital of the banking industry experienced a growth of 36.2% and reached ETB 153.7 billion by the end of June 2021. The largest state commercial bank in Ethiopia holds about 70% of the total assets. The equity capital of the sector reached ETB 153.7 billion by the end of June 2021, with state-owned banks accounting for 51.1% of it. The share of private banks in total deposit mobilization increased from 42.6% in 2019/2020 to 45.7%. However, the Commercial Bank of Ethiopia (CBE) alone mobilized 54.3% of the total deposits due to its extensive branch network (CBE Annual Report, 2018).

This study focused on the adoption of ICT and its determinants for strategic communication in the banking sector of Ethiopia. It specifically examined two privately owned banks, Awash and Dashen, which have been operating for over 25 years, as well as the state-owned Commercial Bank of Ethiopia (CBE). The selection of these banks was based on factors such as total capital, contribution to development, and year of ICT adoption. Additionally, factors like the total number of employees, number of customers, and capital share in the country's development were taken into consideration.

The CBE, the first bank in Ethiopia to adopt ICT in 2001, has 2006 branches, 63,382 employees, 31.4 million customers, a capital of \$52,387.8 million, and contributes 33.3% of the GDP in national development, with total assets of 990.9 billion. Awash Bank, established in 1994 as the first private bank in Ethiopia, has 692 branches, 17,393 employees, a total capital of \$14,036 million, a 7.3% stake in national development, and total assets of 183.4 billion. Dashen Bank, the second private bank founded in Ethiopia in 1995, has 557 branches, 12,406 employees, 3.8 million customers, a capital of \$9,677 million, a 4.9% stake in the country's development, and total assets of 117.144 billion (NBE, 2021/22.). The following table presents a summary of key characteristics of the banks examined in the study.

Table 1-1: Branch Network and Capital of the Banking System at the Close of June 30, 2021/22 (Branch in Number and Capital in Millions of Birr, Total Asset in Billion Birr)

Banks	Year of establishment	Number of branches	Total number of employees	Total number of Customers	Total Capital in Millions of Birr	% Share	Total Asset in Billion
Commercial Bank of Ethiopia	1942	2006	63,382	31.4 million	52,387.8	33.3	990.9 billion
Awash Bank	1994	692	17,393	7.8 million	14,036	7.3	183.4 billion
Dashen Bank	1995	557	12,406	3.8 million.	9,677	4.9	117,144 billions

Source: NBE, 2021/ 22 Annual Reports of Three Banks

1.8.3. Research paradigm

The guiding Philosophical position of the researcher is pragmatism approach. Fraser (2021) stated that pragmatist argue as knowledge of a reality is the result of social conditioning which cannot be understood independently without considering the perception of actors involved in the knowledge generation process. In other words, researchers working based on this perspective, discover knowledge of the real world by using the mixture of theoretical

reasoning and experimentation. Shanmugam (2018) states that the objective of this study is to identify the barriers to ICT adoption in strategic communication. In order to address the effects of technology adoptions in the banking industry, the pragmatic research philosophy is utilized as the knowledge paradigm that is believed to include the most pertinent philosophical presumptions. Therefore, this research followed the pragmatism research philosophy, in line with existing theoretical and empirical research.

1.8.4. Research Design and Approach

The study employed an explanatory, mixed research designs to investigate factors influencing the adoption and use of technologies in supporting various aspects of business organizations, including strategy, operations, decision-making, and organizational performance.

The study employed an Explanatory mixed-method research approach, combining quantitative and qualitative data to comprehensively analyze the research problem. This approach was chosen to gather data that couldn't be obtained through a single method and to capitalize on the strengths of both quantitative and qualitative approaches. By utilizing questionnaires for quantitative data and interview guidelines for qualitative data, biases were minimized. The third method used to triangulate of data from question and interview for an inclusive analysis of the research problem.

These research designs were chosen to fulfill the objective of the study and provide a comprehensive understanding of technology adoption within business organizations. The descriptive research design aimed to provide a detailed overview and description of the current state of technology adoption practices. The explanatory research design aimed to identify and explain the factors that influence technology adoption and how they impact different areas of organizational functioning and performances. The explanatory mixed research design aimed to uncover new insights through questionnaire to see the significance the relationship that exists between these banks on technology adoption and organizational outcomes. By utilizing these research designs, the study aimed to address the objective of understanding the factors affecting technology adoption and its role in supporting business strategy, operations, decision-making, and overall organizational performance.

The study focused on exploring ICT adoption and its impact on strategic communication and how it affects organizational performance within private and state-owned banks. Specifically,

the commercial bank of Ethiopia, Awash bank, and Dashen bank were selected as study sites. A mixed-method approach was employed, combining qualitative and quantitative methods concurrently. The qualitative component aimed to identify trends, practices, and determinants challenges of ICT adoption and expected to offer insights into strategic communication. The quantitative component examined the factors influencing ICT adoption for strategic communication effect in the selected banks. This mixed approach aimed to provide comprehensive insights into the research questions, objectives, and theoretical framework, establishing factors that affects ICT adoption and strategic communication using various statistical models and instruments were utilized for data collection and analysis. The qualitative data helped to substantiate to the quantitative data by triangulating by identifying factors influencing ICT adoption for strategic communication.

1.8.6. Data Sources

The data source for this study was both primary and secondary sources. Various techniques were used to generate qualitative and quantitative data from primary and secondary data sources. Primary data is gathered through questionnaires and interviews with bank managers, communication professionals, ICT managers, and strategic plan officers. Closed-ended and open-ended questionnaires are employed. Secondary data sources include government ICT policies, bank strategic plans and policies, documents, books, journal articles, dissertations, newspapers, online documents, statistical records, reports, and existing research literature on information system adoption.

1.8.7. Measurements Variables

The measurement variables which researcher used was scale measurement to explore the extent the industries can utilized the ICT adoption for strategic communication to achieve their goals such as operational excellence, innovation, personalized customer experience, improved decision-making, competitive advantage, and survival on the market (Laudon, 2009). ICT adoption enables organizations to improve efficiency, effectiveness, growth, and competitive advantage. It facilitates organizational expansion, supply chain improvements, new product and service development, and customer satisfaction (Marei et al., 2022). To understand the challenges and opportunities associated with ICT adoption in banking, it is important to identify and measure the factors that significantly influence ICT adoption. The

determinants discussed above can be used for this assessment, providing insight into the challenges and opportunities associated with ICT adoption in the banking sector.

Various factors relevant to ICT adoption have been identified in the literature and included in the framework. Some of the empirical, theoretical and conceptual literature reviewed are (Ahmed & Mansoori, 2016; Al-dosari, 2021; Brassard et al., 2006; Carrigan & Coppola, 2017; Chirwa et al., 2018; Davis, 1989; Dwivedi et al., 2012; Falkheimer, 2014); Hallahan et al., 2007; Herzallah & Mukhtar, 2015; Husain, 2013; Hwang, 2014; Kenneth & Jane, 2012; Kwabena et al., 2021; Leung et al., 2015; Miranda, et al., 2016; Musheke & Phiri, 2021; Pimiä, 2015; Semren, 2017; Sergi, 2006; Venkatesh et al., 2003; Sergi, 2006; Skoko, 2006; Robson, 2013; Version et al., 2020; Zerfass et al., 2018).

The study examines the role of IT adoption as a strategic communication tool to improve organizational performance in the banking sector. These factors can be classified into personal, organizational, environmental, technological and economic factors. These variables can be identified and used by the research community as strong determinants of technology adoption. Personal factors include senior management commitment, education level, age, skills and organizational culture. Organizational factors include financial and human resources, company size, human capital, and organizational culture. Technological factors relate to existing technology, infrastructure, and user perception of IT adoption. Environmental factors include competitive pressures, customer innovation, public policy, regulatory frameworks, national IT infrastructure and government support. Economic factors, such as macroeconomic costs, also influence IT adoption (Sergi, 2006; Skoko, 2006).

1.8.8. Data Gathering Instruments

The main data collection instruments that were used for this research are survey questionnaire, interviews guides, and document analysis on the strategic plan and policies of the banking sector.

1.8.8.1. Quantitative Data Gathering Tool

The study employed quantitative data collection methods, specifically surveys, to gather information from participants and meet the specific objectives of the research. A structured

questionnaire was used to collect the quantitative data, and pilot test as conducted prior to distributing the main questionnaire to ensure that the questions were realistic, reliable, acceptable, and applicable. Based on the results of the pilot test, necessary changes and modifications were made to the questionnaire.

1.8.8.2. Qualitative Data Gathering Tools

To supplement the survey responses, and collect data for the study, in-depth interviews were conducted following the necessary COVID-19 protocols, ensuring face-to-face interactions. Qualitative data was gathered using in-depth interviews guides as the primary tools. Initial discussions were held with information systems managers and relevant personnel to gain an understanding of the company's strategic information systems implementation. Key informants who possessed detailed knowledge of ICT adoption as a strategic communication tool were then identified and selected for in-depth interviews. These key informants included vice presidents, directors, managers, strategic planning officers, and communication office directors, with a total of 18 higher-ranking officials from the bank. The selection of key informants was based on information saturation, ensuring a comprehensive understanding of the subject matter. An interview guide was prepared, incorporating in-depth, semi-structured, and key informant interview questions that aligned with the study objectives.

1.8.9. Population and Sampling

1.8.9.1. Target Population

The study focuses on three specific banks: the government bank, Commercial Bank of Ethiopia (CBE), and two private banks, Awash and Dashen. The selection of participants was carried out using a multi-stage sampling strategy. In the first stage, the study sites were identified, and in the second stage, the banks were sampled for inclusion in the study. Stratified sampling was employed, taking into account the years of establishment for the private banks (Awash and Dashen) and selecting CBE as the representative public bank. The private banks were chosen based on their establishment more than twenty-five years ago, as determined by the National Bank of Ethiopia. These selected populations were considered to possess comprehensive knowledge of ICT usage at the bank level. The choice of Commercial Bank of Ethiopia, Awash Bank, and Dashen Bank as case studies was based on factors such

as accessibility, capacity, and their significant contribution to the country's GDP. These banks have a wide network of branches and a large number of employees.

1.8.9.2. Sampling Size Determination and Techniques

From the initial target population of 415 individuals (with 120 from CBE, 136 from Awash Bank, and 159 from Dashen Bank), a total sample of 320 respondents was selected. However, only 306 respondents correctly completed the questionnaire. The sample respondents were chosen using a stratified sampling technique from the ICT office, Marketing and Communication office, and Strategic Planning office of the three banks' head offices. Although a minimum sample size of 217 was possible for a target population of 415, the researchers opted for a sample of 306 to ensure data validity and precision, following the sample size determination guidelines provided by (Cohen *et.al*, 2018). Therefore, 306 respondents were selected and accurately filled out the questionnaire, providing relevant data for the study's objectives.

The qualitative section of the study targeted participants in various roles are directors for ICT services, directors for ICT infrastructure, heads for ICT system and development, officers for ICT security, directors for marketing and communication and chief information officers. A mixed sampling approach was used, employing random sampling for directors for marketing and communication, chief information officers, and officers for ICT security, and purposeful sampling for directors for ICT services, directors for ICT infrastructure, and heads for ICT system and development. The determination of the appropriate size of study subjects with detailed knowledge in the bank was based on saturation. The study involved a total of 18 participants from three banks, ensuring representation across the different roles. This included two participants from each three category, aiming to provide a comprehensive perspective on the research topic within the context of six from each office of the bank. In total, the study included a combined total of 324 respondents across both the qualitative and quantitative sections. This sample size was determined to be sufficient for achieving the objectives of the study.

1.8.9.3. Regression Model

To test mediation model using regression analysis should be satisfying three settings: the predictive variable must affect the mediating variable; the predictive variable has to directly influence the dependent variable; and the mediating variable should in turn affect the dependent variable (Jose, 2013). Regression models estimate the association between a set of predictors and multi-category nominal outcome variables. It is used when the dependent variable has more than two nominal or unordered categories (Triantaphyllou, 2006).

Accordingly Jose(2013) to identify the basic factors affecting the adoption of ICT as a tool of strategic communication, to achieve strategic objectives and seek to identify determinants considered to be predictors by associating with many dependent variables (Hollenstein, 2004). Thus, to achieve these objectives regression model is assumed to be the most relevant analytical model. The adoption of information communication technologies at Commercial Bank of Ethiopia (CBE), Awash international Bank (AIB), and Dashen Bank (DB) were measured using different indicator variables. The independent variables in this study are determinant of ICT adoption factors, the mediator variable is ICT adoption, and effective strategic communication, and the dependent variables for this study are achievement of strategic objective, and organization performances.

1.8.9.4. Mediation Model

The mediation and moderation models are two commonly used statistical models in social science research that help to analyze the relationships between variables and understand the underlying mechanisms of those relationships. Mediation exists when a variable intervenes between independent and outcome variables. This approach employs comparing the relationship between the predictor and outcome variables before and after adjusting for the mediating variable (Memon et al., 2018). According to Hayes (2013), when the regression coefficient is applied, the difference in coefficients of the total effect and the direct effect is computed. The difference in correlation coefficients is calculated by deducting the correlation coefficients between the predictor variable and the outcome variable and the mediated partial correlation coefficients between the predictor variable and the outcome variable. This approach is not well tested empirically in evaluating mediation besides its weakness to cater for estimating multiple mediators and categorical variables. The product of coefficients

estimates mediation effects using the products of path coefficients of indirect effects of X on Y in a path model (Hayes, 2013; Memon et al., 2018).

This method examines the indirect effects of individual mediators and the total indirect effects of mediating variables as the summation of the specific indirect effects (Hayes, 2009). Using this approach, the mediated effect depends on the extent to which the independent variable changes the mediator and on the extent to which the mediator subsequently affects the outcome variable (Memon et al., 2018). The significance test of a mediating effect can be assessed using the (Hong, 2015) test, on which basis the product of the mediating path coefficients is divided by its standard error and the result has to be compared with standard normal distribution for a test of significance (Hayes, 2009; Jose, 2013).

Analyzing such an intervening variable can further result in direct and indirect effects (Memon et al., 2018). Mediation analysis involves decomposing the effects of direct and indirect relationships of a predecessor of a particular dependent variable (Fraser, 2021). The principles of mediation analysis with more than one mediator models allow a variable's effect to be transmitted to another through multiple mechanisms simultaneously. Two forms of multiple mediator models that differ from each other by whether mediators operate in parallel, without affecting one another, or in serial, with mediators linked together in a causal chain (Hayes, 2009). Mediation exists when the effect of the independent variable on the dependent variable is greater than the effect of both the independent variable and mediating variable on the dependent variable. There are many approaches for testing mediating effects. The major statistical mediation tests are causal steps, product coefficients, distribution coefficients and bootstrapping (Chaouali et al., 2017; Memon et al., 2018). According to equations of (Hong, 2015; Jose, 2013) apply to all of these methods:

$$Y = i1 + cX + e1$$

$$Y = i2 + c'X + bM + e2$$

$$M = i3 + aX + e3$$

Where, Y = dependent variable, X = independent variable, M = mediating variable, c = refers to the total effect which links the independent variable to the dependent variable in the first equation; c' = direct effect indicates the parameter connecting the independent variable to the dependent variable when the mediator (m) is controlled; b is the path coefficient connecting the mediator to the dependent variable adjusted for the effects of the independent variable, a is the parameter linking the independent variable to the mediating variable, e1, e2, and e3

specify error variables and i_1 , i_2 , and i_3 represent the intercepts. The first equation estimates the total effect model, while the second and third equations specify the mediation or indirect effects. Total effect is the summation of direct and indirect effects. Direct effects (c') is the effect of X on Y after accounting for M. Mediation exists when a hypothesized indirect path coefficient through a mediating variable (M) is significant (Memon et al., 2018).

Mediation effect or indirect effect therefore equals the difference between the c and c' parameters, $c - c'$ (Jose, 2013). Similarly, mediation can always be estimated as the product of ab which is equal to $c - c'$ (Hayes, 2013). Causal steps approach tests for mediation through the regression equations of an independent (X) variable, mediating (M) variable and dependent (Y) variable (Memon et al., 2018). According to them, following (Hong, 2015), three steps are involved in testing mediation effects using causal steps: firstly, there has to be a significant overall effect of X on Y; secondly M should influence Y, and X has to affect M. Both path coefficients linking M and Y and X and M should be significant; and thirdly, the total effect of X on Y has to be larger than the direct effect of X on Y after a partial mediating effect. This approach fails to accommodate many mediating variables and does not compute point estimates of mediating effects (Hayes, 2013; Memon et al., 2018). In addition to employing unstandardized regression coefficients that do not have statistical power and its failure to test indirect effects, causal steps depend on the assumption of distribution normality (Samani, 2016).

Thus, a mediation model examines the mediating effect of a variable on the relationship between an independent variable (X) and a dependent variable (Y). It explores whether the effect of X on Y is explained, either partially or fully, by the inclusion of a mediating variable (M). In other words, it investigates whether M acts as a mechanism through which X influences Y. The mediation model can be represented as follows: $X \rightarrow M \rightarrow Y$.

In this model, X is the independent variable, M is the mediating variable, and Y is the dependent variable. The mediation analysis aims to assess the indirect effect of X on Y through M while controlling for the direct effect of X on Y. Mediation explores the underlying mechanism or process through which an independent variable (X) affects a dependent variable (Y). It investigates whether the relationship between X and Y is explained, either partially or fully, by the inclusion of a mediating variable (M).

In other words, mediation examines how X influences Y by going through M. It focuses on the "how" or "why" of the relationship.

1.8.9.5. Moderation Model

A moderation model examines the interaction effect between an independent variable (X) and a moderating variable (Z) on the dependent variable (Y). It explores whether the relationship between X and Y changes depending on the level or presence of Z. According to Kishore and Sequeira (2016), moderation model is used to test whether the prediction of a dependent variable, from an independent variable differs across levels of a third (moderator) variable. A moderator is a variable that specifies conditions under which a given predictor is related to an outcome (Kishore & Sequeira, 2016; Landis & Dunlap, 2000). Moderator variables affect the strength or direction of the relation between a predictor and an outcome: enhancing, reducing, or changing the influence of the predictor (Farooq & Vij, 2017). So, a moderator is a variable that affects the strength or direction of the relationship between X and Y. The moderation model can be represented as follows:

$$\begin{array}{c} X \longrightarrow Y \\ \wedge \\ | \\ Z \end{array}$$

In this model, X is the independent variable, Y is the dependent variable, and Z is the moderating variable. The moderation analysis aims to determine whether the relationship between X and Y is contingent on Z, meaning that the effect of X on Y varies across different levels of Z. Moderation, on the other hand, explores the conditions or contexts under which the relationship between an independent variable (X) and a dependent variable (Y) changes. It examines whether the relationship between X and Y is influenced by a third variable called a moderating variable (Z). In other words, moderation investigates when and for whom the effect of X on Y is stronger or weaker. It focuses on the "when" or "under what conditions" of the relationship.

Both mediation and moderation models are used to gain a deeper understanding of the relationships between variables in a given context. They help researchers explore the underlying mechanisms, conditional effects, and interactive effects of variables, which can provide valuable insights into the processes and conditions that influence the relationships of interest.

Theoretical Framework: Researchers need a clear theoretical framework that explains why they believe a variable may act as a mediator or moderator. Mediators are variables that help explain the underlying process or mechanism by which the independent variable affects the dependent variable. On the other hand, moderators are variables that influence the strength or direction of the relationship between the independent and dependent variables. Theoretical justifications for including a variable as a mediator or moderator can be derived from previous research, existing theories, or logical reasoning based on a conceptual framework. In short, mediation focuses on understanding the mechanism or process by which an independent variable affects a dependent variable, while moderation examines the conditions or context in which the relationship between a variable independent and a variable dependent variable. Mediation explores the “how” or “why” of the relationship, while moderation studies the “when” or “under what conditions” of the relationship. Mediation and moderation analyzes are valuable in social science research because they provide insight into the complex dynamics and nuances of relationships between variables.

The other objective to be treated in this study was to determine a condition through which adoption of ICT affects effectiveness and efficiency of bank. This means, it is hypothesized that the effects of ICT adoption (independent variable "X") on achievement of bank strategic objective (dependent variable "Y") is influenced or constrained by certain characteristics of effective strategic communication and increasing the performances of bank, during intervention (moderator variables "Z"). Thus, the simplified moderation model used to deal with this objective are:

$Y = B_0 + B_1 X + B_2 Z + B_3 XZ + e_1$ where:

Y= Achievement of strategic Objective measured using effective strategic communication

B_0 = is the constant or y- intercept.

X= the independent variable which the adoption of ICT.

Z = the moderator variable.

XZ= denotes the interaction between the predictors (ICT adoption) and the moderator.

B's= parameters to be estimated or regression line coefficients.

e= the error term.

1.8.9.6. Quantitative Data Analysis Technique

In this study, Structural Equation Modeling (SEM) using Partial Least Squares (PLS) was applied to analyze and predict the structural and measurement models. SEM is a second-generation multivariate statistical technique that examines complex relationships between exogenous (independent) and endogenous (dependent) variables. It allows researchers to analyze sets of interrelated latent variables and observed indicator variables using user-friendly software programs. Latent variables are hypothetical constructs that can only be indirectly measured through observed variables. SEM can be divided into covariance-based SEM and PLS-SEM. Covariance-based SEM is used to test and confirm theories, while PLS-SEM is a variance-based approach that predicts and explains variances. PLS-SEM is particularly useful for testing theories using reflective and formative indicators. SEM combines a structural model, which visually represents theoretical constructs, and a measurement model, which indicates the relationships between the constructs and the measurement variables.

The decision to use SEM in this study was based on its ability to measure multiple relationships among latent and observed variables, test hypotheses, and analyze complex models with many theoretical variables. SEM is considered the only analysis that allows complete and simultaneous tests of all relationships in situations involving complex and multidimensional variables. PLS-SEM is a statistical technique used to analyze causal linear relationships among multiple latent and manifest variables and estimate variances of endogenous constructs. It is an alternative to covariance-based SEM, which uses ordinary least squares (OLS) multiple regressions. PLS-SEM is particularly suitable when the sample size is smaller, whereas covariance-based SEM may be more appropriate for larger samples. PLS-SEM is preferred for confirmatory testing of hypotheses. In this study, PLS-SEM is chosen as the more appropriate technique because the research objective is to predict and explain structural relationships, maximize variances of endogenous variables. PLS-SEM is capable of handling both reflective and formative measures of variables that can be analyze the data quantitatively

1.8.9.7. Qualitative Thematic Analysis

Thematic analysis is similar to content analysis which pays greater attention to the qualitative aspects of the research to permit the researcher and combine analysis of the frequency of codes with analysis of their meaning in context ((Joffe& Yardley, 2004). The aim of thematic analysis is to describe how thematic contents are elaborated and to identify valid meanings across participants who prefer a qualitative approach (Joffe and Yardley, 2004). Thematic analysis can quantify qualitative data for the purposes of analysis to draw the richness of the themes from the raw information and allows the researcher to be faithful to the data while producing high quality of information (Alhojailan and Ibrahim, 2012). Joffe and Yardley (2004) stated that thematic analysis allows for systematic analysis of the meanings made of the phenomena under investigation to describe the bulk of the data. In thematic analysis the terms' theme refers to a specific pattern found in the data one is interested in and a theme of a coding category can refer to the manifest content of the data which is something directly observable (Alhojailan and Ibrahim, 2012; Joffe and Yardley, 2004).

Thematic analysis is a qualitative data analysis method that involves labeling patterns with codes and distinguishing various aspects of the content by organizing the data into a collection of categories.

In order to address the research questions, the researcher engages in the process of coding, which entails assigning labels to the data. The coding frame is then developed to provide a more in-depth understanding of the specific content being analyzed, adding clarity to the research findings. The qualitative data collected for this study were analyzed using MAXQDA software package. Initially, interviews were conducted and audio-recorded, and then transcribed verbatim in Microsoft Word format whereas the document analysis was articulated to substantiate the quantitative analysis. These transcriptions were subsequently organized and imported into MAXQDA as a single document. The coding process was then carried out, with the contents of the document being grouped into thematic sub-groups. These sub-groups included strategies for designing organizational communication, measurement of success in organizational communication, trends in ICT adoption, impacts of ICT adoption, and challenges of ICT adoption. Additionally, sub-categories were created specifically for trends and impacts of ICT adoption. It is worth noting that individual respondent views were not labelled, as the focus of the analysis was not on individual conceptions. The results were

interpreted and discussed in relation to the research questions and the conceptual framework of the study.

1.8.9.8. Ethical Consideration of a Research

During the research process, participants' rights to privacy, safety, knowledge of the study's objectives, access to the findings, and benefit from their participation were respected (Iverson & Dervan, 2026). The study placed significant emphasis on maintaining the confidentiality of data, information, methods, and procedures, as well as ensuring voluntary involvement and obtaining informed consent from the participants. To protect participant identity, respondents were instructed not to provide any personal identifying information, except for their organization name and department. Verbal consent was obtained from the participants, and an official letter explaining the study's purpose and the participants' right to choose whether to participate or decline was provided to the three banks involved. In the questionnaire introduction, participants were explicitly informed about their right to remain anonymous. Instead of names, they were asked to include their email address, organization's name, and department. The study also properly credited all the referenced materials and measurement tools used. Overall, maintaining the confidentiality of participant information and data was a primary ethical consideration in this study.

1.8.9.9. Data Quality Assurance: Validity and Reliability

Ensuring data quality assurance is essential, and it relies on validity and reliability. Validity pertains to the accuracy and appropriateness of the measurement tools used in the study. By establishing validity and reliability, the study aimed to maintain the quality of the collected data and enhance the credibility of the research findings. To ensure validity, the questionnaires undertook a careful validation process, including a pilot test and feedback from professionals and participants. The instrument was designed methodically to establish a logical connection between the items and the study objectives, including relevant demographic information. Content validity was evaluated by experts from the participating banks.

