

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

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## **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  $p$ -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

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## 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 & Kupangwa, 2016).

According to Beckinsale and colleagues (2011), ICT entails a digital tool of software, hardware, telecommunications and information management systems, applications and devices used to create, produce, analyze, process, package, distribute, retrieve, store, and, transmit data and information electronically. Furthermore, Mirani & Lederer (1998) and 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, Manochehrin and others (2012), Mutula & 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 Kurtzke and Setkute (2020), Jones and colleagues (2011) and 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.

### **1.1. 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; Manojehri 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, Adugna et al., (2021), Ayana (2014), Tesfaye and Dereje (2019), Gardachew (2010) 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 (Ayana, 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 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)

<b>Banks</b>	Year of establishment	Numbr of branches	Total number of employees	Total number of Customers	Total Capital in Millions of Birr	% Share	Total Asset in Billion
<b>Commercial Bank of Ethiopia</b>	1942	2006	63,382	31.4 million	52,387.8	33.3	990.9 billion
<b>Awash Bank</b>	1994	692	17,393	7.8 million	14,036	7.3	183.4 billion
<b>Dashen Bank</b>	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 \$14,036 million, 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 \$ 9,677 million, 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 were part of the selected offices for this study. The target population 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 496 (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 496, 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,  $i = 1, 2 \dots n$

$\tau$  denotes the level of ICT adoption,

$\alpha_o$  denotes intercept,

$\beta$  denotes path coefficients from exogenous factors to level of ICT adoption, and

$\varepsilon$  denotes error in prediction

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

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

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

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

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

$k = 1, 2 \dots 9$

$l = 1, 2, 3, 4$

$\alpha_o$  denotes intercept,

$\beta$  denotes path coefficients from exogenous factors to observed items, and

$\varepsilon$  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. Respondents 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 (Table 2).

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*).

Table 2. Respondents' Background Characteristics by Bank Ownership, Addis Ababa 2021

Variables and characteristics		Ownership			
		Public (N=110)		Private (N=196)	
		No.	%	No.	%
<b>Sex</b>	Female	26	23.64	29	14.80
	Male	84	76.36	167	85.20
<b>Education level</b>	Bachelor	61	55.45	100	51.02
	Masters and above	49	44.55	96	48.98
<b>Age group</b>	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
<b>Work experience</b>	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
<b>Marital status</b>	Single	50	45.45	70	35.71
	Married	60	54.55	126	64.29
<b>Department</b>	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).

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. 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* ).

Table 3. Comparison of Benefits of ICT Adoption Bank Industry in Addis Ababa, Ethiopia 2021 (Results of T-tests)

<b>Variables</b>	<b>Average Score (Standard Error)</b>		<b>Mean Difference (Government Vs Private)</b>	<b>P- Value</b>
	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*