Reliability, as described by Richard and Bagozzi, (2017), refers to the consistency and stability of data collection and analysis procedures across a diverse sample. It was assessed in

this study using Cronbach's alpha, which measures the internal consistency of the instrument. A high Cronbach's alpha value indicates a reliable instrument. In this case, Cronbach's alpha was calculated and found to surpass the recommended threshold, demonstrating strong internal consistency. The reliability of the study's variables was evaluated using the questionnaire items, and the means of each variable were calculated. According to (Hoekstra et al., 2019), recommended a Cronbach's alpha value higher than 0.7 indicates adequacy and sufficient instrument. The Cronbach's alpha test resulted in a value of 0.879 or 88%, exceeding the required level. Hence, the scales used in this study are considered reliable, with Cronbach's alpha values exceeding 80% for both the overall scale and sub scales.

CHAPTER TWO: Article one

Determinants of ICT Adoption for Strategic Communication: Evidences from Selected Banks in Addis Ababa

Abstract

The purpose of this study was to determine the level and determinants of Information and Communication Technology (ICT) adoption for strategic communication in the banking sector in Addis Ababa, Ethiopia. The study employed comparative research design on two privately owned banks and one government bank. Data were collected from 306 respondents, from which 110 were from government bank and 196 from private banks. The tool was designed on Google Form to gather information from respondents using Computer Assisted Personal Interview (CAPI). The level of ICT adoption and use for strategic communication were assessed and compared using mean and Standard Deviation (SD) values between private and government owned banks. A structural equation model (with $p\text{-value} < 0.05$) was also used to carry out the analysis. The result of the study indicated that the satisfaction level of ICT adoption and utilization were high (average score of about 75%) and were analogous in both private and government banks drawing implications to the comprehensive uses of ICT's benefits. Furthermore, the study also revealed that organizational factor was one of the determinants for ICT adoption in the banking sector. However, neither technological nor environmental factors were found to be significant predictors of ICT adoption for strategic communication. Therefore, banks in Ethiopia should invest more in creating awareness on the constraining and enabling role of organizational factors that affect strategic communication in bank's performance in Ethiopia.

Keywords: ICT, ICT Adoption, Communication Strategy, Banking Industry, Structural equation Model, Ethiopia

1. Introduction

The banking sector is entirely dependent on Information and Communication Technology (ICT) and it is extremely vital for the growth and survival of the bank in current digital world. The adoption of ICTs in the banking sector globally started during the late 1970s. At that time, business institutions highly digitalized their data and resources with these new technological developments in the telecommunications and information technology industry in developed countries. ICT adoption and application brought improvement in the banking process and decision-making as strategic tools of business. It plays a significant role in implementing and developing the use of ICT to transform raw data into useful information for business operation. In this regard, the first bank globally known for adopting new ICTs in banking services was Security First Network Bank (SFNB), which was the first internet bank in the United States which had no physical branch or bank offices (Devlin, 1995). Today, as a result of Information Communication Technologies (ICTs), organizations work virtually and eliminate technical and geographical problems by minimizing costs for facilitating global collaborations and improving the quality and efficiency of the banking system (Dubihlela and Kupangwa, 2016).

According to Beckinsale and colleagues (Beckinsale et al., 2011), ICT entails a digital tool of software, hardware, telecommunications and information management systems, applications and devices used to create, produce, analyse, process, package, distribute, retrieve, store, and, transmit data and information electronically. Furthermore, (Laudon, 2009; Mirani & Lederer, 1998; Robson, 2013) stated ICTs have been adopted by business organizations for achieving value and improving day-to-day operations, transforming business transaction and increasing organizational performance. In addition, (Manochehri et al., 2012; Mutula & Van Brakel, 2007) stated ICT adoption had a positive and meaningful effect on competitive advantage of firms to improve customer engagement and communication globally, and for accessing foreign markets directly. As (Jones et al., 2011; Kurtzke & Setkute, 2020; Dijk, 2006) argued, ICT rapidly change the traditional ways of banks doing business and enhance business organization's competitiveness. Aziz et al., (2016) further stated that ICT provides information for management within an organization to present data in a form suitable for managerial decision-making as well as the planning and monitoring of the organization's activities and realization of organization objectives.

The potential role of ICT resources like Enterprise Resource Planning (ERP) systems were used for enhancing communication between a company and customers for efficient resource management (Jurjević et al., 2019). Likewise, Montazemi (2006) specified, ICT adoption changes the way the world economies and markets work virtually throughout the globe to easily communicate, manage their organizations more effectively, deliver better services and explore new business opportunities for development and growth. Business firms like banks use ICT as the fastest dynamic tools for achieving key objectives of the firms and for easy flow of information, and to overcome the traditional business challenges (Piatkowski, 2003). As Gupta et al., (2008) itemized, for the success of ICT adoption, the availability of infrastructure, skilled personnel, and a sufficient budget are critical.

Before 2001, all communications among the Ethiopian banks were manual systems. Ethiopia adopted internet and ICT technology for the first time in 1993, with the help of the United Nations Economic Commission for Africa (UNECA) which established Pan-African Documentation and Information Service Network (PADIS Net) connected directly to Green Net's internet gateway in London (Oluwafemi, 2010). Given the low ICT adoption rate and low extent of ICT infrastructure development in developing countries like Ethiopia, compared with developed countries, technology has not been able to diffuse and be adopted (Oyelaran-Oyeyinka & Lal, 2004). This limits banks in developing countries, including Ethiopia, to use the maximum advantage of utilizing ICT like that of developed countries' banking sector.

1.2 Setting the research context

Ethiopia launched its first bank, known as the Bank of Abyssinia in 1905 based on a fifty-year franchise given to the British-owned national bank which was controlled by the Bank of Egypt (Mauri, 2014). Before 1974, Ethiopia's banking sector was largely dominated by a single state-owned bank. The liberalization of the financial sector was one of the first policies implemented by the transitional government after the downfall of the *Dergue* regime in 1991 (Misrak, 2023). According to the 2020/21 National Bank of Ethiopia's annual report, the number of banks were 19, of which 17 are private and 2 are state-owned and more private banks are under establishment. The total number of bank branches rose to 7,344. About 34.5 percent of the bank branches were located in Addis Ababa. The share of private banks in total branch network rose to 72.5 percent in 2020/21. The total capital of the banking sector

increased by 36.2 percent and reached Birr 153.7 billion of which 51.1% held by government banks. The largest commercial bank, owned by the government, represents about 70% of total assets. Geographical distribution of branches is uneven, with more than a third located in Addis Ababa (NBE, 2020/21).

Being one of the key service sectors, banks are the major business sectors in need of ICT systems to gain the benefits of computers and other internet-based services for effective communication with customers through maintaining market competitiveness and easy flow of information. Since 1960, the introduction of computer and information technologies changed the way business is conducted around the globe by changing from traditional to online banking system (Laudon, 2009). Accordingly, in Ethiopia the first bank to adopt ICT services of e-banking was the government owned Commercial Bank of Ethiopia (CBE) in 2001 using poor ICT infrastructure (Gardachew, 2010). In today's rapidly changing and highly competitive environment, the success of the banking sector depends on using the appropriate technology for better advancement.

Kenneth and Jane (2012) argued, as a result of technological advancement and the introduction of information and communication technologies, today's business organizations are very dynamic. The objectives of an organization's use of ICT are to provide managers and stakeholders with information for more precise planning, monitoring, and controlling business operations. It is also used for effective communication, and as a powerful strategic and tactical tools of business organizations for promoting and strengthening their competitiveness (Osabuohien, 2008). The implication of ICT adoption is that, the manual method of processing data becomes inadequate, and the banking sector seeks a better way of accomplishing its activity to satisfy the needs of the banks. According to Laudon (2009), the application of ICT in a banking sector ensures the coordination of the various departments to work together and make decisions through effective communication. In addition, Gupta et al. (2008) stated that in order to provide efficient and effective services, banks currently use ICT as a basic tool to achieve their predetermined goals and objectives. It can be used as a competitive advantage for ease delivery of data and information to achieve the objectives of the business organization as planned through effective strategic communication. Thus, ICT is a very important tool for coordinating the major functional departments of banks to become more flexible maximizing its benefits.

There are empirical studies regarding ICT adoption effect of electronic banking communication systems on the performance of banks. Some scholars (Gupta et al., 2008; Valahzaghari and Bilandi, 2014; Lu, 2022; Manochehri et al., 2012; Siddik et al., 2016; Wadesango, 2020) witnessed the positive effect of ICT on the performances of banks globally. Similarly, although limited, previous studies that were done on Ethiopian banking sectors by scholars like, (Worku, 2010; Bultum, 2014; Adugna et al., 2021) have focused on factors affecting electronic banking system and e-banking communication services, customer satisfaction and its impact on the performances of the banking sector. They stated, banks in Ethiopia have seen growth and played a major role in economic development in recent times by adopting ICT systems to support their business processes and efficiently conduct their business operations to access the global market. But still, developing countries have challenges to gain the benefits developed countries have gained with ICT adoption. Furthermore, little research is currently available on ICT adoption and use as a tool of strategic communication, particularly in Ethiopian business organizations. Hence, more studies are required to give a better insight and understanding on ICT adoption and use as a tool of strategic communication in Ethiopian banking sector.

In light of this, the adoption of ICT, such as e-banking and online communication systems, as a channel of communication services for a competitive advantage in the banking sectors, is no longer an option; it is a need for banking sectors to survive. Thus, the banking sector has been investing millions of dollars in ICT systems for competitive advantages and to improve their performance using different electronic banking communication systems (Gemechu, 2014). However, from the above discussions, ICT adoption for strategic communication practices and its effect on the performance of banks in Ethiopia remains an area of critical investigation and scrutiny. So, this study attempted to compare the level of ICT adoption, and practices for strategic communication between private and government banks in the Ethiopian banking sector.

2. Methods and Materials

2.1 Study design and setting

The study aimed to find out the level of ICT adoption and its determinant factors for strategic communication between private and government banks in Addis Ababa, Ethiopia. Two private banks that have been in operation for more than 25 years, namely Awash and Dashen banks were selected as well as one government bank, the Commercial Bank of Ethiopia. The

selection of these banks was based on total capital, contribution to development, and year of ICT adoption. Moreover, total number of employees, number of customers and capital share of the banks in country development were largely considered. The table below provides the summary of important features of the banks considered in the study.

Table 2-1 Branch Network and Capital of the Banking System at the Close of June 30, 2021/22 (Branch in Number and Capital in Millions of Birr, Total Asset in Billion Birr)

Banks	Year of establishment	Number of branches	Total number of employees	Total number of Customers	Total Capital in Millions of Birr	% Share	Total Asset in Billion
Commercial Bank of Ethiopia	1942	2006	63,382	31.4 million	52,387.8	33.3	990.9 billion
Awash Bank	1994	692	17,393	7.8 million	14,036	7.3	183.4 billion
Dashen Bank	1995	557	12,406	3.8 million.	9,677	4.9	117,144 billion

Source: NBE, 2021/ 22 annual Quarter II reports of three banks

As shown in the table above, the CBE has 2006 branches, 63,382 employee, 31.4 million customers, a capital of \$52,387.8 million, the banks contribute 33.3% of the GDP in the development of the nation, and its total asset 990.9 billion. It was the first bank in Ethiopia to adopt and use ICT in 2001. Awash bank was the first private bank in Ethiopia, founded in 1994, with a total of 692 branches, 17,393 total employee, total capital of \$14,036million, and a stake in national development of 7.3 percent, and has total asset 183.4 billion. Dashen bank was the second private bank in Ethiopia and was founded in 1995, with a total of 557 branches, 12,406 total employees, 3.8 million total customers, a capital of \$ 9,677million, 4.9 percent share of a stake in the country's development, and it has 117,144 billons total asset (NBE, 2021/22) .

2.2. Sampling and sample size

Top executive directors, managers, officers, and employees from the three banks offices of ICT, Marketing and Communication, Strategic plan was part of the selected offices for this study. The target populations were selected from head offices of Commercial Bank of Ethiopia (CBE) and private banks (Awash and Dashen banks which were selected randomly from private banks). Thus, the sample populations were selected by using stratified sampling from ICT offices, marketing and communication offices and strategic planning offices. From the target population of 415 (120, 136, 159 from CBE, Awash and Dashen respectively) 320 sample respondents were selected by using stratified sampling technique from ICT office, marketing and communication office and strategic planning office of Commercial Bank of Ethiopia (CBE) and private banks (Awash and Dashen banks) head offices by using Cohen et al's (2018) sample size determination formula.

Cohen et al, (2018) suggested that for target population of 415, it is possible to take a minimum of 217 sample population, but for the data validity and precision the researcher considered a total sample of 306 of which 120 from CBE, 95 and 105 from Awash and Dashen respectively. Thus, total sample populations of 306 respondents were selected to gather relevant data for the study purpose. Out of 320 sample respondents 14 respondents didn't complete the survey questionnaire, which means 96% of the questionnaire was correctly completed and submitted online.

2.3 Measurements and variables

In this study, ICT adoption is the main variable of interest and it was measured using a set of nine questions. The level of ICT adoption was measured using questions of different domains, including the availability of a range of communication tools (13 items), frequency of use (13 items on Likert scale), ICT training, and confidence in using these tools (8 items in Likert scale). In addition, the availability of communication procedures in the organization, medium of documentation of communication processes, use of the database for decision making, and availability of software for analyzing that aid decision making was also used to measure the adoption of ICT for communication. Finally, responses were scored on these items, and the scores were converted to percent scores where small scores refer to a lesser

level of adoption, and larger scores indicate a better level of adoption of ICT for strategic communication. In addition to the outcome variable indicated above, three potential determinant factors of ICT adoption were measured in this study. The technological factor was the first measured using a set of nine items on a likert scale. The technological factor refers to existing technology and infrastructure, adopters' perceptions and awareness of ICT adoption. The remaining potential determinant factors were organizational and environmental; each of these factors was measured using four items on a likert scale.

2.4. Data collection

Data was gathered using a structured questionnaire prepared in English language. The tool was designed using Computer Assisted Personal Interview (CAPI). The questionnaires were distributed to respondents via email and responses were obtained digitally. One advantage of using CAPI is that it helps to ensure data quality by checking the logical consistency and sequence of the data collected. Using CAPI also saves time for data processing as data were entered during the filling of the questionnaire. The data required for the study were collected from August to December 2021. Finally, the collected data was exported to STATA version 14 for processing and analysis of data.

2.5. Data analysis

The level of ICT adoption and use for strategic communication was compared using mean comparisons between private and government banks. To identify determinants of ICT adoption, structural equation model was used and fitted. The results of the analysis were produced and displayed using tables, and diagrams. For hypothesis testing and model building procedure, statistical significance was determined at a $p\text{-value} < 0.05$. The model formulation has two parts: structural and measurement (Bollen & Noble, 2011). The structural part has three latent exogenous variables and one endogenous variable. Organizational (OF), Technological (TF), and Environmental (EF) Factors were exogenous in the structural model while ICT adoption ($ICT\ adoption$) for strategic communication is an observed endogenous factor considered in the analysis.

Thus, the structural model formulation is:

$$\tau_i = \alpha_o + \beta_1 \times OF_i + \beta_2 \times TF_i + \beta_3 \times EF_i + \varepsilon_i$$

Where, $i = 1, 2 \dots n$

τ denotes the level of ICT adoption,

α_o denotes intercept,

β denotes path coefficients from exogenous factors to level of ICT adoption, and

ϵ denotes error in prediction

Further, the measurement part of the model, for each item in the latent variable expression, is shown as:

$$\begin{aligned}\gamma_{ji} &= \alpha_{oj} + \beta_j \times OF_{ji} + \epsilon_{ji} \\ \gamma_{ki} &= \alpha_{ok} + \beta_k \times TF_{ki} + \epsilon_{ki} \\ \gamma_{li} &= \alpha_{ol} + \beta_l \times EF_{li} + \epsilon_{li}\end{aligned}$$

Where $j = 1, 2, 3, 4$

$k = 1, 2 \dots 9$

$l = 1, 2, 3, 4$

α_o denotes intercept,

β denotes path coefficients from exogenous factors to observed items, and

ϵ denotes error in prediction

The tool was adopted from previous works (Adbib, 2013; Agboola, n.d.; AlBar & Hoque, 2019; Ayana, 2014; Crane et al., 2006; Dastjerdi, 2016; Wegene, 2014; Harindranath et al., 2008; Kilangi, 2012; Liedtka & Ogilvie, 2019; F. T. Lin et al., 2015; Manochehri et al., 2012; Ogundile et al., 2019; Oliveira & Martins, 2010; Otieno, 2015; Ranta, 2016; Wu, 2009). A pilot test was conducted in non-sampled banks to validate the tools on twenty-seven professional staffs from three banks of Oromia Bank, Cooperative Bank of Oromia, and Zemen Bank. Accordingly, a test of reliability showed a relatively better internal consistency. That is, a Cronbach's alpha of 0.82 for organizational factor (6 items), 0.76 for technological factor (11 items), and 0.76 for environmental factors (6 items). However, upon further analysis, some items were deleted from the final tool to improve the internal consistency of each of these domains. Thus, in the final tool four items remained for organizational, nine items for technological, and four for items environmental factor.

3. Results

3.1. Respondent's characteristics

The background characteristics of respondents were summarized in the Table 1 below. It can be seen that out of the total 306 respondents, 110 respondents were from public and 196 were from private banks. The majority of respondents from the government bank were male with a

percentage of 76.36%. Similarly, from the private banks, 167 (85.20 %) were male and 29 (14.80 %) were female. The data also shows the educational level of respondents from both public and private banks. A proportion of respondents accounted for employees having a bachelor's degrees and master's degrees respectively 61 (55.45%) and 49 (44.55 %) from public banks and 100 (51.02%) and 96 (48.98%) from private banks. The analysis further revealed that the highest percentage of respondents in terms of age were those between 31-40 years of age groups in both public and private banks. Respondents beyond the age of 50 constituted a small fraction of the sample, that is, 3 (2.73%) from public and 5 (2.55%) from private banks (see Table 2.1).

From private banks, regarding their experience, 62 (56.36 %) and 133 (67.86%) had 1 to 10 years of experience from public and private banks, respectively. Those with more than 20 years of work experience in public banks made up 13.5% of the sample and the corresponding statistic for the private banks was 4.08%. In respect of marital status of respondents, a larger proportion of respondents in both groups were married, 54.55% for public and 64.29 % for private banks. The result also showed that the samples were taken from a range of working departments. The working departments of the respondents included communication, ICT, marketing, and strategic plan departments. The largest number of respondents from public banks were from ICT department (66.36%); similarly, more than two in five (46.94%) of respondents from private banks were working in ICT department. While the least number of samples was taken from marketing department of public banks (8.18%), the least number of samples for private banks was taken from the communication department (6.12%) (See Table 2.1).

Table 2-1 Respondents Background Characteristics by Bank Ownership, Addis Ababa 2021

Variables and characteristics		Ownership			
		Public (N=110)		Private (N=196)	
		No.	%	No.	%
Sex	Female	26	23.64	29	14.80
	Male	84	76.36	167	85.20
Education level	Bachelor	61	55.45	100	51.02
	Masters and above	49	44.55	96	48.98
Age group	20-30	25	22.73	75	38.27
	31-40	59	53.64	98	50.00
	41-50	23	20.91	18	9.18
	51-60	3	2.73	5	2.55
Work experience	1-10 Years	62	56.36	133	67.86
	11-20 Years	33	30.00	55	28.06
	>20 Years	15	13.64	8	4.08
Marital status	Single	50	45.45	70	35.71
	Married	60	54.55	126	64.29
Department	Communication	11	10.00	12	6.12
	ICT	73	66.36	92	46.94
	Marketing	9	8.18	51	26.02
	Strategic Plan	17	15.45	41	20.92

Source: Own Survey, August to December 2021

3.2. Current Practice of Communication Technology Adoption and Perceived Benefits

An assessment of the degree of ICT adoption and utilization for strategic communication was made and the result was displayed in the Figure 1 below. The results indicate that ICT adoption and utilization levels were satisfactorily high (average score of about 75%) and were similar for both private and government banks. Similarly, the utilization of ICT for strategic communication across both sectors was comparable, having a larger distributional size than the level of ICT adoption (see Figure 2-1). Irrespective of whether they are publicly or privately owned, banks in the current era tend to follow similar practices when it comes to utilizing communication technology for strategic communication. Thus, both banking sectors started to adopt ATM, POS machine, Internet Banking, Mobile Banking, Agent Banking, and Amole services to communicate internally and externally with stakeholders. Perceived benefits of technology adoption were also compared between the two banking sectors. Respondents were well aware of the strategic, informational, transactional, and organizational

transformation benefits of ICT adoption. The comparisons of the scores of respondents of private and public banks indicated that the scores on the various benefits of the adoption of ICT were not statistically significant (See *Table 2.2*).

Table 2-2 Comparison of Benefits of ICT Adoption Bank Industry in Addis Ababa, Ethiopia 2021 (Results of T-tests)

Variables	Average Score (Standard Error)		Mean Difference (Government Vs Private)	P-Value
	Private	Government		
Strategic Communication Benefit	96.5 (0.67)	95.7 (1.34)	-0.8	0.558
Informational Benefit	95.0 (0.90)	92.7 (1.59)	-2.3	0.183
Transactional Benefit	95.5 (0.96)	92.5 (1.45)	-3.0	0.072
Organizational Transformation Benefit	96.4 (0.97)	97.0 (1.01)	0.6	0.718

Source: Own Survey, August to December 2021

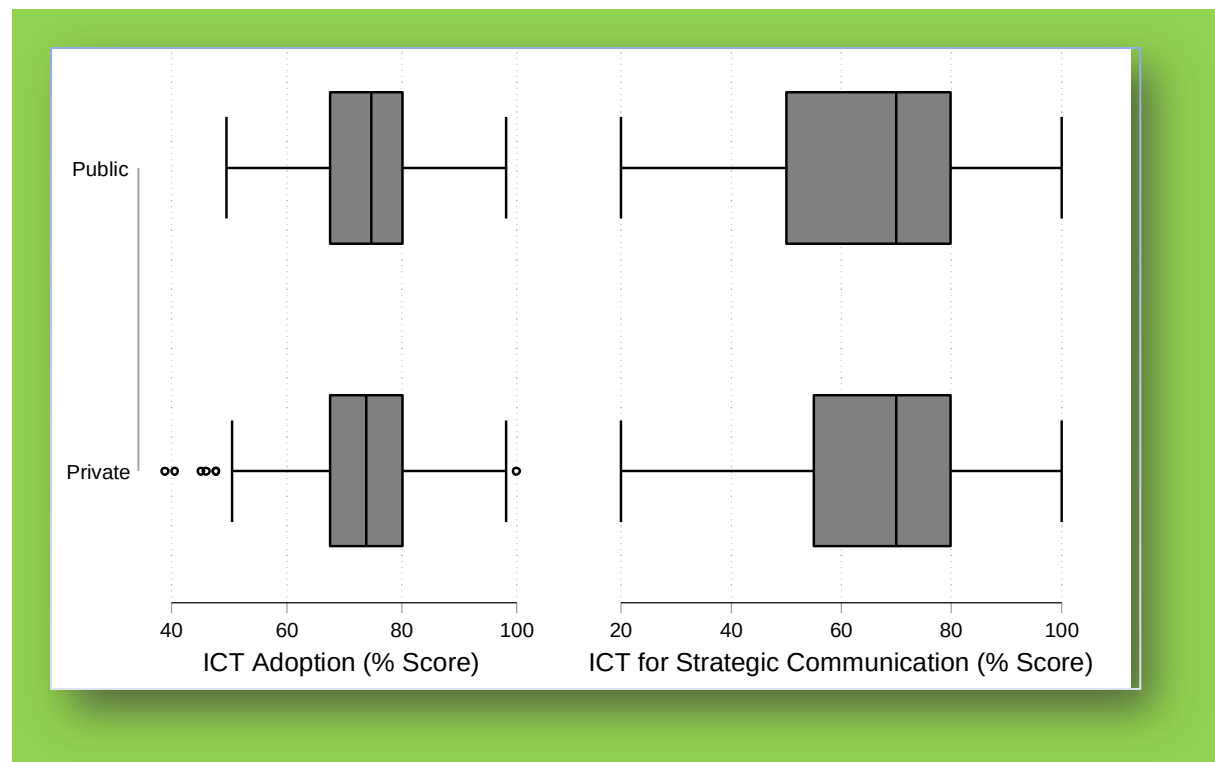


Figure 2-2 Box Plot of Level of ICT Adoption and Use for Strategic Communication in the Bank Industry, Ethiopia 2021

3.3 Determinants of ICT Adoption in the Banking Sector in Addis Ababa

The overall percent score of ICT adoption for strategic communication was modeled using potential determinant factors. The result of the analysis indicates that organizational factors determined ICT adoption in the banking sector. Technological and environmental factors were not found to be significant predictors of ICT adoption and use for strategic communication. As shown in the Figure 2 below, the result from the structural equation model portrays that support from top management and better leadership skills were significantly associated with the level of ICT adoption and use for strategic communication (Path Coefficient from OF to ICT Adoption=0.25, p-value=0.000). Technological and environmental factors, however, were not associated with ICT adoption as evidenced by the insignificant path coefficients (Path Coefficient from TF to ICT Adoption=0.079, p-value=0.258 and Path Coefficient from EF to ICT Adoption=-0.12, p-value=0.120) (see figure 2.3). The status of ownership of banks was not associated with ICT adoption or modified the relationship between the factors and ICT adoption.

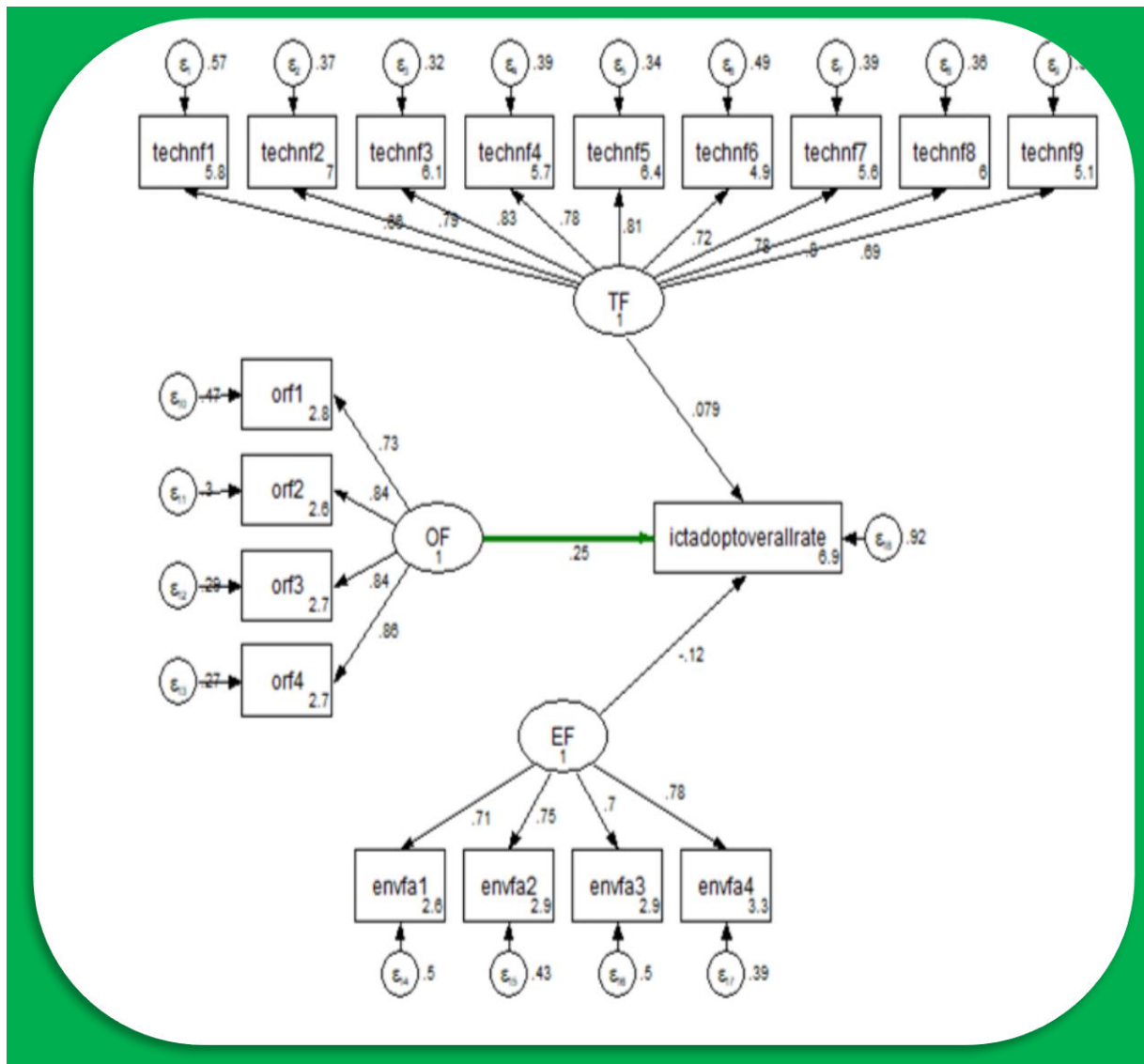


Figure 2-3 Result from Structural Equation Model for ICT adoption and use for strategic communication private and public banks, Addis Ababa 2021

OF = Organizational Factor (4 Items)

TF = Technological Factor (9 Items)

EF = Environmental Factors (4 Items)

Ict adopt overall rate=Level of ICT Adoption and Use for Strategic Communication

The path coefficients of the measurement models are standardized coefficients that tell the ability of items in measuring latent variables. Whereas, the path coefficients between the latent variables TF, OF, EF, and ICT adoption are standardized coefficients that tell the strength of the relationship. The variances of the error terms of items of the measurement model are also shown.

4. Discussion

Organizations have been affected by different factors from both internal and external situations while adopting ICT. According to Consoli (2012), the five determinant factors of ICT adoption were organizational, environmental, technological, economical, and individual factors. Respondents were asked about determinants of ICT adoption factors that influence banks and the result showed organizational factors were one of the main factors for the adoption of ICT as the main tool of strategic communication. The outcome of the structural equation model shows that, the determinant factor for the adoption of ICT are top management and leadership support, substantially correlated with the amount of ICT adoption and use for strategic communication (Path Coefficient from OF to ICT adoption=0.25, p-value=0.000). This finding supports and is consistent with the findings from previous studies (Premkumar, 2003; Tarutė & Gatautis, 2014; Herzallah & Mukhtar, 2015). Organizational factor is the most important determinant factor of ICT adoption that comprises top management support, organizational culture, enterprise size; employees' ICT skills, and human capital of organizational factors that strongly impact a business organization's successful adoption of ICT.

However, the remaining two factors (technological and environmental) were not associated with ICT adoption as evidenced by the insignificant path coefficients (Path Coefficient from TF to ICT Adoption=0.079, p-value=0.258 and Path Coefficient from EF to ICT Adoption=-0.12, p-value=0.120). In addition, the status of ownership of banks was not associated with ICT adoption or modified the relationship between the factors and ICT adoption. The finding of the two factors was varying with previous studies done globally that reported technological and environmental factors have a high impact on ICT adoption.

Technological factors are existing technology and infrastructure that greatly impact organizations' adoption of ICT (Ramdani et al., 2022). Musawa and Wahab (2012) also stated that technological factor is one of the most important determinants of organizations' adoption and use of ICT. Likewise, (Bultum, 2014; Kurtzke & Setkute, 2020; Ramdani et al., 2022) reported that technological compatibility with existing work practices of business organizations and compatibility of technology was a significant factor that influences SMEs organizations to adopt ICT. Sahin and Rogers (2006) also stated that technological factors like relative advantage, compatibility, and complexity of existing technology and

infrastructure can affect technology adoption. The environmental factor is a factor that consists of the regulatory environment of public policies, the competitive environment pressure, and supplier and customers' pressure on innovation technology which has a high impact on the adoption of ICT in business organizations. Other scholars Arifin and Frmanzah (2015) and Lin and Lin (2008) studies showed that competitive environment impacts ICT adoption as an important factor for business organizations. Similarly, Al-Somali (2011) also stated that regulatory environment of government policies and regulations affects an organization to the adoption of ICT.

The findings of the study indicated that the benefit of ICT adoption in business organizations like the banking sector for communication practices and organizational transformation aimed at improving the performance of banks in both public and private sectors was very crucial. This study also compared awareness of the perceived benefits of technology adoption between the two banking sectors. Therefore, the finding indicated respondents were well aware of the strategic, informational, transactional, and organizational transformation benefits of ICT adoption. However, the comparisons of the scores of respondents of private and public banks indicated that the scores on the various benefits of the adoption of ICT were not statistically significant (see Table 2-1). These results were consistent with the findings of Bultum (2014) study findings of security risk, lack of trust, lack of legal and regulatory framework, Lack of ICT infrastructure, and absence of competition between local and foreign banks. Aboobucker and Bao (2018) mentioned, technological barriers like perceived risks, security, privacy, perceived trust, and website usability factor for the adoption of new technology in the business organization were the basic challenges that the banks faces.

Saleem and et al (2020) stated four benefits of business organizations adopting and using ICT. These forms are strategic benefits, informational benefits, transactional benefits, and organizational transformational benefits. Informational benefits include easier access and sharing of information, effective communication, efficient organization management, and decision making. Transactional benefits include efficiencies in operation and cost savings, easy supply chain management with effective communication and improved business structure and processes for organizational change. Strategic benefits measure the ability to use a strategy for competitive advantage, and align business strategies with customer expectations keeping up with competitors to directly support organizational goals.

Finally, organizational transformation benefits include improved performance, expanding capability and improved business model, integration of ICT into existing business processes, acquisition of new ICT skills, creating new business opportunities of business organization (Singh & Byrne, 2005). The degree to which organizational transformation realize as the benefits from ICT was very high with a value of (96.4 (0.97) private owned mean score and (97.0 (1.01)) government owned score respectively. Consecutively the second highest mean value of this study showed strategic benefit 96.5 (0.67) private and 95.7 (1.34) for government banks scores; informational benefit was the third highest score of mean value 95.0 (0.90) private and 92.7 (1.59) for government banks and transactional benefit the least value of mean score for both private and government banks 95.5 (0.96) and 92.5 (1.45) respectively. While there was little difference in the level of the benefit obtained in each category ICT adoption from both government and private bank were found to be high in terms of transformational benefits and least in terms of transactional benefits. This finding contradicts the comparative study done on the benefit of ICT adoption in the business sector by (Ceric, 2015).

Overall, the findings of the study revealed that there was no statistically significant difference between government and private banks on the types of benefits of ICT use. It also indicated that the adoption of ICT benefits, for both government and private banks, were almost similar in terms of practices for achieving organizational performance. So, the overall findings indicated gaining benefits from ICT use, especially for the transformational benefit of organizational changes exhibited a very high mean score. Transformational benefits were recognized significantly more frequently mean score (96.4 (0.97) private and (97.0 (1.01)) government banks than the other benefit types, and transactional benefits were recognized significantly a less average value for both public and private banks. There were key differences in the practices and benefits of ICT adoption for improving organizational performance, compared with both public and private banks in Ethiopia. Therefore, according to this study, the benefit of ICT adoption for organizational transformation was found to be an important determinant factor of both government and private banks in Ethiopia. This finding is consistent with Mirani and Lederer (1998) study found that the adoption of ICT has high benefits and contributes positively to improving organizational performance.

5. Conclusion

This study presented and explored the determinant factors that affect ICT adoption as a tool for strategic communication. It also discussed on practices and benefits of ICT adoption in the Ethiopian banking sector. The findings showed that both private and government banks have equal levels of ICT adoption and use for strategic communication. This suggests that there were comparable and relatively similar practice that respondents were fully aware of the benefits of ICT adoption. The outcome of the structural equation model showed that the amount of ICT adoption and use for strategic communication was substantially correlated with leadership abilities and top Management support. Consequently, finding on potential determinant factors of ICT adoption in the banking sector indicated that organizational factors were the significant predictors of ICT adoption and it was more important for both government and private banks than other determinant factors. However, technological and environmental factors were not associated with ICT adoption as evidenced by the insignificant path coefficients. This showed, the statuses of ownership of banks were not associated with ICT adoption or not modified the relationship between the determinant factors of ICT adoption. The study proposes a number of actions that the banking sector and government could take to address the various identified contexts of determinant factors of ICT adoption. Moreover, establishing a clear set of frameworks and investing on ICT infrastructure in

CHAPTER THREE: Article Two

The Influence of Information Communication Technology Adoption Practices on Strategic Communication of Banks in Ethiopia

Abstract

The purpose of this study was to determine the level of Information Communication Technology adoption and practices for strategic communication comparing private and public banks in Addis Ababa. To achieve the objective of this study, a quantitative approach was employed. Three hundred six respondents, who were selected through stratified sampling techniques, were surveyed of which 110 were from public and 196 from private banks. The data were analyzed using percentage, mean, and independent t-tests. The hypothesis testing and model-building procedure were significant at a $p\text{-value} < 0.05$. Findings indicated that ICT adoption was a widely accepted practice and was held with a similar degree and pattern among private and public bank employees. Additionally, workers used ICT for strategic communication at an average and consistent level in public and privately owned banks. The amount of ICT use had an indirect influence on banks' strategic communication and mediated 88% of the overall effect of organizational factors. So, there is statistical evidence that organizational factors do affect and contribute to strategic communication, and there was no evidence of mediation, despite the fact that a considerable portion of the total effect of technology and environment-related factors (61%) and (67%) respectively have indirect influences. The study recommends ICT adoption practices can help banks streamline their operations and increase efficiency through effective strategic communication. To strengthen the banking sector in Ethiopia, the government could initiate and strengthen banks through effective ICT adoption for effective strategic communication and enhance banking services aimed at achieving a global competitive advantage.

Keywords: /Adoption/Banking/ICT/Practices/Strategic communication/

1. Introduction

1.1 Background of Study

Today, information and communication technology as strategic communication tools have become the heart of the banking sector while the banking sector is the heart of every robust economic productivity (Girma, 2016). Likewise, in today's highly globalized and information-based economy, ICT adoption in business organizations is used to remove redundant management functions and maximize the improvement of organizational performance (Kenneth and Jane, 2012). Al-hatmi(2012) mentioned that ICT is the most important tool for achieving business firms' key objectives as the fastest dynamic tool for effective business organization communication. For strategic management, communication, teamwork, customer access, data, and knowledge management, making decisions, and ICT adoption practices are eminent (Alamitu, 2014;Kaur & Sharma, 2020). Moreover, as Agboola (2006) stated, ICT can be used to gather, process, store, share information, and communicate effectively with stakeholders for efficient and effective ways of carrying out banking functions. It offers substantial rewards for banks in terms of development and gaining a competitive advantage.

Kiradoo's(2011) study findings show that ICT is a significant tool in contemporary business organizations for improving strategic communication and achieving strategic objectives and competitive advantage. Similarly, as Kenneth and Jane (2012) state, ICT is a very important tool for effective communication in an organization, and organizational messages should appropriately be communicated. According to Svensson (2020), the requirements to develop effective strategic communication are setting goals, assessing resources, identifying target groups and partners, choosing the medium, and monitoring performance. He further mentioned the three designs of strategic communication components: advocacy, social mobilization, and behavior change of each communication objective to achieve the goals of the organization. Likewise, Grimshaw *etal.*(2015) stated that strategic communication is developed as part of the communication plan and the activities of the communication function on the relationships with stakeholders.

Similarly, Blazenaite (2012) states that strategic communication is a communication plan to achieve and meet organizational goals using appropriate tools and message selection on what needs to be communicated with audiences. It is the outcome of the strategic thinking process

by top managers, making strategic decisions on the organization's strategic goals. Moreover, Sandhu (2009) explains that strategic communication is the selection and identification of appropriate communication tools to connect with different stakeholders using ICT to achieve an organization's objectives and to ensure the design, and action plan of an organization's capacities and performance (Svensson, 2020). Similarly, Cornish *etal.*(2011) add that effectively implementing strategic communication must be established upon a strong understanding of any given information environment, about the goal of that organization to achieve strategic priorities and realize core objectives of an organization. Besides, Kulvisaechna (2001) mentions that effectively implementing strategic communication can enhance the interactive process of generating and interpreting messages between people within the organization. According to Rajhans(2009), effective strategic communication should be aligned with the organization's mission, vision, values, and goals.

However, there are barriers that affect effective communication. According to Durão (2017), the barriers to effectively implementing communication strategies include a lack of consensus, knowledge, and poor understanding of the organization's mission and vision. The other main barriers that affect the effective communication of an organization are lack of direction from managers to lead employees towards organizational goals, lack of relation between strategic content and strategic process, lack of coherence between strategic planning and resource allocation, lack of strategic feedback, lack of involvement of the organization's management, and using inappropriate tools and techniques.

Such barriers can be minimized using different strategies, and ICT is one important tool in this regard. According to Kiradoo (2011), ICT is an important tool used for enhancing effective communication and making decisions on everyday functions of business operations and competitive advantage. With the development of ICT over the earlier years, the Ethiopian banking sector has shown incredible changes in investing in ICT for providing services for customers and competitiveness. Therefore, banks are contingent on ICT to compete globally by adopting different online electronic banking services. Ethiopian banks have financed vastly in adopting ICT during the last few years and have undergone remarkable changes in giving services to customers using online systems. By 2001, the Commercial Bank of Ethiopia introduced and adopted an online banking service. According to the National Bank of Ethiopia (2010), three private banks in Ethiopia, Awash Bank SC,

Nib Bank SC, and United Bank SC started using integrated Automated Teller Machines (ATMs) in 2009 and they spent over 40 million Birrs. It has replaced the traditional ways of banking activity with online electronic banking activity. Today the bank sector highly depends on how well it is used and integrated with ICT and communicates effectively to perform its daily transactions for survival and global competitiveness. The main objective of this study was to analyze the mediating effect of ICT adoption on strategic communication to improve performances of banks in Ethiopia. Thus, for the successful operation of a business organization, effective strategic communication is very important at all levels of the organization. This study finds that the effect of ICT adoption on strategic communication in business organizations is highly significant.

1.2 Statement of the Problem

Currently, using ICT as a channel of effective strategic communication is not a choice for banking sectors for survival and global competition. As a result, business organizations need to adopt and use ICT as a tool for effective strategic communication and decision-making to enhance business productivity and access quality information. Until the mid-1950s, business organizations managed all their information flow and transactions with paper records (Rahim and Ali, 2016). Organizations are required to implement ICT systems to compile and process data and information for effective communication and decision making. With the increasing scope of business and complexities, managers need quick access to information which is more significant for the purpose of strategic communication and decision-making (Kiradoo, 2011). Similarly, Kiradoo (2011) and Taylor and Francis (2015) mentioned banking sector adopts ICT as a tool of effective strategic communication to improve performance and achieve competitive advantage over competitors. According to Nonyelum (2018), using ICT business organizations can improve their functions for competitive advantage.

Competitive advantage is an important element that informs about the business efficiency of an organization for operating more effectively and efficiently than their competitors. Mao *etal.* (2016) also stated competitive advantage could be achieved when an organization achieves efficiency in doing their business process or function more efficiently than their competitors by using ICT as a strategic tool within the organizations to increase effective

strategic decision-making and encouraging competitive advantage. Organizations use ICT for effective communication and strategic decision-making to achieve competitive advantage. To improve the flexibility and responsiveness of the business organization, ICT can be used for integrating data on a single platform for customers to access information and effectively communicate easily. It helps organizations access the available information in an effective and timely manner and make decisions to improve operational efficiency, achieve the objectives of business organizations, and enhance strategic communication (Sandhu, 2009; Kiradoo, 2011). As Pimiä (2015) also stated, to achieve the objectives and goals of an organization, designing organizational communication strategy using technology-mediated online channels of communication is very important.

Kaur and Sharma (2020) argued that the need for ICT is critical for banking operations to communicate with each other and with other branches or other banks to reduce the time to serve customers, globalize banks, and explore data in real-time through ICT for extensive communication. These trends tend to two important needs: a) The need to support staffs who are working together in the same bank and those working at dispersed locations or branches of other banks, and b) The need for better, faster, and cheaper communication among individual bank or intra-bank and other banks or inter-bank. That is why ICT adoption practices support the banking industry effectively and efficiently via strategic communication.

However, the implementation of effective strategic communication in an organization is not an easy endeavor. As Taylor and Francis (2015) stated, some factors affecting the implementation of strategic communication in an organization are ineffective communication like information overload, communication anxiety, unethical communication, message distortion, insufficient information, and minimal feedback. Likewise, Sandhu (2009) and Cornish *et al.* (2011) mentioned that the main challenges for effectively implementing strategic communication are insufficiency to cope with the relationship between strategy, policy, and action in an organization, and the strategic priorities of internal and external stakeholders' needs. The above empirical studies witnessed that the use of ICT for effective strategic communication is very important to improve organizational performance and to achieve a competitive advantage over competitors globally. As a result, the banking sector

has been investing in ICT to improve its performance efficiency and to get global competitive advantage and survival.

Several studies have been done on ICT adoption practices from different perspectives. For instance, Girma (2016) focused on how ICT adoption models affected banking service performance. Additionally, Meseret (2010) did research on the impact of ICT adoption from the standpoint of the banking industry. The researcher affirmed that because the aforementioned studies were conducted from various angles, it is difficult for developing nations like Ethiopia to benefit from the same welfare that industrialized nations have from the adoption of ICT. Put another way, ICT use as a mediating effect for strategic communication is currently the subject of little research. To bridge this gap, the study was initiated to investigate the effect of ICT adoption for boosting strategic communication perspective. Therefore, there is a larger need to investigate in-depth ICT adoption as mediating effects on strategic communication to enhance the organizational performance of the banking sector. Thus, this study hypothesizes whether a significant mean difference exists between public and private banks in ICT adoption on strategic communication to enhance bank performance or not. It also looks at how effective ICT adoption for strategic communication can be used to improve the efficiency of banks. Furthermore, it assesses how banks can overcome the gap of communication through ICT adoption practices to enhance strategic communication for effective banking sector performances.

2. Methods

2.1 Setting of the Study and Research Design

The study was conducted on the banking industry using a descriptive survey design to achieve the study objectives. The study compared the level of ICT adoption practice for strategic communication between private and government banks in Addis Ababa.

2.2 Target Population, Sample Size, and Sampling Techniques

From the target population of 415(120, 136, and 159 from CBE, Awash Bank, and Dashen Bank respectively), 320 sample respondents were selected of which only 306 respondents correctly filled the questionnaire. They were selected using a stratified sampling technique from the ICT office, Marketing and Communication office, and Strategic planning office of the three banks' head offices. It is suggested that for a target population of 415, it is

possible to take a minimum of 217 sample population, but for the data validity and precision, the researchers considered a sample of 306 of which 120 from CBE, 95 and 105 from Awash and Dashen private banks respectively using sample size determination (Cohen *et.al*, 2018). Thus, 306 sample respondents were selected, and filled correctly the questionnaire and relevant data were gathered for the study purpose.

2.3 Data Collection, Processing, and Piloting

Data was gathered using a structured questionnaire. The tool was designed by the researchers on Google Forms and piloted to gather information from respondents. Respondents received the tools via email, and digital data was collected from their responses. Regarding the online survey and consent letter, contacts with the directors, managers, and officials were established. Furthermore, the email lists of the employees under the respective sections were obtained for mailing and further correspondence (The list of emails of the employees constitutes the sampling frame). On top of that, from the total population of 496 identified, 306 study participants were surveyed (Using CAPI also saved data processing time as data were entered during the questionnaire filling). Out of the 320 sample respondents, 14 did not complete the survey questionnaire, which means 96% of the questionnaire was correctly completed and submitted online. Finally, the collected data was exported to STATA version 14 for further processing, analysis, and interpretation.

Before the main study, a pilot test was conducted to validate the tools on twenty-six professional staff from three banks: Oromia Bank, Cooperative Bank of Oromia, and Zemen Bank. Accordingly, a test of reliability showed a relatively better internal consistency. That is, a Cronbach's alpha of 0.82 for the organizational factor (6 items), 0.76 for the technological factor (11 items), 0.76 for environmental factors (6 items), and 0.67 for strategic communication (7 items). However, upon further analysis, some items were deleted from the final tool to improve the internal consistency of each of these domains. Thus, in the final tool, four items remained for organizational, nine for technological, and four for environmental factors. In addition, all items were considered for strategic communication factors.

2.4 Measurements and Variables

This study's outcome variable was strategic communication in public and private banks. Strategic communication was assessed using seven questions that have been developed from the literature reviewed. It captured investment in organizational communication through ICT infrastructure, alignment of communication strategy plans with organizational goals, and customer involvement in information dissemination. ICT adoption was measured using a set of nine questions as the mediator variable between adoption factors and improving strategic communication. The level of ICT adoption was measured using questions from various domains such as communication tool availability (13 items), frequency of use (13 items on a 5- point Likert scale), ICT training, and confidence in using these tools (8 items on the Likert scale). Furthermore, the availability of communication procedures in the organization, the medium of documentation of communication processes, the use of the database for decision- making, and the availability of software for making analysis that aids decision -making were all used to assess ICT adoption for communication. Finally, responses were scored on these items, and the scores were converted to percent scores, with lower scores indicating a lower level of adoption and higher scores indicating a higher level of adoption of ICT for strategic communication.

In addition to the mediator variable ICT adoption, three determinant factors were measured in this study. A technological factor was the first factor which was measured using a set of nine items in a 5- point Likert scale. The technological factor refers to existing technology and infrastructure of adopters' perception and awareness of ICT adoption. The remaining potential determinant factors were organizational and environmental factors which were measured using 4 items in the Likert scale. The environmental factor refers to the external environment in which an organization operates as factors that are considered relevant to the adoption of ICT and its condition for supporting the development of ICT services. Legal framework, national ICT infrastructure, competitive pressure, and government support are the main factors relevant to ICT adoption. On the other hand, organizational factors are financial and human resources and organizational culture to adopt and use of ICT.

2.5 Data Analysis

The quantitative data was analyzed using descriptive and inferential statistics such as mean, standard deviation, percentage, and independent t-test. The assumptions for parametric tests have been met (samples were randomized, data were normally distributed, and equal variance of the two groups was achieved). The mean comparison was applied based on an independent t- test to compare the level of ICT use for strategic communication between private and public sector banks. On the other hand, since this study was to analyze the mediating effect of ICT adoption on strategic communication, a mediation analysis test was employed in fitting a model to the data using a structural equation model.

Results of the analysis were produced and displayed using tables, charts, and figures. A hypothesis test was used to determine whether there were significant mean variations between public and private banking in terms of how they adopted ICT for strategic communication and the development of models. Hence, statistical significance mean was observed at ($t=1.12$, $df=1$, $p<0.05$). The model formulation has two parts: structural and measurement (Bollen & Noble, 2011). The structural part has three latent exogenous variables and one latent endogenous variable. Organizational (*OF*), Technological (*TF*), and Environmental (*EF*) factors were exogenous in the structural model, while strategic communication (*SC*) was the endogenous factor. Furthermore, ICT adoption (*ICT adoption*) for strategic communication, which is an observed mediator variable, is considered in the analysis by the study researcher. Thus, the structural model formulations are:

$$\tau_i = \alpha_{o1} + \beta_{11} \times OF_i + \beta_{21} \times TF_i + \beta_{31} \times EF_i + \varepsilon_{i1}$$

and

$$SC_i = \alpha_{o2} + \beta_{12} \times OF_i + \beta_{22} \times TF_i + \beta_{32} \times EF_i + \beta_{42} \times \tau_i + \varepsilon_i$$

Where, $i= 1, 2 \dots n$

T denotes the level of ICT adoption,

α_o denotes intercept,

B denotes path coefficients from exogenous factors to level of ICT adoption, and

ε denotes an error in the prediction

Further, the measurement part of the model for each item in the latent variable expression is shown as:

$$\gamma_{ji} = \alpha_{oj} + \beta_j \times OF_{ji} + \varepsilon_{ji}$$

$$\gamma_{ki} = \alpha_{ok} + \beta_k \times TF_{ki} + \varepsilon_{ki}$$

$$\gamma_{li} = \alpha_{ol} + \beta_l \times EF_{li} + \varepsilon_{li}$$

$$\gamma_{mi} = \alpha_{om} + \beta_m \times SC_{mi} + \varepsilon_{mi} \text{ Where } j = 1, 2, 3, 4$$

$$k = 1, 2 \dots 9$$

$$l = 1, 2, 3, 4$$

$$m = 1, 2, \dots, 7$$

α_o Denotes intercept,

β denotes path coefficients from exogenous factors to observed items, and

ε denotes error in the prediction

2. 6 Ethical Considerations

In this study, respondents' information and data confidentiality were maintained. The primary ethical challenges and concerns of this study were respondents' informed consent and willingness to participate in the study. An official letter from Addis Ababa University was provided to the three banks before the real data gathering began. The goal of the study, the study participants' right to participate or decline was stated in the questionnaire's introduction, and verbal agreement was also acquired from bank representatives. Respondents were informed not to write their names; instead, they were just informed to include their email address, organization's name, and department. Additionally, the necessary credit was given to all of the references consulted for this study.

3. Results

3.1 Respondent's Characteristics

Table 3-1: *Respondents' Background Characteristics by Bank Ownership, Addis Ababa 2021*

Variables and characteristics		Ownership			
		Public (N=110)		Private (N=196)	
		No.	%	No.	%
Sex	Female	26	23.64	29	14.80
	Male	84	76.36	167	85.20
Education level	Bachelor	61	55.45	100	51.02
	Masters and above	49	44.55	96	48.98
Age group	20-30	25	22.73	75	38.27
	31-40	59	53.64	98	50.00
	41-50	23	20.91	18	9.18
	51-60	3	2.73	5	2.55
Work experience	1-10 Years	62	56.36	133	67.86
	11-20 Years	33	30.00	55	28.06
	>20 Years	15	13.64	8	4.08
Marital status	Single	50	45.45	70	35.71
	Married	60	54.55	126	64.29
Department	Communication	11	10.00	12	6.12
	ICT	73	66.36	92	46.94
	Marketing	9	8.18	51	26.02
	Strategic Planning	17	15.45	41	20.92

Source: Survey, 2021

Table 3.1 summarizes the respondents' demographic information. As can be seen, 110 of the 306 respondents were from public banks and 196 from private banks. Men made up 76.36% of respondents from public banks, making up the majority of respondents overall. On the private bank side, 167 men (85.20%) outnumbered 29 women (14.80%) implying banks are male-dominated at middle-level organizational positions in public and private banks. The data also reveals the respondents' educational backgrounds, with bachelor's degrees and master's degrees accounting for 61 (55.45%) and 49 (44.55%) in public banks, respectively, while 100 (51.02%) and 96(48.98%) in the private sector, respectively. This implies they have a qualification that enables them to effectively communicate and plan in the banking service. The data also revealed that respondents aged 31 to 40 (n= 59, 53.64%, for public banks, and n= 98, 50%, for private banks) made up the majority of respondents overall which indicates the employees are at right status to utilize ICT for strategic communication and discharge their responsibility.

In terms of work experience, 62 (56.36%) and 133 (67.86%) respondents had less than 10 years of experience in public banks and private banks, respectively. While 33 (30.00%) of those with 11 to 20 years of experience worked for public banks, 55 (28.06%) worked for private banks. Whereas those with more than 20 years of work experience were 15 (13.64%) in public banks and 8 (4.08%) in private banks, and this indicates that respondents have sufficient experience to provide accurate information about the study. Furthermore, 50 (45.45%) of public and 70 (35.71%) private bank employees were single, while 70(35.71%). In comparison, 60 (54.55%) of public bank employees and 126 (64.29%) of private bank employees were married. As a result, it was discovered that the majority of the respondents from both banks were married. In terms of respondents' departments, 11 (10.00%) and 12 (6.12%) respondents from public and private banks were from the communication department, respectively. Whereas 73 (66.36%) and 92 (46.94%) respondents from public and private banks were from the ICT department, respectively. Furthermore, 9(8.18%) and 51(26.02%) were from public and private banks, respectively, and worked in the marketing department. On top of that 17 (15.45%) and 41 (20.92%) respondents from public and private banks, respectively, work in the strategic planning department. This revealed that respondents were selected from relevant departments to obtain relevant data for the study.

3.2. ICT Adoption and Strategic Communication Practice

Table 3-2: *ICT Adoption and Strategic Communication Practice by Bank Ownership, Addis Ababa, 2021*

Variables and characteristics	Ownership					
	Public (n=110)		Private (n=196)			
	Mean (Average)	SE	Mean (Average)	SE	Sig(2-tailed) P	
ICT Adoption (Score in %)	73.7	0.99	72.9	0.76	1.23	.073
Strategic Communication Practice (Score in %)	63.1	2.2	60.1	1.80	1.56	.045*

SE=Standard Error of the Mean, P<.05*

Source: Survey, 2021

The level of ICT adoption and use for strategic communication of banks was assessed. The results indicate that there was a widely accepted opinion that adopting practices ICT possesses a range of benefits including enhancing strategic communication of banks, the computed independent t-test ($t=1.23$, $df=1$, $P>.05$) revealed there exists no significant mean

difference between private and public banks in ICT adoption practices. Whereas their strategic communication practice has significant mean difference between the two banks as ($t=1.56$, $df=1$, $P < 0.05$). Furthermore, this highly prevalent opinion was held with a similar degree and pattern among private and public bank employees.

3.3 Strategic Communication and Its Determinants

Table 3-3 *Results of Structural Equation Model and Mediation Analysis for Strategic Communication, Addis Ababa, 2021*

Variables and characteristics	Analysis			
	SEM		Mediation	
	Coef	P-value	RIT	P-value
ICT Adoption (average Score in %)	0.36	0.00	36%	0.00
Ownership for both	-0.03	0.56	56%	0.56
Technology related factors	0.02	0.74	61%	0.18
Organization related factors	0.02	0.87	88%	0.00
Environment related factors	0.16	0.07	67%	0.07

SEM=Structural Equation Model RIT= Ratio of Indirect to Total Effect

Source: Survey, 2021

The hypothesis that ICT adoption enhances strategic communication in banks and the assumption that it mediates the influences of digital variables such as technology, organization, and environment was measured as shown in Table 3. The findings of the analysis show that the level of strategic communication practice was analog between private and public banks. In addition, there was no significant moderation effect of the different determinants observed by ownership status (Coef. (Private) = -0.03, $p=0.56$). Similarly, technology (Coef. = 0.02, $p =0.74$), organization (Coef. = 0.02, $p =0.87$), and environment (Coef. = 0.16, $p =0.07$) related factors were found to have a statistically insignificant contribution to the level of strategic communication. However, the level of ICT adoption and use was positively and significantly related to the magnitude of strategic communication (Coef. = 0.36, $p=0.00$). Further, the assessment of the mediation effect of ICT adoption showed that while technology and environment- related factors had no mediated effect, organizational factors were shown to have an indirect effect on strategic communication.

According to the result of the mediation analysis, 88% of the total effect of organizational factors was mediated by the level of ICT adoption of banks. Although a large proportion of the total effects of technology (61%) and environment (67%) related factors were indirect effects, the results were not significant and no evidence of mediation was indicated (Table 3-3).

5. Discussion

The study investigated ICT adoption methods and their effect on strategic communication in Ethiopian banks. The study contrasted the public and private banking industries. To use a structural equation model to fit a model to the data, mediation analysis was used. The research on ICT adoption for banking strategic communication in Ethiopia revealed that private and government bank employees share the general belief that adopting ICT enhances banking strategic communication. The advantages and level of ICT adoption and use for strategic communication practices were also average among both bank employees. Results indicated that public institutions used comparable practices with private. The study also looked at the idea that the use of ICT in banks improves strategic communication and mediates the influences of distal factors including technology, organization, and environmental factors.

ICT is an important tool in contemporary business organizations for enhancing strategic communication and achieving strategic objectives of business organization and global competitiveness. This finding is consistent with research findings from (Hallahan, Holtzhausen, Van Ruler, Verčič, & Sriramesh, 2007; Kiradoo, 2011; Kenneth & Jane, 2012; Miller, 2012; Pimiä, 2015; Nonyelum, 2018; Ramdani, Raja, & Kayumova, 2022). Hallahan *et al.* (2007) also supported the use of ICT to improve strategic communication as an effective communication tool for accomplishing organizational goals. Further, Kenneth and Jane's (2012) study results confirm that the findings of ICT use in business organizations triggered operational transactions and increased output of products and services without the need for additional input. In addition, Miller (2012) stated that technology-mediated organizational communication channels used for sending and receiving messages to achieve the objectives and goals of an organization are very important for designing organizational communication strategies. Furthermore, Pimiä (2015) stated using technology adoption and

effective implementation of strategic communication has been the key to more organizational success.

Moreover, the level of ICT adoption and use was positively and significantly related to the magnitude of strategic communication. Further, the assessment of the mediation influence of ICT adoption showed that while technology and environment -related factors had no mediated influence, organizational factors were shown to have an indirect influence on strategic communication. According to the result of the mediation analysis, 88% of the total influence of organizational factors was mediated by the level of ICT adoption of banks. Although a large proportion of the total influences of technology (61%) and environment (67%) related factors were indirect influences, the results were not significant and no evidence of mediation was indicated. The mediation influence of ICT on effective communication performances test showed the prevalence of indirect relationship of the organizational factor- mediated through ICT adoption. Specifically, organizational factors were indirectly mediated through ICT adoption.

The structural equation model and mediation analysis result for strategic communication output show that ICT adoption positively influences strategic communication effectiveness. Hence, organization factors are strongly supported, and the probability of accepting the alternate hypothesis is as in item 1, Table 3. That is why the mediate involving ICT adoption latent variable is supported. To further confirm the extent of influence (substantial or not) of the exogenous variable (ICT adoption) on the endogenous variables (ICT adoption factors), it is necessary to work out the change in the determination coefficient with and without the mediator variable as given in Table 3. The study tried to address the influence of ICT adoption practices in strategic communication from the application of theories and models; however, it lacks generalizability and triangulation with qualitative data.

CHAPTER FOUR: Article Three

The Effects of ICT adoption and Strategic Communication on Organizational Performance in Ethiopian Banking Sector

Abstract

This research examines the impact of ICT adoption and strategic communication on the performance of banks in the Ethiopian banking sector. The study collected data from one public and two private banks, involving 306 respondents from various positions within the organizations. A Google form was used for data collection through Computer Assisted Personal Interview (CAPI). The main variables measured were ICT adoption, strategic communication, and organizational performance. ICT adoption had both direct and indirect effects on organizational performance, with strategic communication serving as the mediating variable. To compare organizational performance, mean comparisons were conducted between the private and public banking sectors. A structural equation model and mediation analysis was employed to analyze the data. Statistical significance was determined using a p-value of <0.05 for hypothesis testing and model building. The results showed that a one percent increase in the score for strategic communication led to a 0.19 percent increase in organizational performance. The average scores for public and private banks were 76.2 (standard deviation: 1.3) and 78.2 (standard deviation: 1.0) respectively, indicating no significant difference in organizational performance. Furthermore, a one percent increase in the level of ICT adoption resulted in a 0.34 increase in organizational performance. This effect comprised a direct influence (coefficient: 0.27) and an indirect effect (coefficient: 0.07). The study revealed that ICT adoption directly influenced organizational performance and that strategic communication played a significant role in enhancing performance, both directly and indirectly. Overall, the findings emphasized the importance of effective strategic communication as a mediating factor for improving organizational performance. The study highlighted the significant impact of ICT adoption on performance and the role of strategic communication in leveraging its benefits.

Keywords: ICT, Adoption, Communication Strategy, Decision making, Bank Performance, Ethiopia

1. Introduction

This study discusses on strategic communication effect as a mediator variable on the performances of banks in the Ethiopian banking sector. Strategic communication is an approach to the plan and systematic approach for the implementation of programs that increase the impact for change. It is a way for organizations to recognize that communications is an entire organization's fundamental goal (Durão, 2017). Moreover, Hallahan et al.,(2007) added that strategic communication is well-designed cost effective, evidence based, audience centered communication used to understand the audience and message selection on what needs to be communicated with audiences and helps to ensure the design and action plan to perform the tasks of an organization.

Communication strategy involves communication objectives and identifying strategy covering all employees and people in the organization. There is no way that an organization can function well with the outside world if it does not have a sound plan to inform the public about what they do (Sandhu, 2009). As Blazenaite (2012) argues, organization is a consciously coordinated social unit composed of two or more people who depend on communication as central to its existence between different levels of the organization. To achieve a set of common goals in the organization, effective organizational communication is used to a coordinated social unit composed of two or more people who function effectively set common goals through effective organizational communication. Communication is a vital tool of business process that enables communities to reach consensus and make the necessary changes of development (Servaes & Malikhao, 2008).

Steyn (2004) states that effective strategic communication aligns with the organization's mission and vision, provides value to the stakeholders, and develops as part of a communication plan. Furthermore, it illustrates the activities in the communication functions on the relationships among stakeholders to make effective communication. In addition, Ranta (2016) mentioned that strategic communications enables the organization's orderly operations, promote understanding of an organization's mission, vision, goals and supply information needed in day-to-day operations with customer and vendor. Furthermore, Hallahan and his colleagues (2007) and Wiggill and others (2022) mentioned that effective strategic communication implementation is the key to organizational success. As Blazenaite

(2012) stated, strategic communication implementation is the outcome of a strategic thinking process by top managers, taking strategic decisions on the organization's plans to meet organization goals effectively. It is a continuous analysis involving principles, planning for effective communication strategies, and implementing all the organization's programs and actions using technology integrated manner.

Organizational communication is a collaboration of activity which intended to achieve the objectives of the organization using technology for sending and receiving of messages among interrelated individuals to achieve common goals of organization (Miller, 2012). Moreover, Kulvisaechana (2001) stated organizational communication requires carefully planned communication effort using several techniques and technology as the collective interactive process of generating and interpreting messages between people within the organization. As Crane et al.(2006) point out, ICT allows companies to reach a differentiating advantage to assure client relations via better quality and more capability to respond quickly to market changes. Accordingly, Norouzi et al. (2015) found that adoption of ICT has increased effective client communication and an effective communication tool with clients in a business organization. Effective communication benefits clients and organizations adopting ICT as a communication platform in organizations with their stakeholders. Furthermore, ICT adoption can contribute to a quality strategy in organizations containing an online e-business website or e-commerce platform. This interface may virtually enable to communicate effectively with clients for online business interaction and in business organization (Mohan, 2021).

Today's business organizations use ICT as organizational communication tool to activate operational transactions, increasing the output of products and services. It aimed to improve organizational performance and promote efficiency and effectiveness of organizational communication (Kenneth & Jane, 2012). The organization introduces ICT to improve efficiency and effectiveness, reshape jobs, redesign workflows and produce an output appropriate for the users and firm performances (Saleem et al., 2020; Shaukat & Zafarullah, 2010). Adopting ICT ensures the overall development strategy and diversification of services and customers (Kamel, 2010). ICT would help to launch new products and services, new markets and efficient delivery channels of communication for the banking sector (Okai et al., 2014; Shah, 2014).

The application of ICT in the banking business was to support the existing business processes and make-ups on day-to-day operations to ensure effective and efficient communication in the organization (Al-hatmi, 2012). ICTs have become very important for information availability, meeting organizational objectives, managing and enhancing sound decision-making and good performance of the organization (Kamel et al., 2009; Kenneth and Jane, 2012). However, Dhurkari (2017) stated that ICT is used to improve organizational performance by doing different transactions, receiving instructions, and delivering products and services to customers globally. Agboola and colleagues (2002) stated an organization demands ICT to support operations and produce meaningful information for decisions making in addition to performing the detailed functions of the organization. It created a new infrastructure for the world economy to become truly global and used as a competitive advantage over their competitors of business organization and enhance the speed and quality of service delivery to customers (Al-hatmi, 2012).

Organizations invest in ICT as tool of strategic communication to facilitate the collection, processing, storage and sharing of information effectively and efficiently across the departments and operational functions of the organization (Dupe, 2015; Kruger, 2018). ICT plays a very important role for organizational communication and creates an impact on the organization's functions, productivity and performance. It also affects the culture of communication, efficiency and relationships of a business in organization. So, effective strategic communication using ICT has important effects on business operations in the organization to produce quality output for customer's demand.

1.2 Problem statement

The article focuses on analyzing the effects of ICT adoption and effective strategic communication for enhancing the performances of Ethiopian banking sector. As Mao and others (2016) stated, effective communication is a key factor ensuring coordination between the organization and the employees toward improving the organization's performances. The optimal techniques for developing effective strategic communication are setting goals, assessing resources, identifying target groups and partners, and choosing the medium to monitor performance in the organization. Moreover, Steyn (2004) mentioned, strategic communication evolved out as part of a communication plan and the activities of communication function of the organization on the relationships designed to be crafted with

stakeholders. Similarly, Wiggil (2022) argued that strategic communication is the outcome of strategic thinking by top managers, taking strategic decisions on the organization's strategic goals.

Moreover, Blazenaite (2012) cited that strategic communication is a communication plan that effectively implements to achieve and meet organizational goals using appropriate tools and message selection on what needs to be communicated with audiences. Mishra (2009) stated that organizations couldn't successfully operate without effective strategic communication at every level. According to Kulvisaechana (2001), Patrick and others (2019), effectively implementing strategic communication is the collective, interactive process of generating and interpreting messages between people within the organization to achieve the organization's goal and mission, which is very important for both managerial and organizational success.

According to Ranta (2016) and Sandhu (2009), strategic communication incorporates different disciplines like technology-integrated communication, public relations and advertising. Similarly, Christensen and Cornelissen (2011) added that strategic communications are sometimes called new media convergence, integration and merging contents and tasks needed to maximize advantage of technological growth and change. Cornish et al. (2011) argued that, the main challenges of strategic communication implementing are due to insufficient coordination of relationship between strategy, policy guides and action in the organization. Furthermore, strategic priorities and its internal and external stakeholders' needs are mismatch in the implementation process of organization performance (Missiroli et al., 2016).

Miller (2012) stated, the challenges of effectively implementing organizational communication strategies are a lack of skills, knowledge and motivation of employees and management. Moreover, the strategic communication barriers are inadequate management, lack of budget, turnover of the employee, lack of continuous supervision and effective choice of communication means and managers' incapability to communicate is also the other problems that hinder the effectiveness of organizational communication strategies implementation.

Thus, Timketie (2021) further specified the main challenges to Ethiopian bank industry perspective in effectively implementing communication strategies are lack of consensus and

knowledge, poor understanding of the organizations' mission and vision, lack of direction from manager's to leads employees towards organization goals, lack of coherence between strategic planning and resource allocation, lack of involvement of the organization's management and using inappropriate ICT tools and techniques to solve the challenges.

In addition, the preceding empirical reviews show that organization would be more successful if it effectively implements strategic communication and it plays a key role in creating unity to work together, communicate the same messages, and remove communication barriers and confusions. According to Arhin and Wiredu (2018), Blazenaite (2012), Dupe (2015) and Patrick et al., (2019), ICT is important to communicate organizational messages in a suitable manner to enhance and establish the organization's image. To achieve this, it is necessary to design and implement effective organizational communication strategies that minimize unfavorable factors. These strategies should focus on creating awareness and addressing various social, economic, and political issues within the organization.

According to Worku's (2010) study conducted on opportunities and challenges of electronic banking in Ethiopia using a survey of banks find out, Low level of internet penetration and poorly developed telecommunication infrastructure, lack of suitable legal and regulatory framework for e-commerce and e-payment, high rates of illiteracy, high cost of internet, absence of financial networks that links different banks, lack of reliable power supply and cyber security issues are among challenges identified using mixed research approaches. Bultum (2014) also researched on factors that affect adoption of e-banking in Ethiopia's banking industry. The data was gathered from four banks: three private banks (Dashen bank, Zemen bank and Wegagen bank) and one state owned bank, the commercial bank of Ethiopia. The study used a mixed research approach and Technology-Organization Environment (TOE) model. The finding showed that security risk, lack of trust, lack of legal and regulatory framework, lack of ICT infrastructure and absence of competition between local and foreign banks affect adoption of e-banking in Ethiopian.

Furthermore, Demeke (2014) conducted a study on the factors influencing the adoption and non-adoption of information and communication technologies (ICTs) in small and micro businesses operating in the Ethiopian hotel and tour operator industry. The study employed

exploratory and mixed research methods. Its results showed that political, social, economic, technological and legal policies, lack of knowledge and awareness affect adoption of ICT in hotels. However, Girmaye's (2018) study examined the impact of ICT expenditure on profitability in Ethiopia banks. The data was gathered from 17 banks in Ethiopia in the period of 2011-2015 using panel data. Results displayed ICT expenditure has not produced a positive return, mismatch between organizational structures and banking technology underutilization, and insignificant impact due to moderate competition among Ethiopia's banks.

From the above empirical study conducted so far on ICT adoption and effective strategic communication, no research has been done, especially in developing countries like Ethiopia. As a result, there is a greater need to study in detail the mediating effects of strategic communication for improving the performance banking sector in Ethiopian. Therefore, this study attempts to investigate the mediating effects of ICT adoption through effective strategic communication on performance banking sector in Ethiopia.

2. Methods and Materials

2.1 Study setting, design and period

The study focused on the banking industry and employed a comparative design to examine the level of ICT adoption practice for strategic communication and its impact on organizational performance. Specifically, the study aimed to compare private and public banks in Addis Ababa, Ethiopia. The study organization comprised the Commercial Bank of Ethiopia (CBE) as a state-owned bank and Awash and Dashen Banks as privately owned banks. These two privately owned banks were purposefully selected based on their long years of service, enabling a fair comparison between state- and privately-owned banks. Data collection for the study took place from August to December 2021. However, specific details regarding the data collection methods or instruments employed were not provided in the review.

Overall, the study focused on examining the adoption of ICT practices for strategic communication in the banking industry and its impact on organizational performance. It employed a comparative design by comparing private and public banks in Addis Ababa. The

selection of banks for the study was based on their ownership and years of service. The review did not provide additional information about the methodology or findings of the study.

2.2 Sampling and sample size

This study gathered data from top executives, directors, managers, and officers in the ICT, Strategic planning, Marketing, and Communication offices of three Banks: Commercial Bank of Ethiopia (CBE), Awash Bank, and Dashen Bank. The sample population consisted of 415 individuals, with 120 from CBE, 136 from Awash Bank, and 159 from Dashen Bank. Stratified sampling was used to select a sample of 320 respondents from the target population. All individuals in these purposefully selected offices of the three bank head offices were communicated and asked to fill in the questionnaire during the fieldwork. Out of the 320 sample respondents, a total of 306 completed the survey questionnaire, resulting in a response rate of 96%. It is important to note that 14 respondents did not complete the questionnaire. Overall, the study employed a stratified sampling technique to select a sample population from the ICT, Marketing and Communication, and Strategic planning offices of three banks. The high response rate of 96% indicates that the majority of the questionnaires were correctly completed and submitted online.

2.3 Measurements and variables

The outcome variable of this study was an organizational performance in terms of decision-making, growth, expansion, new products and services, and achievement of strategic objectives in public and private banks. It was measured using 15 Likert scale items pilot tested, which were later reverse coded during data analysis. As such, significant scores indicate better performance, and small scores indicate poor performance evaluation of organizations by employees. ICT adoption and strategic communication were considered potential determinants in this analysis. Strategic communication was measured using seven questions that deal with investment in organizational communication, such as ICT infrastructure, alignment of communication strategy plan with organizational goal, and involvement of customers in information dissemination after pilot testing. Strategic communication was considered a mediator variable.

On the other hand, the level of ICT adoption was a distal factor considered to have both a direct and indirect influence. After the items pilot tested, the level of ICT adoption was measured using questions of different domains, including the availability of a range of communication tools (13 items), frequency of use (13 items in the Likert scale), ICT training, and confidence in using these tools (8 items in Likert scale). In addition, the availability of communication procedures in the organization, medium of documentation of communication processes, use of the database for decision making, and availability of software for making analysis that aid decision making was also used to measure the adoption of ICT for communication. Finally, respondents scored on these items, and the scores were converted to percent scores where small scores refer to a lesser level of adoption, and larger scores indicate better level of adoption of ICT for strategic communication.

2.4. Data collection and processing

Data was gathered using a structured questionnaire prepared in English language. The tool was self-developed and tested. This developed tool was designed on Google-Forms to gather information from respondents using Computer Assisted Personal Interview (CAPI, and distributed to respondents via email and responses were obtained digitally. One advantage of using CAPI was that it helped to ensure data quality by keeping the sequence and checking the logical consistency of the data collected. Using CAPI also saves data processing time as data are entered during the questionnaire filling. Finally, the collected data was exported to STATA version 14 for further processing and analysis.

2.5 Data analysis

The level of organizational performance was compared using mean comparisons between private and public banks. On the other hand, since the main interest of this study was to find out the mediating effect of strategic communication on organizational performance, a mediation analysis test was employed in fitting a model to the data using a structural equation model. The results of the study were produced and displayed using tables and figures. For hypothesis testing and model building procedure, statistical significance was declared at a $p\text{-value} < 0.05$.

According to Bollen and Noble (Bollen & Noble, 2011), the model formulation has two parts: structural and measurement. The structural part has two latent variables and one manifest exogenous variable. While ICT adoption is the manifest exogenous variable, Strategic

Communication was considered as a latent mediating factor. On the other hand, organizational performance was taken as an outcome variable. Thus, ICT adoption was a distal factor considered having both a direct and indirect influence on organizational performance in our analysis. Consequently, the structural model formulations are:

$$\tau_i = \alpha_{o1} + \beta_{11} \times ICT\ adoption_i + \beta_{21} \times SC_i + \varepsilon_{i1}$$

and

$$SC_i = \alpha_{o2} + \beta_{12} \times ICT\ adoption_i + \varepsilon_{i2}$$

Where, $i = 1, 2 \dots n$

τ denotes Organizational performance,

SC_i represents strategic communication

α_{o1} and α_{o2} denote intercepts,

β denotes path coefficients, and

ε denotes an error in the prediction

Further, the measurement part of the model for each item in the latent variables is shown as:

$$\gamma_{ji} = \alpha_{oj} + \beta_j \times Organizational\ Performance_{ji} + \varepsilon_{ji}$$

$$\gamma_{ki} = \alpha_{ok} + \beta_k \times Strategic\ communication_{ki} + \varepsilon_{ki}$$

Where $j = 1, 2, \dots, 15$

$k = 1, 2 \dots 7$

$i = 1, 2, \dots, 306$

α_o Denotes intercept,

β denotes path coefficients from exogenous factors to observed items, and

ε denotes error in prediction

The tool was adopted from previous works in the area of Strategic Communication, ICT adoption and Organizational performance (Al-hatmi, 2012; AlBar and Hoque, 2019; Harindranath et al., 2008; Liedtka and Ogilvie, 2019; Otieno, 2015; Ranta, 2016; Scheibe & Gupta, 2017; Wu, 2009). A pilot test was conducted to validate the tools on twenty-six professional staff from three banks Oromia Bank, Cooperative Bank of Oromia, and Zemen Bank. To ensure data quality of questioner's pretested pilot test with the sample participants, it was validated and looked at its reliability using uniform testing procedures of similar items on a measure. The sample test items represent the test's content intended to measure, and comments from professionals and respondents asked and checked for improvement.

Cronbach's alpha was used to look and measure the inner consistency and questionnaire item administered to respondents for the dependability of instrument measurement of the study variables. To test the internal consistency of this study, Cronbach's Alpha was checked, and each variable means was computed and the reliability was checked (Bujang et al., 2018; Christmann & Van Aelst, 2006). Thus, to measure and ensure the content validity of the specific tool represents a particular content of a specific area and idea, the tested items were incorporated for this study. The tools validate thirty professionals' staffs from three banks of Oromia bank, Cooperative bank of Oromia and Zemen bank.

Before the instrument was distributed, the questionnaires were examined and comments incorporated. Accordingly, a test of reliability showed a relatively better internal consistency as checked by Cronbach's alpha of 0.67 for strategic communication (of 7 items) and 0.97 for organizational performance (of 15 items). All items were thoroughly evaluated to enhance strategic communication and organizational performance. The tool's content, construct, and criterion validity were verified by a professional who has ample experience at AAU.

2.6 Ethics approval

Prior to data collection, ethics approval was obtained from Addis Ababa University. At the start of the study, participants were informed through the introductory letter, and questionnaire information sheet, and they were informed that they had the right to withdraw from the study at any time and rescind their consent to participate. However, data already collected would remain part of the study. Therefore, there were no risks visible to participants. Although demographic information about the participants and the bank name they work in was collected, the names of the participants were disguised as pseudonyms in order to maintain confidentiality. Throughout the study, the researchers kept all the data confidential.

3. Results and discussions

3.1 Respondents' characteristics

The background characteristics of respondents are summarized in the table below. It can be seen that out of the total 306 respondents, 110 respondents were from public and 196 were from private banks. The majority of respondents from public banks were male, with a

percentage of 76.36%. Similarly, from the private bank side, 167 (85.20 %) were male and 29 (14.80 %) were female. The data also shows the educational level of respondents from both public and private banks. A larger proportion of respondents accounted for employees having a bachelor's degree 61 (55.45%) from the public and 49 (44.55 %) and 100 (51.02%) from private. The analysis further revealed that the highest percentage of respondents in terms of age were those between 31-40 years of age groups in both public and private banks. Respondents beyond the age of 50 constituted a small fraction of the sample, that is, 3 (2.73%) from public and 5 (2.55%) from private banks (Table 4-1).

From private banks, regarding their experience, 62 (56.36 %) and 133 (67.86%) had 1 to 10 years of experience from public and private banks, respectively. Those with more than 20 years of work experience in public banks made up 13.5% of the sample, and the corresponding figure for the private banks was 4.08%. In respect of marital status of respondents, a more significant proportion of respondents in both groups were married, 54.55% for public and 64.29 % for private banks. The survey results also showed that the samples were taken from a range of working departments. The working departments of the respondents included communication, ICT, marketing, and strategic plan departments. The largest number of respondents from public banks were from ICT department (66.36%); similarly, more than two in five (46.94%) of respondents from private banks were working in ICT department. While the least number of samples was taken from marketing department of public banks (8.18%), the least number of samples for private banks was taken from the communication department (6.12%) (see **Error! Reference source not found.**).

Table 4-2: Respondents' Background Characteristics by Bank Ownership, Addis Ababa 2021

Variables and characteristics		Ownership			
		Public (N=110)		Private (N=196)	
		No.	%	No.	%
Sex	Female	26	23.64	29	14.80
	Male	84	76.36	167	85.20
Education level	Bachelor	61	55.45	100	51.02
	Masters and above	49	44.55	96	48.98
Age group	20-30	25	22.73	75	38.27
	31-40	59	53.64	98	50.00
	41-50	23	20.91	18	9.18
	51-60	3	2.73	5	2.55
Work	1-10 Years	62	56.36	133	67.86

Variables and characteristics		Ownership			
		Public (N=110)		Private (N=196)	
		No.	%	No.	%
experience	11-20 Years	33	30.00	55	28.06
	>20 Years	15	13.64	8	4.08
Marital status	Single	50	45.45	70	35.71
	Married	60	54.55	126	64.29
Department	Communication	11	10.00	12	6.12
	ICT	73	66.36	92	46.94
	Marketing	9	8.18	51	26.02
	Strategic Plan	17	15.45	41	20.92

Source: Survey, August to December 2021

An assessment results on the degree of ICT adoption and utilization for strategic communication current practice and perceived benefits indicate that ICT adoption and utilization levels were satisfactorily high (average score of about 75%) and were similar in both private and public banks. Likewise, the utilization of ICT for strategic communication across both sectors was comparable, having a larger distributional size than the level of ICT adoption.

As a result, regardless of ownership as public and private in the banking industry, the overall current practice of adopting communication technology for strategic communication was relatively similar and also adopted similar online platforms like ATM, POS, Internet Banking, Mobile Banking, Agent Banking, and Amole services to communicate internally and externally with stakeholders and perform a different transaction.

3.2 Bank performance

Organizational performance was measured using a set of 15 Likert scale items that covered five different domains. A principal component analysis of these item scores showed that the items strongly load and measure to one underlying concept; thus, one factor was extracted after reverse coding the items. There exist no significance mean difference between the respondent on organizational performance for public and privately owned banks as ($t=1.56$, $P>.05$) this show there was no difference in the assumption that the organization performance between Private and Public bank in the usage of ICT adoption for strategic Communication. Moreover, the average scores were 76.2 with a standard deviation of 1.3 for public and 78.2 with a standard deviation of 1.0 for private banks (see **Error! Reference source not found.**).

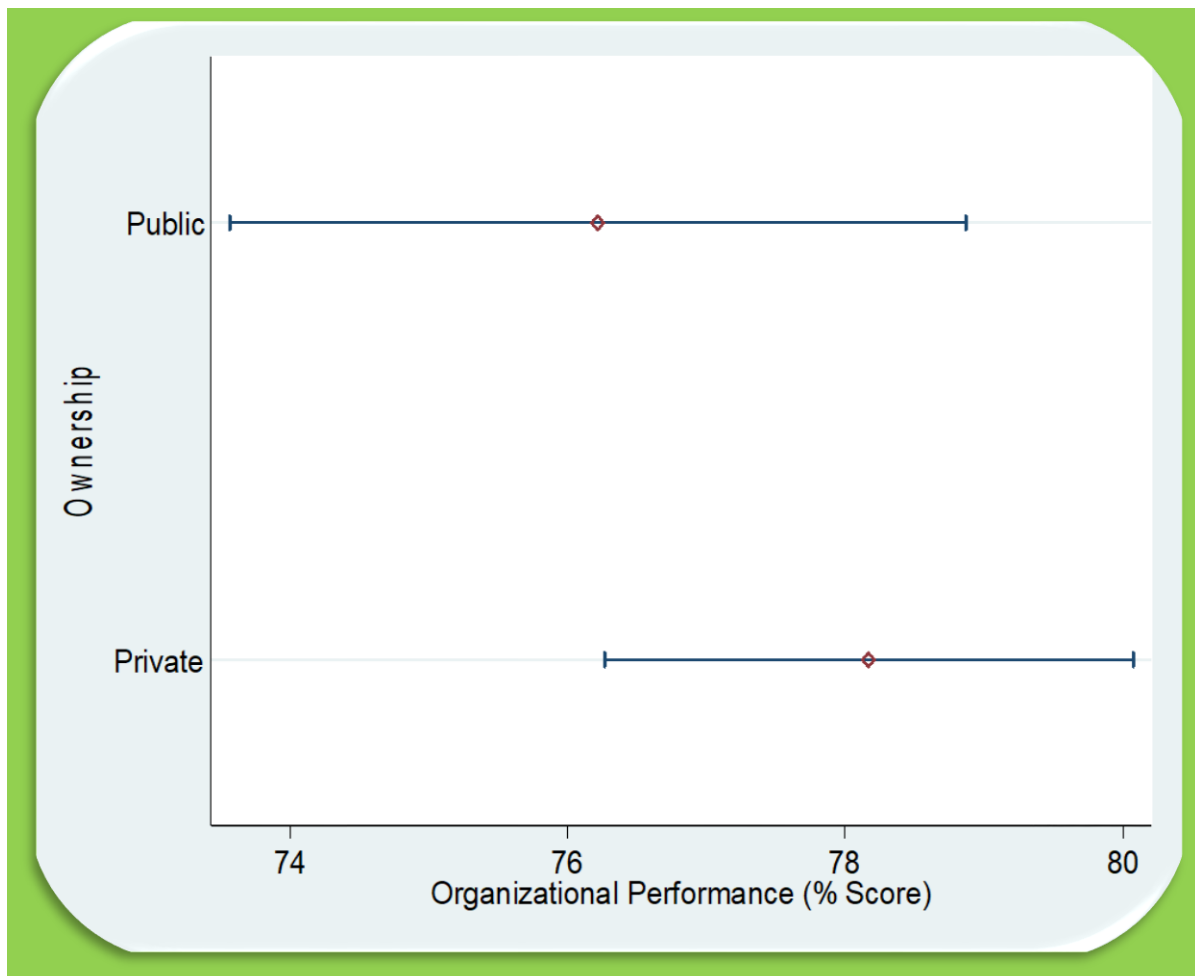


Figure 4-1 : Confidence Interval Plot for Mean Score of Organizational Performance, Addis Ababa 2021

3.3 Determinants of Organizational Performance

Both ICT adoption and strategic communication had an independent positive effect on organizational performance. A one percentage point increase in the level of ICT adoption score increases the organizational performance by 0.34. This total effect is a combination of direct influence (coeff. = 0.27) and an indirect effect (coeff. = 0.07). The effect of ICT adoption had on organizational performance was partially mediated by strategic communication. Similarly, a one percent increase in the score of strategic communication is associated with an increase of 0.19 percent change in response to organizational performance (Table 4-3).

Table 4-4: Results of Structural Equation Model and Mediation Analysis for Organizational Performance, Addis Ababa 2021

Variables and characteristics	Analysis			Mediation	
	Coefficients			RIT	P-value
ICT Adoption (Score in %)	0.34	0.27	0.07	20.1%	0.003
Strategic Communication (Score in %)		0.19			

SEM=Structural Equation Model

RIT= Ratio of Indirect to Total Effect

4. Discussion

The developments of ICT have become important organizational resources, especially in the banking sector, since the 1960s used for global communication and competition. As a result, today, business organizations adopt ICT as a very important tool for improving their performance. This study focused on measuring the banking sector's performances and finding the direct and indirect effects of ICT as a determinant factor in improving performance of business organization in Ethiopia. Organization has their preferred ways of adopting technology depending on their politics, organizational culture and work relationships (Arifin and Frmanzah, 2015; Kilangi, 2012; Otieno, 2015). Public and privately owned banks received similar responses on average on organizational performance, with no discernible differences. According to the data that was analyzed, the average scores for public banks were 76.2 with a standard deviation of 1.3 and for private banks they were 78.2 with a standard deviation of 1.0. Furthermore, the results of the investigation showed that private and government-owned banks in Ethiopia do not perform very differently from one another (see Figure 4-1).

This finding coincides with different studies (e.g. Agboola, 2006b; Al-hatmi, 2012; Al-nadesh et al., 2022; Baker, 2012; Consoli, 2012; Dhurkari, 2017; Kenneth C. & Jane P., 2012; Moradeyo, 2013). According to study findings, ICT may be used to advance organizational goals and boost business organization performances by leveraging efficient global customer communication as the driving force behind strategic communication to raise organizational performance.

The study also found that ICT contributes positively to improving organizational performance with many benefits of productivity, the efficiency of services and decision-making. Furthermore, the finding on determinants of organizational performance showed that both ICT adoption and strategic communication had a positive effect on organizational performance. This finding supports the different scholars' studies (e.g. Consoli, 2012; Kamel et al., 2009; Shaukat & Zafarullah, 2010) that found ICT adoption has a positive effect on effective strategic communications to increase firm performance as a significant determinant factor to achieve competitive advantage in a business organization. There is a positive relationship between ICT adoption and improved performance of the organization (Thomas et al., 2001). Moreover, (AlBar & Hoque, 2019; Avgerou, 2008; Demeke, 2014; Kilangi, 2012; Kurtzke & Setkute, 2020; Ramdani et al., 2022; Wu, 2009) also stated as the adoption of ICT has effects on business organizations as competitive advantage of organization to bring a very important change to improve organizational performance on efficiency, effectiveness, growth and expansion, effective communication, improving of supply chain, improving products quality and services and customer satisfaction.

Furthermore, this study analysis indicated that a one percentage point increase in the level of ICT adoption score increases the organizational performance by 0.34. This total effect is a combination of direct influence (coeff. = 0.27) and an indirect effect (coeff. = 0.07). The effect ICT adoption on organizational performance is also partially mediated by strategic communication. Similarly, a one percentage point increase in the score of strategic communication is associated with an increase of 0.19 percent change in response to organizational performance. This finding is also in agreement with Baker (2012), Herzallah and Mukhtar (2015) study result which indicated the mediating effects of ICT adoption for strategic fitness and improving firms' competitive advantage and performance which have been considered a strong mechanism for improving business growth and achieving competitive advantage. Hence, ICT adoption in private and public banking has a positive effect on the performance of organization directly by itself and indirectly through strategic communication as the main determinant factors for improving performance.

5. Conclusion and recommendation

5.1 Conclusion

To evaluate the qualities and effectiveness of ICT in Ethiopia's banking sector, this study used a variety of methodological techniques and mediation analysis. The results demonstrated that ICT adoption and organizational performance are positively and significantly correlated, demonstrating that there is no difference in performance between public and private bank sectors and that there is an improvement in performance as a result of ICT adoption among Ethiopian banks. The study came to the conclusion that strategic communication mediated ICT adoption and favorably impacted corporate organizations' performance. Strategic communication's mediating influence increased bank productivity and performance in Ethiopian banking sectors. As a result, it is reasonable to draw the conclusion that ICT has a much more substantial direct and indirect effect for boosting banks' performances in the business sector, particularly in banks, and it does have a good influence on the performances of the banking sector. According to the finding, it's critical to build and use effective strategic communication with ICT deployment to boost business organization performance.

5.2 Recommendation and limitation of the study

To achieve effective strategic advantage and increase bank performance, banks should focus on building effective strategic communication within their organizations. Here are some recommendations that help banks to achieve competitive advantages:

- Banks should create a well-defined communication strategy that aligns strategic communication with their overall ICT-driven business strategy.
- Banks should invest in training programs to enhance their employees' communication skills, especially in the use of ICT and on effective strategic communication to equip employees with the essential skills needed to accomplish organizational objectives.
- Effective strategic communication using ICT often requires collaboration between different banks in the Ethiopian banking industry to support with each other's. Banks should foster a culture of collaboration and explore opportunities for cross-bank communication, knowledge and resource sharing.
- Banks should establish a performance measurement system to evaluate the effectiveness of their communication strategy align with ICT.

By implementing these recommendations, banks can establish a strong foundation of ICT as a tool of effective strategic communication within banking sector. However, the key limitations of the study include the lack of standardized metrics for measuring the effectiveness of communication strategies and organizational performance in the Ethiopian banking sector. Additionally, the study suggests a potential scarcity of existing literature on the specific topic of strategic communication and ICT adoption within the Ethiopian banking context, limiting the ability to build upon previous research. Furthermore, the study may lack generalizability, as it is focused on the Ethiopian banking sector, and the absence of triangulation with qualitative data sources could constrain the depth and robustness of the research findings.

CHAPTER FIVE: Article Four

Exploring the practices of technology adoption for strategic communication at state and privately-owned banks in Ethiopia

Abstract:

The study was conducted at three banks in Ethiopia: Dashen Bank, Awash Bank, which are privately held and Commercial Bank of Ethiopia, a state-owned bank. These banks were chosen on purpose based on their year of inception, geographic reach, and adoption of technology-enhanced communication. To achieve the objectives of the study, an explanatory research design with a qualitative approach was employed. Mixed sampling techniques were used to select the participants. That is, while directors for marketing, chief information officers and officers for ICT security were randomly selected, directors for ICT services, directors for ICT infrastructure and heads for ICT system and development were selected purposefully based on their role in facilitating e-communication. Overall, the study involved 18 participants equivalently selected from each bank; that is, directors for ICT services, directors for ICT infrastructure, heads for ICT system and development, officers for ICT security and directors for marketing and chief information officers (three from each). To gather data for the study in-depth interview was used. All the interviews were made through face to face taking care into consideration COVID-19 pandemic protocols. Qualitative data analysis techniques were carried out to analyze data and results were interpreted and discussed in relation to the research questions and the conceptual excerpts of the study. The data collected were analyzed using MAXQDA software package. Results showed that the ICTs the banks adopted were ranged from the traditional typewriter to the most sophisticated integrated technologies, such as, core banking and mobile banking for their financial transactions. They also used to adopt print newsletters, magazines and billboards to reach out to their customers. All the banks have social media platforms like Twitter, Facebook and Telegram for communication. In addition, all of the sample Banks utilized Internet banking, core banking, and mobile banking for their financial transactions. Moreover, respondents pointed out that the regulation set by the National Bank of Ethiopia, global trend of the banking sector, customers need or interest, quality customer service, easy data processing and storage and executing banks' activities were the driving forces for adopting ICTs in Ethiopian banks. Therefore, external and internal factors can be taken as pushing factors for their ICT adoption in Ethiopian banks. From the results, it can be inferred that the trends of banks' adoption of ICTs is promising and all of the banks have struggled to launch fully the latest technologies that the bank industry demands to launch ICT-based services.

Keywords: technology adoption, ICT-enhanced communication, core banking

1. Background

The essence of strategic communication is being purposeful, in order to advance and improve an organization's mission through a purposeful way of communicating. When communications are integrated from a multidisciplinary perspective and connected to organizational goals and plans, they can be regarded as strategic. Along with how an organization carries out its goal, how people interact in complex organizations through the integration of communication technology, and how an organization portrays itself through communication practitioners are all highlighted in the use of communication strategically (Ranta, 2016). According to Aggerholm and Thomsen (2015), strategic communication focuses on managing a variety of communication activities within the context of ongoing strategy development. Kulvisaechana (2001) mentioned that strategic communication is the intentional use of communication by a company to accomplish its goals and strategically understand conversations within the company is crucial for its effective operation and goal-achieving. According to Hallahan et al., (2007), strategic communication is well-designed, audience-centered, evidence-based, engaging, multidimensional, and cost-effective. As Jiang et al., (2016) mentioned, strategic communication focuses on how businesses present and market themselves to connect with society through channel selection. According to Thomas (2018), the idea is that strategic communication should encompass all forms of communication that are connected to the objectives and strategies of an organization.

According Version et al., (2020) strategic communication emphasis on strategy as opposed to specific methods and a plan of action meant to achieve specific goals. However, Sandhu (2009) stated that strategic communication should be developed in line with the needs of the stakeholders as well as the organization's mission, vision, and values. It emerged as a result of the function's attempts to coordinate communication with stakeholders through the communication strategy. It is the result of the function's attempts to employ and coordinate communication strategy with stakeholders, and it should be taken into consideration when building a strategic communication plan (Falkheimer, 2014).

Similarly, Fredriksson and Pallas (2016) said that for effective strategic communication defining organization's purpose, vision, and goals, resource evaluation, target audience

identification, media selection, and performance monitoring are very essential for the development of strategic communication. For the success of organizations putting ideas into practice using a communication strategy is also very important (Kulvisaechana, 2001). In order for an organization to accomplish its mission, vision, and goals, effective strategic communication must be implemented successfully and provide the information required for day-to-day operations (Fredriksson and Pallas, 2016). In addition, (Al-hatmi, 2012; Jiang et al., 2016; Hallahan et al., 2007; Ranta, 2016; Version et al., 2020) asserted that effective strategic communication has a positive effect on productivity as an essential tool for improving organizational performance. Furthermore, according to Al-hatmi (2012) and Cornish et al. (2011), effective strategic communication depends on having a solid awareness of the organization's particular information environment. Similarly, according to Heywood (2006), strategic decision-making by top managers is what leads to the achievement of an organization's strategic goals.

In terms of a tactical communication instrument to increase organizational performance in the current competitive environment, ICT may be employed as a growth and survival engine for the banking sectors (Dhurkari, 2017). Since the 1960s, businesses have invested in ICT as a strategic communication tool to receive, process, store, and share information effectively and efficiently (Kenneth & Jane, 2012). According to Agboola (2006), the use of ICT as a tool for strategic communication has substantially contributed to banks' ability to operate successfully as a nervous system in the banking sector. ICT was therefore used to improve business performances in order to achieve the strategic goals of James and George (2011). According to Bal et al., (2012; Boateng and Forson, 2019) further mentioned that businesses invest in ICT to gain a competitive advantage and attain operational excellence in terms of productivity, profitability, and efficiency for customer service.

In line with this, Chairoel et al. (2015) and Semren (2017) stated ICT can improve organizational performance, goal-setting, and decision-making. According to (Alamitu, 2014; Jattani, 2014; Inuyo and Aregbeshola, 2014; Kenneth and Jane, 2012), ICT can be used to develop, capture, modify, and integrate the subsystems of corporate organizations and it also elaborated on the use of ICT as it can be used to enhance communication in business sectors. It is utilized in organizations for quicker messaging and information transmission in a variety of formats, as well as for executing financial transactions from a distance and communicating

information, making decisions, and obtaining the appropriate information at the appropriate time within the firm.

As Ahmed (2016); Kirmani et al. (2015) and Laudon (2009) mentioned, ICT can be used to improve effective communications and improve company performance to achieve competitive advantage in the organization. The practices of technology adoption for strategic communication involve utilizing Information and Communication Technology (ICT) effectively to transfer information, coordinate resource use, achieve comprehension between the sender and recipient, ensure accuracy, and be cost-effective. These practices are supported by various researchers and experts in the field. Semren (2017) emphasize the importance of ICT in facilitating effective communication within organizations. They argue that ICT enables the well-defined transfer of information and coordination of resources, leading to improved communication and comprehension between individuals.

According to Husain (2013) successful communication can be evaluated based on two criteria: accuracy and cost-effectiveness. Accuracy refers to the ability to convey information precisely and without distortion, while cost-effectiveness involves achieving communication goals efficiently without excessive expenditure. Carrigan and Coppola (2017) highlight the negative consequences of ineffective communication methods. They suggest that when communication fails to control the interactions between strategy, policy, and action, it can hinder the implementation of organizational plans and goals.

ICT solutions for strategic communication in the banking sector provide many advantages, but there are also many drawbacks. The main obstacles to ICT adoption, include information overload, high investment costs, frequently changing technology, inadequate technological infrastructure, mistrust of new technology, and connectivity issues (Helena, 2011; Husain, 2013; Jensen and Management, 2004; Kenneth and Jane, 2012; Kirmani et al., 2015). Furthermore, Dempsey (2001); Jensen and Management (2004) claimed the main obstacles to ICT adoption in Africa are a lack of an appropriate legal and regulatory framework for electronic banking communication, intellectual copyright, and high rates of illiteracy. Cornish et al. (2011) articulated that it is crucial to comprehend how the needs of the organization's internal and external stakeholders affect its strategic priorities when putting strategic communication into reality using ICT. There was little written literature outlining current

challenges with ICT online banking and e-banking in the government and private banking sectors with the goal of strategic communication. According to Bultum (2014) and Worku (2010), for example, the adoption of ICT and e-banking presents challenges only when it comes to using them for banking services. In order to provide services to society in the government and private banking industries, this study needs to fill the knowledge gap on current trends and practices in ICT adoption for strategic communication. In order to better understand these patterns and practices, this study explores how government and privately-owned banks in Ethiopia are utilizing technology for strategic communication.

More specifically, the study attempts to address the following basic research questions:

1. What are the trends of ICT adoption for communication at banks in Ethiopia like?
2. What are the strategies devised for adopting ICT for communication at banks in Ethiopia?
3. What are the main challenges associated with the adoption of ICT at banks in Ethiopia?

2. Research Methodology

2.1 Research Design and Conceptual Excerpts

To achieve the objectives of the study, an exploratory research design was employed to explore the concepts, ideas, thoughts, and perspectives on technology adoption for strategic communication with a qualitative approach. Since the objective of this study was to explore the practices of technology adoption for strategic communication, qualitative interpretivism philosophical stance was adopted to interpret the interdependency among ICT adoption, Organizational Communication strategy and Challenges for ICT adoption.

The research approach is geared towards planning and conducting the research process with those people whose life words and meaningful actions are under study (Bergold and Stefan, 2012). The conceptual framework work of this research was aimed to articulate the interdependence among ICT adoption factors, Organizational Strategic Communication and Challenges for ICT adoption and Organizational performance.

2.2 Research Setting and Participants

The study was conducted at three banks in Ethiopia, a state-owned bank, Commercial Bank of Ethiopia and two private-owned banks, Dashen Bank and Awash Bank. These banks were

purposefully selected taking into consideration their year of establishment, coverage across the nation and use of technology-enhanced communication. While the Commercial Bank of Ethiopia is the pioneer state-owned bank, Dashen and Awash banks are pioneers in terms of privately owned banks in the country. The three banks take a giant step in expanding branches across the nation and introducing ICT-based communication. Directors for ICT services, directors for ICT infrastructure, heads for ICT system and development, officers for ICT security, directors for marketing, and chief information officers were the target participants of the study. Mixed sampling techniques were used to select the participants. That is, while directors for marketing, chief information officers, and officers for ICT security were randomly selected by using stratified random sampling technique, directors for ICT services, director's for ICT infrastructure and heads for ICT system and development were selected purposefully based on their role to facilitate e-communication.

Overall, the study involved 18 participants equivalently selected from each bank; that is, directors for ICT services, directors for ICT infrastructure, heads for ICT system and development, officers for ICT security and directors for marketing and chief information officers (six from each bank).

2.3 Instruments of Data Collection

To gather data for the study in-depth interview was used. All the interviews were made through face to face by taking into consideration COVID-19 pandemic protocols.

2.4 Data analysis

Qualitative data analysis techniques were carried out to analyze data and results were interpreted and discussed in relation to the research questions and the conceptual excerpts of the study. The data collected were analyzed using MAXQDA software package. That is, interviews using English language as medium of communication with respondents were audio-recorded and transcribed verbatim in Microsoft Word format. Then, transcriptions were organized and imported to MAXQDA software as one document.

After that, files were distributed in a predefined document that was created in the document system. After importing the document, the coding process was undertaken and the contents of

the document were grouped into thematic sub-groups, namely strategies to design organizational communication, measurement to success of organizational communication, trends of ICT adoption, impacts of ICT adoption and challenges for ICT adoption (please see Figure 1). Sub-categories were also formed for trends and impacts of ICT adoption. No labeling was used to identify individual respondent's view since the analysis did not focus on informants' individual conceptions.



Figure 5-1 : Code System

The order of the categories was formed based on the research questions and different colors were assigned for each category to differentiate between different conceptions in the visual analysis tools (Figure 2).

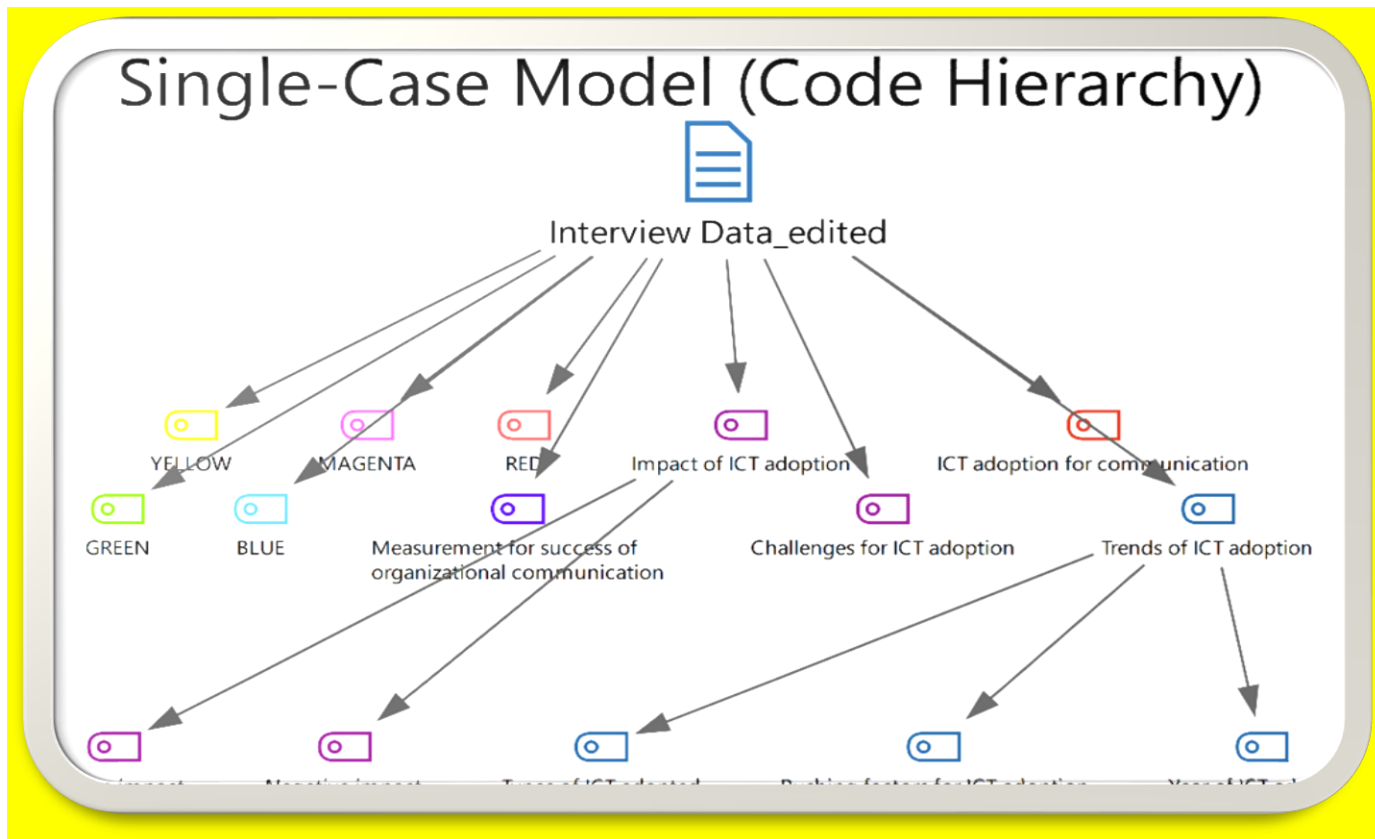


Figure 5-2 *Code Hierarchy*

Unit of meaning was also taken as a unit of analysis; that is, one or more sentences with a common meaning was included into a category and sub-category (for instance, please see Figure 3)

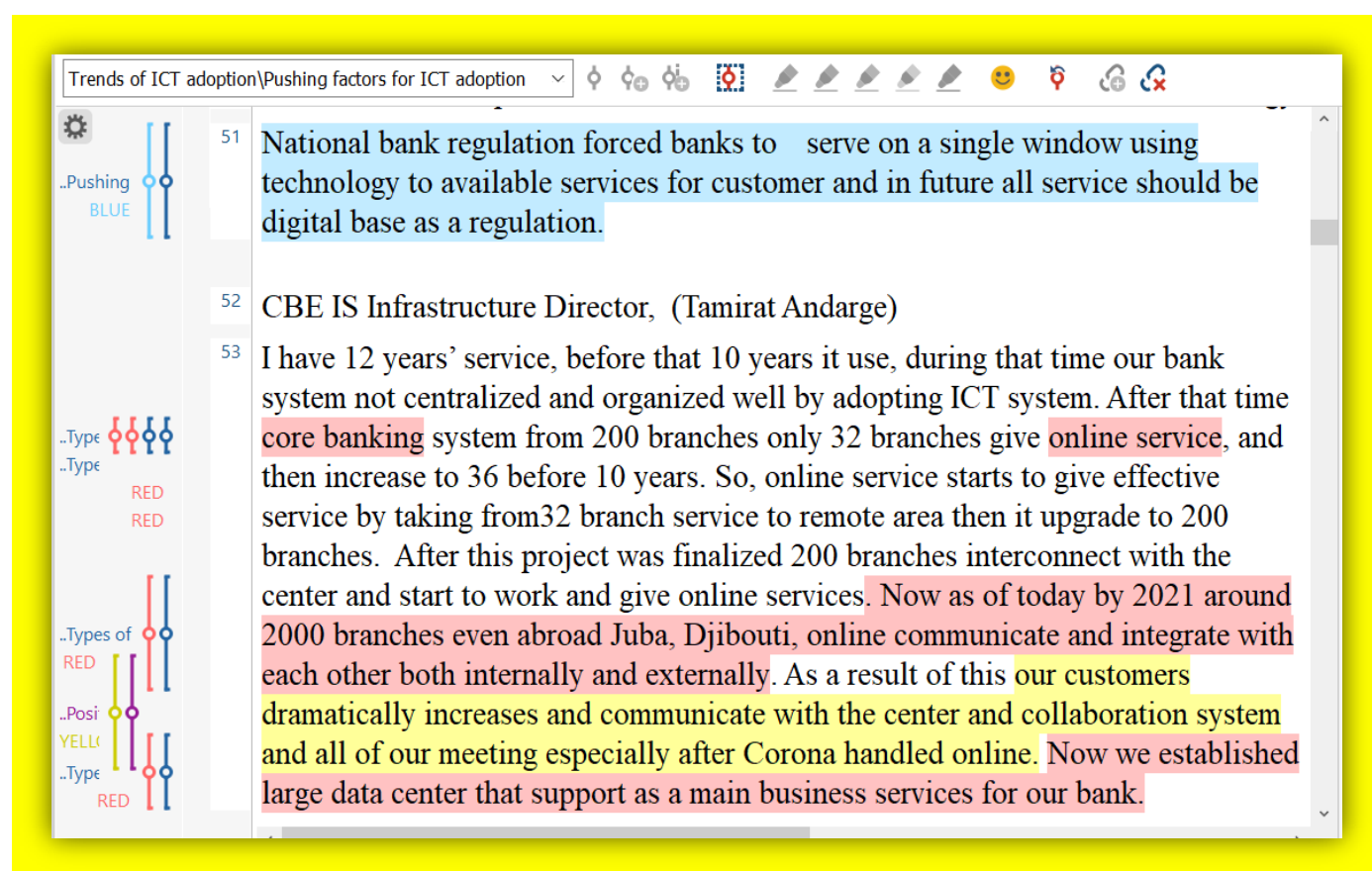


Figure 5-3A sample of a coded segment from interview data

3. Findings

This section is devoted to the presentation and analysis of the results of the study under three sub-sections. The first sub-section presents the trends of ICT adoption for communication at banks in Ethiopia while the second sub-section addresses results related to strategies devised for adopting ICT for communication at banks in Ethiopia. The third sub-section deals with the main challenges associated with adoption of ICT at banks in Ethiopia.

3.1. Trends of ICT adoption for communication

In light of the first research question, an attempt was made to explore what the trends of ICT adoption for communication at the sample banks in Ethiopia like. In doing so, data on the

types of ICTs that the banks adopted along the year of adoption and the pushing factors for adopting these ICTs were generated. Results showed that the ICTs the banks adopted were ranged from the traditional typewriter to the most sophisticated integrated technologies, such as, core banking and mobile banking for their financial transactions. They also used to adopt print newsletters, magazines and billboards to reach out their customers. Recently, all of the banks have social media platforms of social media like Twitter, Facebook and Telegram for communication. For instance, according to the Marketing and Communication Officer of Dashen Bank, the Bank had more than 216,000 followers on Twitter. As the same vein, the Marketing Communication Director of Awash Bank reported that they had about 300,000 followers on their Facebook account.

What is more, all of the sample Banks utilized internet banking, core banking, and mobile banking for their financial transactions. For example, more than 2000 branches of the Commercial Bank of Ethiopia integrated online in 2021. Respondents from Dashen Bank and Commercial Bank of Ethiopia indicated that they widely implemented mobile banking on their platforms. While Dashen Bank and Commercial Bank of Ethiopia adopted Amole and CBEbirr respectively for online banking. Awash Bank also introduced Awashbirr for the same fashion. For example, the subsequent responses were obtained:

Dashen bank was the first pioneer bank in Ethiopia implementing IBM [international bank monetary] product service of the card system 16 year back. By implementation of ICT technology, it maximizes its branches and gives efficient service for its customers. In recent time mobile service, Amole, internet technological system adopted [Chief Information Officer, Dashen Bank]. Online service starts to give effective service by taking from 32 branches service to remote area then it is upgraded to 200 branches.... Nowadays, as of 2021 around 2000 branches have been integrated online [CBE Information System Infrastructure Director].

Regarding years of ICT adoption were varied; that is, the Commercial Bank of Ethiopia adopted ICT in 1964 while Awash Bank adopted ICT in 1995. A year later, Dashen Bank adopted ICT in its bank system in 1996. Participants of the study pointed out that:

“Commercial Bank of Ethiopia has provided service for its customers for almost 75 years, and it uses Computer technology, and the latest technology now ATM and other new technology [Information Security Head, Commercial Bank of Ethiopia].... It [Awash Bank] used technology to send reminders on February 1995, when our bank was officially licensed and started working; it started to use ICTs starting from its establishment for operation purposes. During this time, it used within departments, branch office, using phones, fax machines, and disk

top computers deployed in our bank [Chief Information System Officer, Awash Bank].... Dashen Bank adopted the first technology, when it started 25 years, and 15 years back, a core banking system was established” [System Security Director, Dashen Bank].

Moreover, respondents were asked about the pushing factor for adopting ICTs. They pointed out that the regulation set by National Bank of Ethiopia was the main pushing factor to adopt ICT across Ethiopian banks. The regulation enforced all banks to adopt ICTs to serve their customer using a single window. Customers need or interest was also mentioned as one of the driving forces for adopting ICTs in Ethiopian banks. Customers need efficient and effective services in these days. As a result, banks have strived to launch ICT-based services. The global trend, furthermore, forced the banks to adopt the ICT ecosystem in their day-to-day routines. One of the respondents, an Information Security System Director of Awash, put these in a well manner as, “quality customer service, simplicity of technologies for executing banks’ activities, effective data storage, and financial transaction security were the main reason for adoption ICTs.”

From the results, it can be inferred that the trends of banks adoption of ICTs are promising. All of the banks have been struggled to launch the latest technologies that the bank industry demand. They have evolved over the years into advanced technology-enhanced services. Both external and internal factors can be taken as pushing factors for their ICT adoption.

3.2. Strategies devised for adopting ICT for communication

Implementing ICT in banking sector has increased value, and has been recognized as one of the most crucial business organization success factors (Australian National University. et al., 2005). In order to realize value from ICT in the banking sector, management should use as key management practices as primary and secondary strategies. By developing a strategy that is clearly focused on achieving value from ICT, they were able to better track employee performance and its results. The management of banks is aware of the value of ICT and understanding the possible benefits to investments in ICT and realization of its benefits by are also very important. According to Kenneth and Jane (2012), Inuyo and Aregbeshola (2014) adaptable framework for information sharing, which has increased productivity, reduced costs, and enhanced decision-making. The other strategies devised for ICT adoption are for

increasing skills and value of employees to develop talent in its workforce. It also made innovations possible and changed how banks operated to communicate effectively and perform better on daily operations. As a result, for the banking sector to successfully implement ICT by forming partnerships, it is also crucial to consider the significant benefits and advantages to be gained from the appropriate use of consultants' knowledge and independent advice. According to Hallahan et al. (2007), businesses cannot function well without the use of good strategic communication. For instance, the following results were identified.

Code	Coded segments
Strategies to design organizational communication	Communication policy of the bank Based on Audience survey According to demographic varieties of customers and partners to be communicated via portals Based on one of bank core value concern for the community the team established for the purpose Based on the organization policies and procedure in the way that do not harm the banks honor and reputation and advance the use of ICT widely Top to bottom management strategies Based on the vision and mission of the bank

Figure 5-1 Responses of respondents on strategies to design organizational communication

As shown in the figure above respondents highlighted the significance of developing a communication policy for the bank based on insights gathered from an audience survey. This suggests that the respondents believe that aligning communication practices with the preferences and needs of the audience is crucial. Moreover, the respondents emphasized the importance of tailoring communication efforts to specific demographic groups of customers and partners. The use of portals suggests that respondents identified digital platforms as effective channels for reaching these target audiences. The respondents also recognized the significance of aligning communication strategies with one of the bank's core values, which is its concern for the community. The creation of a dedicated team suggests that respondents believe in establishing a specialized group to handle communication initiatives related to community engagement and social responsibility.

Moreover, a code's strategies to design organizational communication' also depicted that respondents emphasized the need to design communication practices that align with the organization's policies and procedures. The focus on not harming the bank's honor and reputation suggests a concern for maintaining a positive image. Additionally, the advancement of ICT highlights the importance of leveraging technology in communication efforts. The involvement of top-to-bottom management strategies suggests the need for leadership support and guidance in implementing these practices. What is more, respondents recognized the importance of aligning communication strategies with the bank's vision and mission. This indicates an understanding that communication efforts should reflect and support the overarching goals and purpose of the organization. Overall, the finding indicates that respondents have identified various key strategies for designing organizational communication. These strategies involve developing a communication policy based on audience survey insights, aligning communication with core values like community concern, following organizational policies and procedures while promoting the use of information and communication technologies (ICT), and aligning communication efforts with the bank's vision and mission.

3.3 Challenges associated with adoption of ICT

Although the implementation of ICT in the banking sector offers numerous benefits, it is not without its challenges. Security, infrastructure, regulatory and legal issues, socio-cultural challenges, and compliance with national, regional, or international laws and regulations are among the difficulties identified for the successful implementation of e-banking services, as noted by the (Usman and Joshua, 2015). Building confidence among customers in online communication systems, particularly e-payment platforms, requires a robust legal and regulatory framework, as highlighted by (Husain, 2013). Additionally, Worku (2010) emphasized the significant financial investments and expenditures that financial institutions must make to provide online banking communication services and ensure the security of ICT systems. Bekele (2012) noted Security remains a major challenge for organizations heavily reliant on ICT. Anigbogu (2013), outlined the key issues in ICT adoption within the banking sector, including the need for proper infrastructure and automated banking operations, limited internet connectivity, underdeveloped telecommunications infrastructure, power outages, security risks from attackers and hackers, data alteration through bogus websites, theft of credit card numbers and personal financial information, duplication of data leading to

fraudulent activities, and interception of network traffic to gain unauthorized access to private information from computers connected to the internet.

Furthermore, local studies conducted on challenges of ICT use in Ethiopia banking sector (Bultum, 2014; Worku, 2010). Their finding showed, Low level of ICT infrastructure, high rates of illiteracy on how to use, cyber security, low level of internet penetration, destruction of entire networks, lack of an appropriate legal and regulatory framework, high costs of internet, absence of financial networks connecting different banks, an unreliable power supply, software failures, lack of knowledge about the advantages of new ICT technologies, a staff and customer resistance to technological change, a fear of risk, and lack of trained staff in organizations. However, Kidan (2005) also stated, the most common method of securing online communication services is using cryptographic based technologies such as encryption and digital signatures. In addition, according to Chaffey and Wood (2013) mentioned, to secure the process of online communication of banking sector authenticating using user ID and passwords for protecting the data and information of user need to be secured and trust to ensure the acceptance by users. The present study also shows the following findings.

Code	Coded segments
Challenges for ICT adoption	cyber-attack As challenges of online communication, government enterprise like our ministry of finance still not needed and don't trust online communication, but still they trusted on formal letter than on using ICT Direct and indirect cost of vender challenges who comes from abroad high cost and human power vender, and dollars based, change of technology from time to time, literacy across industry, lack of trained human resource or human power challenges, to train new employee and retaining them, culture challenges to transform not easy and people still need manual paper based communication system using letters through messengers than using new technology, and product capability and skill to train from our university to produce qualified man power and cyber security challenges are the main challenges in our bank. Cost to buy new technology, lack of skill to implement ICT or skill and knowledge need to define requirement from bide.

Customer from especially rural area, its service not this much, and no more awareness to use ICT technology like mobile banking.

Power interruptions are also challenges, Community awareness on the use of ICT is low and problem of trust to use customer need to comes to branch for the service than using technology.

Resistance from customer and employee are some internal factors of the challenges. Carelessness on how to use it, Poor attitude towards technology.

Huge amount of organizational cost, but ones we finished it's on it we are use it simply to perform our transaction.

Frequent change of technology from time to time, Cost of technology increase from time to time, are some of the problems from technology side.

cyber-attack across the globe.

In general, technology not effective hundred percent, as Computer is gigo (garbage in garbage out), its output is what you give it as output based on the input you give.

Cyber security attack like fishing attack.

Shortage of technological tool to mitigate this problem is also other challenges.

Technological attack.

Language barrier it need understanding English language which can perceived differently by our customers and staffs.

Security challenge, technology change, and costs are some of the challenges of ICT use.

Data loss, disk failure, and very high cost of technology can be taken as the main challenges of using ICT.

Technology change from time to time can also be taken as challenge

Challenges of skill that people are not familiar with new technology even if it reduced by training.

Resistance on early adoption ICT even to use email.

System failure and our system stop to perform different transaction and email communication system ICT.

ICT failure creates for half day; it can create many problems on communication, reduction of costs and profit of our bank and transaction processing system.

Digital literacy, how many they have knowledge and trust, Security attacker like fraud.

Infrastructure on few deliveries from ethio telecom not sufficient as our business needs.

ICT adoption depends on vender developer, on administration, over all process banks culture customization of the system. Vender depends software, if they are not share information and knowledge properly, it incurred to high cost than in-house software developed to easy works and to reduce transaction cost.

Cost, security, and vender has their own culture to customization.

Technology cost, 800 million servers, because we can't develop it, we paid for payment of server like IBM and Huawei. In addition, paying for license about 750 million birr per year. If you need to update your system, you have to update again by 750 million birrs. This show, our bank depends on vender from abroad paying huge amount of dollars buying ICT with license of its subscription. When the license end and it is like end of life no support, and down from its operation.

Cyber security.

Improper function of infrastructure or infrastructure not work properly,

Human capability to use ICT technology, Security issues.

Internal attack also as a main problem,

One account transferring to other, regulation on online system has no clear regulation.

Vender dependency as a challenge of product from other country and its cost increase from time to time in dollars make high challenges.

Trained man power, knowledge gaps (very limited man power and change) Service level agreement (SLA) IT era what to stay, for each customer Resource of technology, local resource.

Infrastructure limitation, power limitation.

Resistance from both employee and customer can be taken as human factor.

Change on legal based rule on technology on legal framework, policy, directive, and knowledge. INSA on security, National bank directive coming now as security is the world challenge directly and indirectly.

Fast, man power increase diversified service of partnership and e-commerce, like amole core banking, data center, network, cloud, communication Microsoft core banking. All this need generic man power specialization.

Lack of skill and represent to technology from old staff management and board help Security skill and knowledge create frustration

Resistance as a result knowledge gaps training giving by the bank.

Low awareness on ICT.

Communication problem, low level of understanding.

Low awareness on ICT.

Communication problem, low level of understanding.

Figure 5-2 Responses of respondents on challenges of ICT adoption in banking sector as online communication



Figure 5-3Challenges to adopt ICT, Communication tools (extracts from the qualitative data)

The study aimed to investigate the challenges faced by state-owned and privately-owned banks in Ethiopia when adopting ICT for strategic communication. The main challenges revealed by the findings include security concerns, high implementation costs, difficulty in sourcing skilled personnel, resistance to change, and cyber security threats. To address these challenges, banks should prioritize measures such as strong security measures, investing in robust software, and building trust with clients through proactive prevention of cyber-crimes. The bank also faces challenges related to high expenses, lack of expertise, and dependence on overseas suppliers. It is important for banks to establish strong connections with stakeholders, provide necessary training, and raise awareness about the benefits of ICT. Technological challenges include the lack of appropriate tools and frequent changes of technology. System failures, infrastructure issues, and power limitations further complicate the situation. Resistance to early adoption of ICT, knowledge gaps, and language barriers are additional challenges. Clear regulations and comprehensive legal frameworks are needed to protect data and mitigate risks. Hiring competent professionals, promoting digital literacy, and fostering partnerships are essential. The government should prioritize implementing robust ICT policy frameworks, recognizing the importance of ICT, and improving infrastructure. Banks need to provide high-quality ICT services, promote ICT knowledge, and advertise their offerings effectively. Overcoming these challenges will help the banking sector in Ethiopia compete globally and improve service delivery. The banking sector in Ethiopia faces several challenges when integrating ICT for strategic communication effectively.

The challenges faced in the adoption of ICT as strategic communication tools in the banking sector in Ethiopia can be attributed to several factors. Firstly, there is no clear legal and regulatory framework specific to the use of ICT in the banking sector poses significant challenges. Without clear guidelines and regulations, banks may hesitate to fully embrace and implement digital banking solutions, as they require a supportive regulatory environment to ensure compliance and mitigate risks. The relatively high illiteracy rates in Ethiopia also present a significant challenge. Digital interfaces and electronic transactions rely on basic literacy skills, which are limited among a considerable portion of the population. This lack of literacy hampers individuals' access to ICT for banking services and their ability to navigate digital platforms and understand complex financial processes.

Besides, the study identifies key challenges faced by Ethiopian banks in maintaining and upgrading their ICT infrastructure to keep pace with technological advancements. The high costs associated with these ICT infrastructure updates and investments pose a significant barrier for banks. However, the study suggests that enabling banks to modernize their technological capabilities through incentives and support from the National Bank of Ethiopia would allow them to better align with the evolving landscape. This, in turn, would enhance their overall performance and strategic communication abilities. Additionally, the study notes that the high cost of internet access in Ethiopia acts as a hindrance, limiting the accessibility and adoption of convenient digital banking services as a strategic communication platforms of the banking sector. The absence of collaborative financial networks further compounds the challenges as well. The lack of networks that promote collaboration among different banks leads to fragmented and inefficient banking services. Collaboration among banks is critical for seamless and efficient transactions, but the absence of such networks hinders progress in this area.

Unreliable power supplies in Ethiopia pose another challenge. The country's power infrastructure struggles to provide stable electricity supply consistently. This can disrupt banking operations and affect the availability and accessibility of digital banking services, requiring banks to implement backup power solutions. Finally, concerns regarding cyber security are a prominent challenge. As digital banking becomes more prevalent, protecting customer data and financial transactions from cyber threats becomes crucial. Establishing and maintaining effective cyber security systems to combat these threats is essential but challenging, requiring ongoing investments and expertise.

In summary, the challenges faced in adopting ICT as strategic communication tools in the Ethiopian banking sector include the lack of a legal and regulatory framework, high illiteracy rates, expensive internet costs, the absence of collaborative financial networks, unreliable power supplies, and concerns regarding cyber security. Addressing these challenges is crucial for the successful implementation and utilization of digital banking solutions in Ethiopia. Thus, to effectively integrate ICT for strategic communication in the banking sector in Ethiopia, addressing these challenges is essential. This can be achieved through the development of a strong legal and regulatory framework, improving literacy rates through

educational initiatives, reducing internet costs, establishing collaborative financial networks, improving power infrastructure, and implementing robust cyber security measures are very important. These challenges highlight the complexities involved in integrating ICT effectively within the banking sector in Ethiopia. Overcoming these obstacles requires concerted efforts from the government, banking sector, and other stakeholders.

4. Conclusion and recommendation

4.1 Conclusion

In conclusion, the banking sector in Ethiopia faces significant challenges in effectively integrating ICT. These challenges include the lack of suitable legal and regulatory structures, high illiteracy rates, expensive internet access, limited collaborative financial networks, unreliable power sources, and cyber security concerns. As a result, the current banking system lacks the capacity to provide reliable and competitive services compared to international counterparts. For banks in Ethiopia to meet customer expectations, stay updated with technological advancements, and enhance performance, the implementation of ICT systems as effective strategic communication tool is vital. There is an urgent need for a capacity-building strategy to modernize the financial system and ensure competitiveness with a global banking sector. Furthermore, aligning ICT with the bank's vision and mission, offering staff training programs, and establishing a comprehensive regulatory and legal framework for online communication are crucial steps towards improving communication practices in the banking sector, achieving profitability, and reducing transaction costs.

4.2 Recommendations

Creating a comprehensive and strong regulatory and legal framework is necessary to address data protection, privacy, and cyber security concerns in online banking communication. This framework should ensure secure and reliable online banking services and protect customer data.

Create customer awareness to educate customers about the benefits and safety of using ICT as a strategic communication tool for online banking and increasing awareness of security measures and build trust among customers.

Ensure robust ICT support systems are established and maintained to promptly address technical issues such as network problems, hardware failures, and software glitches that can disrupt communication channels. Implement proactive monitoring and maintenance strategies to detect and resolve potential issues before they can impact strategic communication processes.

Encouraging investment in ICT infrastructure by the National Bank of Ethiopia should incentivize the banking sector to allocate resources towards improving their communication systems. This includes investing in reliable hardware, network systems, and backup mechanisms to minimize downtime and technical issues. Implementing incentives that motivate banks to adopt ICT and ensuring proactive monitoring and maintenance of infrastructure will help identify and address potential issues before they affect strategic communication processes

Banks in Ethiopia should prioritize security by implementing robust measures like encryption, multi-factor authentication, and regular security audits to mitigate risks. These actions safeguard against hacking, data breaches, and unauthorized access, thereby protecting customer data and confidential business information. Additionally, adherence to data protection regulations is crucial to address privacy concerns related to the collection, sharing, and storage of personal information via ICT platforms.

Design strategic communication plans that aim to bridge the digital divide and address unequal access to ICT. It is crucial to utilize appropriate ICT tools and provide comprehensive training to employees on effective strategic communication techniques. This approach ensures that all stakeholders can effectively engage and communicate, regardless of their level of ICT proficiency or access.

Adopting the best practices and technologies to enhance customer service and overall communication with customers in the Ethiopian banking sector is very important. ICT adoption as a strategic tool to improve online banking communication capabilities and global competitiveness are necessary. Implement efficient systems to ensure prompt and accurate responses to consumer inquiries, thereby enabling faster delivery and more precise communication. This approach enhances efficiency, competitiveness, and strengthens the global presence of the banking sector.

CHAPTER SIX

6. SYNTHESIS

This final chapter serves as a synthesis to the previous chapters, offering the summary of major finding of the dissertation, recommendations, and implications for future study. The sub-sections here begin by revisiting the research objectives, methodological, theoretical, and empirical reviews pertinent to this research, the philosophical, epistemological and methodological underpinning of the research. It provides a synopsis of the findings and presents the emerging arguments drawn from each of the research objectives. Furthermore, it examines the interconnections between the study objectives, considering the main thesis of the study and the underlying tenets of the theories and models employed. This synthesis chapter primarily embedded in the analytical framework established in chapter one. The core arguments in the synthesis would be followed by the recommendations for policy and practices. These recommendations were meant to contribute to strategic interventions that would enhance the banking sector through the adoption of ICT and effective strategic communications. More specifically, the recommendations aim to enhance performance in strategic communication while leveraging the opportunities offered by ICT. Finally, the last subsection acknowledges the limitations of the study and draws implications for future research in this field.

6.1. Summary of Discussion and Major Findings of the Dissertation

This study focused on four key imperatives to enhance the performance of the banking sector in Ethiopia and achieve national and global competitiveness. Chapter one discusses the background, a succinct overview of the literature, the problem statement, the objectives, methodological, theoretical, and empirical gaps pertinent to this research. It also portrays the philosophical, epistemological and methodological stances of the study. Chapter two presents an analysis of the determinants of ICT adoption for strategic communication. The third chapter presents about the influence of ICT adoption on strategic communications. In the fourth chapter, the effects of ICT adoption and strategic communications on organizational performance were covered. The final chapter examined the current trends and challenges related to ICT adoption for effective strategic communications to enhance the performance of the banking sector in Ethiopia.

The study findings, as indicated in chapter two, confirmed that organizational factors, particularly leadership abilities and top management support, were significant predictors of ICT adoption for strategic communication in both government and private banks (Path Coefficient from OF to ICT Adoption=0.25, p-value=0.000). Technological and environmental factors did not show a significant association with ICT adoption, as evidenced by the insignificant path coefficients (Path Coefficient from TF to ICT Adoption=0.079, p-value=0.258 and Path Coefficient from EF to ICT Adoption=-0.12, p-value=0.120) (see **Error! Reference source not found.**). The substantial correlation between ICT adoption and leadership abilities, as well as top management support, corroborates the importance of strong leadership and managerial commitment in driving the successful implementation of ICT strategies (See, Figure 2.1). This emphasizes the need for effective leadership and management practices to facilitate the adoption and utilization of ICT within the banking sector are crucial. The study revealed similar levels of ICT adoption and usage for strategic communication across both private and government banks. This finding aligns with the Technology-Organization-Environment (TOE) theoretical model, discussed by (Dwivedi et al., 2012) and (Kwabena et al., 2021).

Another key finding of the study demonstrated the crucial advantages that organizations experience through the utilization of ICT, particularly in terms of driving transformational benefit. The study indicated the prevalence of a high level of organizational transformation resulting from the benefits derived from ICT, as evidenced by the observed value of (96.4 (0.97) private owned mean score and (97.0 (1.01)) government owned score respectively. Consecutively, the second highest mean value score of this study showed strategic benefit 96.5 (0.67) private and 95.7 (1.34) for government banks; informational benefit was the third highest score of mean value 95.0 (0.90) private and 92.7 (1.59) for government banks and transactional benefit the least value of mean score for both private and government banks 95.5 (0.96) and 92.5 (1.45) respectively.

While there was little difference in the level of the benefit obtained in each category, ICT adoption from both government and private bank were found to be high in terms of transformational benefits and least in terms of transactional benefits. This finding contradicts the comparative study done on the benefit of ICT adoption in the business sector by (Ceric, 2015). The disparity in ICT adoption benefit between government and private banks may be attributed to several factors, including variations in organizational priorities, technological

infrastructure, management strategies, resistance to change, and contextual banking sector differences. Methodological differences in the studies, such as sample size, participant composition, geographical or cultural contexts, and time periods, may also contribute to the observed variations. On the other hand, both public and private banks rated transactional benefits lower on average compared to other benefit types which support with the study finding of (Saleem and et al, 2020). There were key differences in the practices and benefits of ICT adoption for improving organizational performance, among the targeted public and private banks in Ethiopia.

Therefore, according to this study, the benefit of ICT adoption and use for organizational transformation was found to be an important determinant factor of both government and private banks in Ethiopia. The shared understanding among respondents regarding the benefits of ICT adoption indicates an awareness and recognition of the potential advantages of integrating ICT in the banking sector. This collective understanding further enables us to gain a deeper comprehension of the functions performed by the factors influencing ICT adoption and strategic communication within the banking sector.

The third chapter examined the influence of ICT adoption practices on strategic communication in targeted banks. The findings showed that the level of ICT adoption and utilization for strategic communication was similar in both private and public banks. The mean average score for ICT adoption practices is 73.7 in public banks and 72.9 in private banks. Comparing the scores, public banks appear to have higher average scores for both ICT adoption and strategic communication practices. The assessment on level of ICT adoption and use for strategic communication of banks indicated that there was a widely accepted opinion that adopting practices ICT possesses a range of benefits for enhancing strategic communication of banks. The results of the independent t-test ($t=1.23$, $df=1$, $P>.05$) indicated that there was no significant difference in ICT adoption practices between private and public banks. Thus, based on these data, public banks seem to perform slightly better than private banks in both ICT adoption and strategic communication practices. However, there was a significant difference in the mean levels of strategic communication practices between the two types of banks ($t=1.56$, $df=1$, $P<0.05$). Additionally, this prevailing belief was shared to a similar extent by employees of both private and public banks. The perceived benefits of ICT adoption were also similar between the sectors. Moreover, when examining the mediation

effect of ICT adoption, it was found that technology and environment-related factors did not have a mediation effect. Organizational factors were identified as having an indirect effect on strategic communication. According to the results of the mediation analysis, the level of ICT adoption in banks mediated 88% of the total effect of organizational factors. Although a considerable portion of the total effects of technology (61%) and environment (67%) related factors constitute indirect effects, the findings were not statistically significant, providing no evidence of mediation (Table 3.2).

The hypothesis that ICT adoption enhances strategic communication in banks and the assumption that it mediates the influences of ICT adoption determinant factors such as technology, organization, and the environment was measured and its use for strategic communication of banks was assessed. The findings indicate that the level of strategic communication practices is relatively similar between public and private banks. The mean average score for strategic communication practices is 63.1 in public banks and 60.1 in private banks, suggesting a small difference between the two. In addition, there was no significant moderation effect of the different determinants observed by ownership status (Coef. (Private) = -0.03, $p=0.56$). Similarly, technology (Coef. = 0.02, $p=0.74$), organization (Coef. = 0.02, $p=0.87$), and environment (Coef. = 0.16, $p=0.07$) related factors were found to have a statistically insignificant contribution to the level of strategic communication. However, the level of ICT adoption and use was positively and significantly related to the magnitude of strategic communication (Coef. = 0.36, $p=0.00$).

Thus, the study results on the influence of ICT usage on strategic communication in banks showed, implementing ICT improved strategic communication in banks, leading to trustworthy, high-performance, and consistent banking services with minimal disruptions. ICT adoption practices creates effective tool for strategic communication in banking services, enabling more efficient communication systems and better customer management. The need for highly available systems that delivers accurate financial services without interruptions also underscores the growing reliance on ICT services in the banking sector.

The implementation of ICT in automated banking systems significantly boosts productivity and efficiency within the financial sector, enhancing strategic communication and ensuring consistent delivery of banking services, widely acknowledged across the industry. This

underscores the practical benefits of ICT in improving strategic communication practices and enhancing customer reach, aligning with the Task-Technology Fit Theory (Mushore and Kyobe, 2022). Studies by Rammile and Nel (2012) have also supported this notion, demonstrating a positive correlation between task-technology fit and measures of information system success across various task and technology contexts. The alignment of business tasks with ICT capabilities is pivotal for explaining and predicting the success of information systems (Ballarini et al., 2009).

The fourth chapter measured the effects of ICT adoption and strategic communication on the performance of banking sector. It was to examine how the adoption of Information and Communication Technology (ICT) and strategic communication influenced on the performance of the banking sector in Ethiopia. The study found that both the adoption of ICT and strategic communication played a significant role in improving the overall performance of banks. The results indicated that both ICT adoption and strategic communication independently contributed to positive outcomes in organizational performance. Hence, a one percentage point increase in the level of ICT adoption score increases the organizational performance by 0.34. This total effect was a combination of direct influence (coeff. = 0.27) and an indirect effect (coeff. = 0.07). The effect of ICT adoption had on organizational performance was partially mediated by strategic communication. Similarly, a one percent increase in the score of strategic communication is associated with an increase of 0.19 percent change in response to organizational performance (see Table 4-1).

Moreover, public and privately owned banks received comparable responses on average organizational performance, with no discernible differences. According to the data that was analyzed, the average scores for public banks were 76.2 with a standard deviation of 1.3 and for private banks they were 78.2 with a standard deviation of 1.0.

Furthermore, the results of the investigation showed that private and government-owned banks in Ethiopia do not perform very differently from one another. Thus, both ICT adoption and strategic communication independently had positive effects on organizational performance. On the other terms, organizational performance did not significantly differ between private and public banks (see **Error! Reference source not found.** 4.1.) This finding coincides with many studies (Agboola, 2006), (Al-hatmi, 2012), (Al-nadesh et al., 2022),

(Baker, 2012), (Consoli, 2012), (Dhurkari, 2017), (Kenneth and Jane., 2012), (Moradeyo, 2013).

Additionally, the findings of this study revealed that the mediation analysis demonstrated certain insights. Specifically, it was observed that the adoption of ICT did not mediate the effects of technology and environment-related factors. However, organizational factors were found to have an indirect effect on strategic communication. These results provide valuable insights into the relationship between ICT adoption, organizational factors, and strategic communication within the context of the Ethiopian banking sector. Further, this study indicated that, 88% of the total effect of organizational factors was mediated by the level of ICT adoption of banks. This finding is also in agreement with (Baker, 2012; Herzallah and Mukhtar 2015) study result which indicated the mediating effects of ICT adoption for strategic communication and improving firms' competitive advantage and performance which have been considered a strong mechanism for improving business growth and achieving competitive advantage.

Hence, ICT adoption in private and public banking has a positive effect on the performance of organization both directly by itself and indirectly through strategic communication as the main determinant factors for improving performance. Furthermore, the results of the study indicate that ICT adoption can be utilized to enhance the achievement of organizational objectives and improve overall business performance.

Moreover, the study demonstrated the positive effect of ICT on various aspects of organizational performance, such as productivity, service efficiency, and decision-making. Moreover, the findings validated that both ICT adoption and strategic communication play a significant role in positively influencing organizational performance, thereby underscoring their importance as determinants of success. This finding supports the different scholars study's (Consoli, 2012; Kamel et al., 2009; Shaukat & Zafarullah, 2010), ICT adoption has a positive effect on effective strategic communications to increase banks performance as a significant determinant factor to achieve competitive advantage in a business organization. Furthermore, the finding of this study also support with studies of (AlBar and Hoque, 2019; Avgerou, 2008; Demeke, 2014; Kilangi, 2012; Kurtzke and Setkute, 2020; Ramdani et al.,

2022; Wu, 2009), result implementation of ICT in business organizations provides a competitive advantage that brings about significant improvements in organizational performance.

Therefore, ICT adoption positively and significantly correlated with organizational performance in the Ethiopian banking sector, without significant differences between public and private banks. On the same token, strategic communication mediated the effect of ICT adoption on organizational performance, increasing bank productivity and overall performance. The strong correlation between ICT adoption and organizational performance in the Ethiopian banking sector confirms that ICT directly influences the overall performance of banks. This underscores the potential for ICT to enhance efficiency, productivity, and profitability in the banking industry. The significance of strategic communication as a mediator between ICT adoption and organizational performance highlights the vital role of effective communication practices enabled by ICT. This, in turn, enhances performance and fosters a competitive advantage for the banking sector in Ethiopia.

Chapter five investigated challenges faced by the banking sector in adopting communication technologies for strategic communication purposes. The banking sector in Ethiopia faces challenges in effectively integrating ICT, including the lack of suitable legal and regulatory structures, high illiteracy rates, expensive internet access, limited collaborative financial networks, unreliable power sources, and cybersecurity concerns. Addressing these challenges has stood crucial to provide reliable and competitive banking services, meet customer expectations, and achieve profitability. The identified challenges in effectively integrating ICT in the Ethiopian banking sector, such as the lack of suitable legal and regulatory structures, high illiteracy rates, expensive internet access, limited collaborative financial networks, unreliable power sources, and cybersecurity concerns, demonstrate the existing barriers to leveraging ICT effectively. The urgency for capacity-building strategies of the financial system arises from the need to meet customer expectations and keep up with ICT advancements. By promoting ICT systems and improving communication practices, the banking sector can enhance its competitiveness, offer reliable services, and reduce transaction costs, ultimately benefiting customers and the industry as a whole.

6.2. Conclusions

The study focused on analyzing the trends and practices of ICT adoption for enhancing effective strategic communication and organizational performance in the Ethiopian banking sector. Four main areas were examined: the determinant factors of ICT adoption for strategic communication, the influence of ICT adoption on strategic communication, the effects of ICT adoption and strategic communication on organizational performance, and finally it investigates the trends and challenges of ICT adoption for communication in the banking sector. It was concluded that organizational factors played a significant role in ICT adoption, while technological and environmental factors were not significant predictors. This showed the importance of organizational factors in driving ICT adoption for strategic communication and emphasizes its effect on organizational performance. By way of concluding, the significance of organizational factors in driving ICT adoption for strategic communication and organizational performance in the Ethiopian banking sector was so perceptive and immense.

Specifically, the study revealed that organizational factors, such as top management support and leadership, play a significant role in ICT adoption for strategic communication. Technological and environmental factors, on the other hand, do not have a significant influence on ICT adoption. Both public and private banks in Ethiopia have been aware of the benefits of ICT adoption, including strategic, informational, transactional, and organizational transformation benefits. The study also compared the perceived benefits of ICT adoption between public and private banks. The findings indicated that both banking categories were aware of the benefits of ICT adoption, including strategic, informational, transactional, and organizational transformation benefits. However, there was no statistically significant difference in the perceived benefits between the two banks. The results showed that the level of ICT adoption and use was positively and significantly related to the effectiveness of strategic communication.

Organizational factors were found to have an indirect influence on strategic communication through ICT adoption, while technological and environmental factors did not show a significant mediation effect. ICT adoption and utilization for strategic communication are comparable across both private and public banks in Ethiopia. Online platforms such as ATM,

POS, Internet Banking, Mobile Banking, Agent Banking, and Amole services are widely used by banks for internal and external communication and transactions. Furthermore, the analysis showed that there are no significant differences in the average organizational performance scores between public and private banks. Both ICT adoption and strategic communication independently have a positive effect and change in increasing on organizational performance.

Regarding ICT adoption trends and practices, the study shows that Ethiopian banks have adopted a range of technologies, from traditional typewriters to advanced integrated systems like core banking and mobile banking. Social media platforms like Twitter, Facebook, and Telegram are also used for communication and customer outreach. The driving factors for ICT adoption include regulatory requirements set by the National Bank of Ethiopia, customer needs for efficient services, and global trends in the banking sector.

The study also identified several key strategies for designing organizational communication, including developing a communication policy based on audience surveys, aligning communication with core values and organizational policies, ICT advancements, and aligning communication strategies with the bank's vision and mission. However, the study also identified challenges faced by banks in adopting ICT for strategic communication. These challenges include security concerns, high implementation costs, difficulty in sourcing skilled personnel, resistance to change, cyber security threats, high expenses, lack of expertise, dependence on overseas suppliers, technological challenges, system failures, infrastructure issues, power limitations, resistance to early adoption, knowledge gaps, and language barriers. Developing comprehensive legal frameworks, hiring competent professionals, promoting digital literacy, fostering partnerships, implementing robust ICT policy frameworks, and improving infrastructure were among the crucial actions practiced as remedial measures.

The study findings align with the fundamental principles of TOE models, which examine the factors influencing ICT adoption in organizations. Additionally, the Technology Context, Organizational Context, and Environmental Context provide a broader understanding of the influences on technology adoption. The TOE framework suggests all three contexts - technological, organizational, and environmental can influence technology adoption. The TOE framework indicates that technology adoption is influenced by the interplay of these

three contextual factors. Further investigation would be needed to determine the relative significance of each context in driving the observed differences in ICT adoption.

The Technology-Organization-Environment (TOE) Framework posits that technology adoption is influenced by the Technology Context, Organizational Context, and Environmental Context. Technology Context considers Differences in the available technological infrastructure, compatibility, and other technological factors characteristics specific to the technology, such as complexity, compatibility, and relative advantage. Organizational Context encompasses factors within the organization that impact technology adoption, Variations in organizational priorities, management strategies, and resistance to change including structure, culture, resources, and support mechanisms. Environmental Context encompasses Potential differences in the regulatory environment, industry competition, or other external factors affecting the two banking sectors, external factors like regulations, market conditions, and competitive pressures that influence technology adoption.

In final remarks, this study emphasizes the importance of ICT adoption and strategic communication in the Ethiopian banking sector. It highlights the role of leadership, management support, and organizational factors in driving ICT adoption. The study suggests actions to address challenges, by investing in ICT infrastructure, and for improving global competitiveness. Effective strategic communication with ICT deployment can enhance bank performance. Further investigation is needed to understand the relevance of environmental and technological factors in strategic communication.

The study contributes to the existing body of knowledge by applying and testing frameworks such as the Technology Organization Environment (TOE) and the Unified Theory of Acceptance and Use of Technology (UTAUT) in the context of Ethiopian banks using ICT as strategic communication tools. TOE Framework provide valuable insights into the factors influencing technology adoption and usage. Specifically, the TOE framework, which considers technology, organization, and environment, can be adapted and extended to fit the specific context of the study, providing a comprehensive understanding of technology adoption dynamics and ICT adoption determinant factors. Additionally, the study offers practical implications for policymakers, such as the National Bank of Ethiopia, and

government bodies. The study outcomes can be utilized to address challenges related to ICT resources and infrastructure in Ethiopian banks, aiming to overcome specific barriers encountered in Ethiopian banks.

In summary, this study has both theoretical and practical implications for enhancing strategic communication and organizational performance through ICT adoption in the Ethiopian banking sector. By applying and testing relevant frameworks and identifying determinant factors, it contributes to the existing knowledge and provides guidance for policymakers and industry stakeholders.

Methodologically, the study used a combination of descriptive, explanatory, and exploratory research designs to investigate factors influencing the adoption and use of ICT in the banking sector. It also employed a mixed-method approach, combining qualitative and quantitative methods concurrently to achieve the four specific objectives. The mixed-methods research approach combining qualitative methods, like interviews, for contextual information and quantitative methods for measuring and analyzing relationships between variables enhances the understanding of the technology adoption process.

The qualitative component aimed to identify key determinants challenges of ICT adoption and their role in strategic communication, while the quantitative component examined the factors influencing ICT adoption for strategic communication in the selected banks. The research utilized various statistical models and instruments for data collection and analysis. The qualitative data was analyzed using the MAXQDA software package, while the quantitative data analysis was employed STATA 14 Software, and structural equation modeling (SEM), partial least squares (PLS), and mediation analysis. In the mediation analysis, the researcher examined the mechanisms through which ICT adoption factors influenced organizational performance, considering both direct and indirect pathways through mediators. The PLS-SEM model was used to analyze both the direct and indirect effects collectively contributing to the total effects. The study also aimed to predict and explain structural relationships and maximize variances of endogenous variables using PLS-SEM, which was suitable for handling both reflective and formative measures of variables and analyzing data.

The structural model specified relationships that included direct and indirect effects, combining to form the total effects. Direct effects occurred when ICT adoption factors directly influenced organizational performance without the involvement of mediating factors, while indirect effects occurred when ICT adoption factors influenced organizational performance through mediating factors. Overall, the research aimed to provide comprehensive insights into ICT adoption, strategic communication, and organizational performance in the Ethiopian banking sector, as well as contribute to the literature on ICT adoption, Strategic communication, and for the development of banking sector to improve organizational performances and achieve competitive advantage globally.

In general, the study concludes that both private and government banks in Ethiopia exhibit similar levels of ICT adoption, indicating comparable practices and awareness of its benefits. Leadership abilities and top management support have a significant correlation with ICT adoption and strategic communication. Organizational factors are the primary predictors of ICT adoption, while technological and environmental factors have no significant association. The study suggests addressing challenges in ICT adoption and highlights the importance of investing in ICT infrastructure for global competitiveness.

Furthermore, the study emphasizes the need for highly available ICT systems to deliver uninterrupted and accurate financial services. It reveals that implementing ICT can enhance strategic communication and improve the productivity of the banking sector. The advantages of ICT adoption are recognized by both private and government bank employees, with comparable adoption levels. Organizational factors indirectly impact strategic communication through ICT use, while technology and environmental factors have no significant influence. ICT can be effectively leveraged for efficient communication, better customer data management, and improved customer service operations in banks.

Methodologically, the mediation analysis employed in this study demonstrates the relation between ICT adoption, strategic communication, and organizational performance. It shows that adopting ICT leads to performance improvements in both public and private banks, with strategic communication playing a mediating role. Thus, effective strategic communication, coupled with ICT deployment in banking sector is crucial for enhancing performance. Further research is required to explore the relevance of environmental and technological factors in ICT adoption for strategic communication. And Banks encounter challenges in adopting

advanced technologies for improved services, influenced by the regulatory framework and customer expectations.

6.3 Recommendations

To enhance communication practices in the banking sector and improve performance, the following recommendations are proposed:

6.3.1. Establish an enabling environment:

- **Prioritize the establishment of frameworks:** Develop clear frameworks, policies, and regulations on strategic Communication that provide guidance and support for ICT adoption in the banking sector. These frameworks should outline best practices, standards, and guidelines for implementing ICT solutions effectively.
- **Invest in robust ICT infrastructure:** Allocate resources to build and enhance the necessary ICT infrastructure, including reliable hardware, network systems, and backup mechanisms. This ensures that banks have the necessary technological foundations to support effective communication and information exchange to accomplish their operation effectively and efficiently.

6.3.2. Integrate ICT within Banks:

- **Focus on organizational factors:** Recognize the importance of organizational factors in facilitating effective strategic communication and developing clear communication strategies that align with the overall business objectives of the bank. These strategies should outline the objectives, target audience, key messages, and channels to be used for communication.
- **Provide training and development:** Implement comprehensive training programs to enhance employees' communication skills and ensure they are proficient in using ICT tools for communication purposes. Training should focus on effective communication techniques, utilizing digital platforms, and leveraging collaboration tools to improve teamwork and information sharing. By enhancing digital skills, employees can fully leverage ICT capabilities and contribute to effective communication practices.
- **Promote cross-departmental collaboration:** Encourage collaboration and information sharing across different departments within the bank. This can be achieved through cross-

functional teams, joint projects, and regular interdepartmental meetings. Fostering a culture of collaboration that can enhance communication and ensure a coordinated approach to strategic communication efforts. This collaboration can facilitate knowledge sharing, resource pooling, and the exchange of best practices, ultimately driving the adoption and utilization of ICT in the banking sector.

- **Implement performance metrics and feedback mechanisms:** Establish measurable performance metrics to evaluate the effectiveness of internal communication efforts. Regularly collect feedback from employees to identify areas for improvement and address any gaps in Communication Strategy could be done.

6.3.3. Develop a comprehensive regulatory framework:

- **Address data protection and privacy:** Develop robust regulations and guidelines that ensure the protection of customer data and privacy in online banking communication. This includes implementing encryption mechanisms, multi-factor authentication, and regular security audits to safeguard against hacking, data breaches, and unauthorized access.
- **Ensure secure services:** Establish measures to ensure the reliability and security of online banking services. This includes proactive monitoring and maintenance of ICT systems to identify and address potential technical issues promptly. Reliable network connections and backup systems should be in place to minimize service disruptions.
- **Customer awareness:** Conduct awareness campaigns to educate customers and communicate about the benefits and safety of using ICT for online banking communication. Communicate security measures and build trust among customers by highlighting the steps taken to protect their data and ensuring secure transactions through clear and engaging communication strategies.
- **Comply with regulations:** Stay up to date with relevant data protection regulations and privacy laws. Banks should ensure compliance with these regulations in their communication practices, including the collection, storage, and sharing of customer information through ICT platforms.

6.3.4. Bridge the digital divide and improve customer service:

- **Design communication plans:** Develop strategic communication plans that address the digital divide and unequal access to ICT. Implement initiatives to bridge the gap, such as providing training programs and resources to underserved communities, offering affordable

internet access, and deploying digital mobile banking solutions to reach customers in remote areas.

- **Enhance customer service operations:** Leverage ICT tools and technologies to improve customer service operations. This includes implementing automated response systems, and self-service options to provide faster and more efficient customer support. Utilize customer relationship management (CRM) systems to track and manage customer interactions, ensuring personalized and timely communication.

6.4 Limitations and Suggestions for Future Research

This study acknowledges several limitations that should be taken into consideration. These limitations primarily stem from the specific context of the Ethiopian banking sector, the research methods employed (survey questionnaires and interviews), and the limited generalizability of the findings to other sectors. It is important to recognize that the significance and scope of these limitations may vary depending on factors such as geographical location and the level of ICT infrastructure development within the banking sector.

Furthermore, this study identifies several opportunities for future research. Conducting a longitudinal study would provide a comprehensive understanding of the trends and practices of ICT adoption and their long-term impact on the performance of the banking sector. This would involve measuring the adoption of ICT at multiple points in time to gain deeper insights into its effects. Future researchers could also explore the role of specific types of ICT solutions as strategic tools for effective communication in the banking sector and examine their influence on performance and growth. Additionally, investigating the effectiveness of policy interventions aimed at promoting ICT adoption and examining the influence of external factors, such as market competition, industry regulations, and global technological trends, on ICT adoption practices in Ethiopian banks would be valuable areas of inquiry.

Given the limitations mentioned above, readers should approach the findings of the study with caution. Future studies should address the determinants of ICT adoption as strategic communication within the Ethiopian banking sector and similar industries to enhance our understanding of its impacts. Additionally, studying the causal relationships among major

outcome variables using a model-based approach would provide deeper insights into the subject matter.

The lack of standardized metrics for measuring communication strategies and organizational performance in the Ethiopian banking sector can pose a challenge. Without consistent and widely accepted measurement tools, comparing and benchmarking results across different organizations or time periods becomes difficult.

The Ethiopian banking sector operates within a unique cultural and contextual framework, which can influence communication strategies and organizational performance in ways that differ from other countries. Researchers should consider these factors and their potential impact on the generalizability of findings.

There might be a scarcity of existing literature on communication strategies and organizational performance within the Ethiopian banking sector, depending on the specific focus of the research. This limitation could make it challenging to build upon previous studies or establish a strong theoretical foundation for the research.

Inadequate technological capabilities or disparities in ICT adoption could impact the effectiveness of communication strategies and organizational performance. Researchers should consider these variations and their potential influence on the research outcomes.

Therefore, while this study has its limitations, it provides valuable directions for future research in the dominion of ICT adoption for enhancing strategic communication and organizational performance, particularly within the Ethiopian banking sector.

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Appendices

Appendix A: Questionnaire

Ph.D. Dissertation Research Project on

Trends and Practices of ICT Adoption for Enhancing Strategic Communication and Organizational Performance: Evidence from the Ethiopian Banking Sector



Dear Respondent, I am Feyisa Girma from Addis Ababa University, School of Journalism and Communication. I am conducting research on “***Trends and Practices of Communication Technology Adoption for Enhancing Effective Communication and Organizational Performance: Evidence from Ethiopia’s Banking Industry***”. This research is conducted in fulfillment of the Doctoral Degree in Media and Communication Studies. The study intends to examine and investigate the overall effect of ICT adoptions. It also aims at exploring the practice and trends of ICT adoption as a tool of strategic communication and exploring factors which are critical to determine the implementation of ICT for strategic communication and organizational performance in the case of banks in Ethiopia. I kindly request your cooperation in completing the questions indicated below. I would like to assure you that the information you provide in this study will be used for the stated purpose and will be kept confidential. In any sort of report I might publish, I will not include any information that will make it possible to identify any respondent. Thank you in advance for your cooperation and assistance, despite your hectic schedule, in sharing your valuable experience and opinion.

With best regards,

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Thank you again!!!

General Instructions

- There is no need of writing your name.
- In all cases where answer options are available, please place a tick (✓) mark in the appropriate box.
- For questions that demand your opinion, please try to honestly put in your opinion, experience or observation on the space provided.

Questionnaire designed on google Form:

<https://docs.google.com/forms/d/1lTYbrjr4GUa18U1T316NMevtLwvnjpLwo-0q2KPgdk/edit>

Section I: Demographic and Socio-economic Profile of Respondents

Put “√” mark under the appropriate box in the response column or fill in your response in the space provided for open ended questions

S. No.	Questions	Categories and codes	Response
1	Gender	1=Male 2=Female	☐ ☐
2	Education level	1=College Diploma 2=Degree 3=Masters 4=PhD	☐ ☐ ☐ ☐
3	Age (in completed years)	1=Less than 29 2=30-40 3=51-60 4= More than 60	☐ ☐ ☐ ☐
4	Work experience (in years)	1=Less than 10 2=11-20 3=21-30 4= More than 30	☐ ☐ ☐ ☐
5	Marital Status	1=Single 2=Married 3=Widowed 4=Divorced	☐ ☐ ☐ ☐
6	Working unit	1=Communication Department 2=ICT 3=Strategic Plan	☐ ☐ ☐
7	Current position in the organization	1=Chief Senior Executive 2=Senior Executive 3=Manager 4=ICT Director/Manager 5=Employee 6= Other	☐ ☐ ☐ ☐ ☐ ☐

Section II: Questionnaires related with factors affecting ICT adoption. Please indicate whether you agree or disagree with each statement by ticking mark (√) on the spaces that specify your choice from the options that range from “strongly agree to "strongly disagree. Each choice identified by numbers ranged from 1 to 5.

Strongly Agree (5), Agree (4), Neutral (3), Disagree (2), Strongly Disagree (1)

S. No	Questions related to factors affecting, ICT adoption, please indicate level of your choice regarding:					
	Organizational factors:	1	2	3	4	5
1	Cost incurred in the purchase of technological instruments					
2	Employee of our bank were not fully familiar with ICT service provided by the bank					
3	Customers unwillingness or reluctance to use ICT and not familiar					

	with service provided though ICT.					
4	A lack of education and training in ICT use across your organization					
5	Lack of technical and managerial skills on the use of technology					
6	Lack of skills to implement ICT system in the organization					
Technological factors:						
1	Lack of technical support					
2	Lack of technical and managerial skills on the use technological innovation,					
3	Shortage skilled man power to implement ICT system to the level expected,					
4	limited availability of technological equipment's of ICT for the service,					
5	Lack of appropriate maintaining capacity upon failure of the system,					
Environmental Factor:						
1	Change of ICT infrastructure from time to time					
2	Lack of adequate ICT infrastructure					
3	Insufficient information about technology based opportunities					
4	Inadequate ICT infrastructure					
5	Lack of sufficient government support will affect customers' willingness to use technological innovation,					
6	Insufficient legal and regulatory frameworks to adopt ICT,					
7	Lack of competition among local bank and foreign banks on the adoption ICT					
8	Lack of sufficient awareness					
9	Increasing complexity from ICT change					
10	Insufficient information about technology opportunities					
11	A lack of co-operation between competitor organizations within your industry					
12	Using ICT in banking enables me to utilize banking services more quickly and enhance effectiveness.					

Section III: Availability and Use of ICT related questions

S. No.	Questions	Categories and codes	Response
1	What communication tools do you use in your line of work? <i>Select all that apply</i>	1=Computer 2=SW or Programs 2.1=Word processing 2.2=Spreadsheet 2.3=Database soft wares 3=Internet (WAN, LAN) 4=Data or Data warehouse 5=Company Email 6=Website 7=Mobile Phone 8=Fax 9=Radio 10=TV 11=Newspaper and Magazine	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
2	How often do you use each one of these items for information seeking and/or communicating in your organization? (<i>Indicate your response in the boxes</i>) 1=Very often 2=Often 3=Sometimes 4=Rarely 5=Never	1=Computer 2=SW or Programs 2.1=Word processing 2.2=Spreadsheet 2.3=Database soft wares 3=Internet (WAN, LAN) 4=Data or Data warehouse 5=Company Email 6=Website 7=Mobile Phone 8=Fax 9=Radio 10=TV 11=Newspaper and Magazine	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
3	How confident are you in your ability to understand and navigate ICT features of your organization? (<i>Indicate your response in the boxes</i>) 1=Very Confident 2=Confident 3=Some What Confident 4=Not Confident At All	1=Computer 2=SW or Programs 2.1=Word processing 2.2=Spreadsheet 2.3=Database soft wares 3=Internet (WAN, LAN) 4=Data or Data warehouse 5=Company Email 6=Website 7=Fax	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
4	How often does your company update the contents of its website?	1=Very often 2=Often 3=Sometimes	☐ ☐ ☐

		4=Rarely 5=Never	
5	Are there communication procedures in your organization?	1=Yes 2=No	☐ ☐
6	How do your communication processes get documented?	1=Automated and archived 2=Paper documented	☐ ☐
7	Have you ever received any ICT training?	1=Yes 2=No	☐ ☐
8	Do you access company database that enable you to make decision?	1=Yes 2=No	☐ ☐
9	Is there a software system that makes statistical analysis and forecasts?	1=Yes 2=No	☐ ☐
10	If 'Yes' to Q8, is the software system for accessing database and analysis interactive and easy to use?	1=Yes 2=No	☐ ☐
11	If 'Yes' to Q8, were you trained to operate the software system?	1=Yes 2=No	☐ ☐
12	If 'Yes' to Q8, do you believe that the software system is stable, that is, the system has a clean data and regular update?	1=Yes 2=No	☐ ☐

Section IV: Question related to challenges of ICT adoption. The following factors considered in your organization as challenges for the adoption of ICT? Please indicate whether you agree or disagree with each statement by ticking mark (✓) on the spaces that specify your choice from the options that range from “strongly agree to ”strongly disagree. Each choice identified by numbers ranged from 1 to 5.

1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree.

Evaluation Statements on Challenges		Rating Points				
		1	2	3	4	5
Perceived Challenges						
1	ICT in banking may process payment incorrectly because of network challenges					
2	Lack of confidence with the security risk is challenges affect users decision to adopt ICT system					

3	Customers of our bank fear risk and security attacks to use ICT					
4	I am afraid of using ICT in banking, because other people may be able to access my account					
5	Privacy has an influence on using ICT in banking					
6	Reliability is one of the challenges to use ICT in banking					
7	Lack of trust is considered as challenges for the adoption of ICT in bank					
8	Absence of education and training in ICT use across your organization					
9	Lack of skills to implement and use of ICT in the organization					
10	Shortage of support on technical use of ICT in our bank					

Section IV Question related to benefit indicators of ICT adoption

Please indicate whether you agree or disagree with each statement by ticking mark (✓) on the spaces that specify your choice from the options that range from “strongly agree to ”strongly disagree. 1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

Benefit type and its indicators:

S. No	Strategic Benefits	1	2	3	4	5
1	Keeping up with competitors and enhancing a competitive advantage, achieving value from ICT					
2	Savings in supply chain management and time					
3	Expanding the capabilities of your organization					
4	Avoiding the need to increase the workforce and improve skill of employees					
5	Align business strategies to directly support organizational goals					
6	Enhancing employee productivity, profitability, enhance competitiveness					
7	Provide new products or services to customers and employee					
8	Improve relationships with customers and easy communication, which is not limited by distance to communicate anywhere and time.					
	Informational Benefits	1	2	3	4	5
1	Enabling the organization to respond more quickly, easier and faster access to information					
2	Faster and easier access to internal and external information,					
3	Improving information accuracy, easy withdrawal and fund transfer					
4	Providing information in more useful and useable formats accurate and reliable					
5	Allows me to manage my communication better more quickly, low cost and easily					
6	Establishing to links with other organizations such as					

	suppliers and clients banks					
7	Increased flexibility for manipulation of content and format of information.					
	Transactional benefit	1	2	3	4	5
1	Reducing operating costs, reduce number of customers coming to the banks hall and easy withdrawal and fund transfer and increase efficiency,					
2	Used for savings supply chain management,					
3	Increasing return on financial assets and staff cost savings, lower price					
4	Improved business efficiency of employees, business processes, and financial resources.					
5	Simplify operational activity and efficient services to customers					
	Organizational Transformation	1	2	3	4	5
1	Improved skill levels and services enhanced due to the use of the ICT					
2	Integration of new ICT into existing business processes across key functional areas					
3	Expand capabilities of Organization					
4	Improve structure and processes across organization					

Section VI: Strategic Communication

Below are lists of statements pertaining to measure on **Strategic Communication**. Please indicate whether you agree or disagree with each statement by ticking mark (√) on the spaces that specify your choice from the options that range from “strongly agree to ”strongly disagree. Each choice identified by numbers ranged from 1 to 5.

1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree.

Evaluation Statements of Strategic Communication		Rating Points				
		1	2	3	4	5
1	Your organization provide information or evidence of its excellence or recognition to clients or customers using ICT					
2	Your Organization communicate its information to Clients Using other printed platforms					
3	You include stakeholder to get across message of the organization that aims to establish stability and predictability of the institution					

4	Your organization practice audience segmentation, to select and analyze your audience for your communication					
5	Your organization made selection and analysis for internal and external communication					
6	Your Organization align communication goal with the organization goal using ICT					
7	My Organization designed different message platform of communication					
8	My Organization measure success of its communication					

Section VII: Organizational performance evaluation question

Below are lists of statements pertaining to measure organizational performance using ICT adoption. Please indicate whether you agree or disagree with each statement by ticking mark (✓) on the spaces that specify your choice from the options that range from “strongly agree to "strongly disagree. Each choice identified by numbers ranged from 1 to 5.

1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree.

S. No	Organizational performance	1	2	3	4	5
1	ICT use reduce cost of service delivery of our organization					
2	ICT using has create interrelationships with other organization and shares information and other costs					
3	ICT using in our organization increase and expand our branch and easily communicate					
4	Our organization has gained competitive advantage due to its ICT adoption over other organization.					
5	ICT using in our organization increase new product and service					
6	ICT enables organization to achieve its objective and communicate more quickly, easily and decreased labor expenses in our Organization					
8	ICT provide relevant, timely and accurate information for effective communication and decision- making.					
7	ICT use affect the employees performance and their productivity (efficiency)					
9	ICT increase the company profitability and enhanced its competitiveness efficiency					
10	ICT can integrate and used in existing business processes across key functional areas in your organization					

Interview question

Appendix B: Interview guide



Dear Sir/Madam,

Dear Respondent, I am Feyisa Girma from Addis Ababa University, School of Journalism and Communication. I am conducting research on “***Trends and Practices of Communication Technology Adoption for Enhancing Effective Communication and Organizational Performance: Evidence from Ethiopia’s Banking Industry***”. This research is conducted in fulfillment of the Doctoral Degree in Media and Communication Studies. The study intends to examine and investigate the overall effect of ICT adoptions. It also aims at exploring the practice and trends of ICT adoption as a tool of strategic communication and exploring factors which are critical to determine the implementation of ICT for strategic communication and organizational performance in the case of banks in Ethiopia. I kindly request that you provide modest and truthful answers. If you need further clarification, please feel free to interrupt me while answering the following questions. Thus, I would like to assure you that the information you provide in this study will be used for the stated purpose and will be kept confidential. In any sort of report I might publish, I will not include any information that will make it possible to identify any respondent. Thank you in advance for your cooperation and assistance, despite your hectic schedule, in sharing your valuable experience and opinion.

I appreciate the useful information you will be providing for me in advance!

With best regards,

Feyisa Girma,

Doctoral Candidate at AAU

Mobile: 0912015587

Email: koketibsa@gmail.com

Thank you again!!!

Interview guide Questions:

1. When was the first ICT adopted by your organization?
2. Would you estimate approximately the number of years your organization has been using computers?
3. In your opinion, what are the key factors that push your institution to adopt ICT?
4. How has adoption of ICT impacted your organization? What value it provides and adds?
5. How does ICT adoption contribute and influence on the performance of decision making in your organization?
6. Do you practice stakeholder's segmentation analysis for your organizational Communication? If yes,
7. How are the selection and analysis made for internal and external communication?
8. Do you align communication goal with organizational using ICT?
9. Do you measure your communication using technology
- 10 Do you measure success of your organizational communication? If yes,
How do you measure success of your organizational communication?
11. What do you think are the basic challenges in adopting ICT as a tool of communication in your organization?

Appendix C: List of respondents Interview:

CBE ICT vice president (Interview Data edited, Pos. 57)

CBE MIS director (Interview Data edited, Pos. 24)

CBE security Head Director (Interview Data edited, Pos. 32)

CBE application management and Customization Director, (Interview Data edited, Pos. 50)

CBE IS Infrastructure Director, (Interview Data edited, Pos. 52)

CBE Marketing & Communication Director (Interview Data edited, Pos. 81)

Awash Vice president and chief IS (Interview Data edited, Pos. 8)

Awash ICT service Director (Chere, Awash Bank), (Interview Data edited, Pos. 23)

Awash Security director (Interview Data edited, Pos. 17)

Awash Bank (System Development and Customization) (Interview Data edited, Pos. 19)

Awash ICT Infrastructure director (Interview Data edited, Pos. 31)

Awash Bank, Marketing and Communication, director (Interview Data edited, Pos.)

Dashen Chief information Officer (Interview Data edited, Pos. 12)

Dashen Bank, (Application office Director)
(Interview Data edited, Pos. 25-26)

Dashen Bank (ICT infrastructure Director) (Interview Data edited, Pos. 38)

Dashen Bank IS (System security Director (Interview Data edited, Pos. 40)

Dashen Bank, Marketing and Communication, Branding (Interview Data edited, Pos. 45)

Dashen Strategic and Innovation Management (Interview Data edited, Pos. 97).



ቀን: ነሐሴ 25/2012 ዓ.ም

ቁጥር: 2/ከት/ 262/2012/2020

ለ: ኢትዮጵያ ንግድ ባንክ
አዲስ አበባ

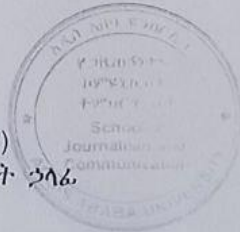
ጉዳዩ:- ትብብርን ይመለከታል

በአዲስ አበባ ዩኒቨርሲቲ የጋዜጠኝነትና ኮሙኒኬሽን ት/ቤት ተማሪ የ "PhD" የሆኑት ፈይሳ ግርማ መታወቂያ ቁ. GSR/5845/09 የሆነ " Trends and Practices of Communication Technology Adoption for Enhancing Stratgic Communication and Organizational Perfomances: Evidence Form the Ethiopia Banking Sector" በሚል ርእስ የ "PhD" የመመረቂያ ጽሑፍ እየሰሩ ይገኛሉ።

ስለሆነም ጥናቱን በተገቢው መልኩ እንዲያከናውኑ ለጥናታቸው መደገፊያ መረጃዎች እንዲሰጣቸውና አስፈላጊውን ትብብርም ይደረግላቸው ዘንድ በአክብሮት እንጠይቃለን።

ከሰላምታ ጋር

መከራይ መካሻ (ረዳት ፕሮፌሰር)
የጋዜጠኝነትና ኮሙኒኬሽን ት/ቤት ኃላፊ





የኢትዮጵያ ንግድ ባንክ
COMMERCIAL BANK OF ETHIOPIA
INTER DEPARTMENTAL MEMORANDUM

DATE : Aug 29, 2019
ቀን
TO : To - To whom it may concern
ላ
FROM : Manager - Training Operation
ከ
SUBJECT : Request for Cooperation
ጉዳይ

It is a usual practice of our Bank to accept student from Universities/College to participate in the Research program.

In view of that student **Ato. Feyisa Girma (ID No5845/09)** from **Addis Abeba University** is assigned to your office from **Aug 29, 2019** to collect Information for the Title of **“Trends and Practices of Communication Technology Adoption for Strategic Communication and Decision Making to Improve Organizational Performance : Evidences from Commercial Bank of Ethiopia ”** during his in your office.

Please therefore, provide his required support and to information for the research propose.

Regards

Sablewengael Tilahun

NB:- The student should bring his ID during his stay in the office .

RM/



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ቁጥር: 2/ክት/ 262/2012/2020

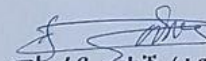
ለ: አዋሽ በንክ
አዲስ አበባ

ጉዳዩ:- ትብብርን ይመለከታል

በአዲስ አበባ ዩኒቨርሲቲ የጋዜጠኝነትና ኮሙኒኬሽን ት/ቤት ተማሪ የ "PhD" የሆኑት ፈይሳ ግርማ መታወቂያ ቁ. GSR/5845/09 የሆነ " Trends and Practices of Communication Technology Adoption for Enhancing Stratgic Communication and Organizational Performances: Evidence Form the Ethiopia Banking Sector" በሚል ርእስ የ "PhD" የመመረቂያ ጽሑፍ እየሰሩ ይገኛሉ።

ስለሆነም ጥናቱን በተገቢው መልኩ እንዲያከናውኑ ለጥናታቸው መደገፊያ መረጃዎች እንዲሰጣቸውና አስፈላጊውን ትብብርም ይደረግላቸው ዘንድ በአክብሮት እንጠይቃለን።

ከሰላምታ ጋር


መከራያ መካሻ (ረዳት ፕሮፌሰር)
የጋዜጠኝነትና ኮሙኒኬሽን ት/ቤት ኃላፊ





ቀን: ነሐሴ 25/2012 ዓ.ም

ቁጥር: 2/ኮት/ 262/2012/2020

ለ: ዳሽን በንክ
አዲስ አበባ

ጉዳዩ:- ትብብርን ይመለከታል

በአዲስ አበባ ዩኒቨርሲቲ የጋዜጠኝነትና ኮሙኒኬሽን ት/ቤት ተማሪ የ "PhD" የሆኑት ፈይሳ ግርማ መታወቂያ ቁ. GSR/5845/09 የሆነ " Trends and Practices of Communication Technology Adoption for Enhancing Stratgic Communication and Organizational Performances: Evidence Form the Ethiopia Banking Sector" በሚል ርእስ የ "PhD" የመመረቂያ ጽሑፍ እየሰሩ ይገኛሉ።

ስለሆነም ጥናቱን በተገቢው መልኩ እንዲያከናውኑ ለጥናታቸው መደገፊያ መረጃዎች እንዲሰጣቸውና አስፈላጊውን ትብብርም ይደረግላቸው ዘንድ በአክብሮት እንጠይቃለን።

ከሰላምታ ጋር

መከራይ መካሻ (ረዳት ፕሮፌሰር)

የጋዜጠኝነትና ኮሙኒኬሽን ት/ቤት ኃላፊ



Appendix D: Statutes of the Articles

Location of article in the dissertation	Title of the article	Name of the Journal	Status
Chapter 2	Determinants of ICT Adoption for Strategic Communication: Evidences from Selected Banks in Addis Ababa	Ethiopian Journal of Development Research (EJDR) Volume 44 Number 2 October 2022	Published
Chapter 3	The Influence of Information Communication Technology Adoption Practices on Strategic Communication of Banks in Ethiopia	Ethiopian Journal of Social Sciences and Language Studies Ethiop.j.soc.lang.stud. Vol. 10 .No.2, pp.23-35 Vol.10 No. 2 December 2023	Published
Chapter 4	The Effects of ICT adoption and Strategic Communication on Organizational Performance in Ethiopian Banking Sector	Submitted and Under review	
Chapter 5	Exploring the practices of technology adoption for strategic communication at state and privately-owned banks in Ethiopia	Submitted and Under review	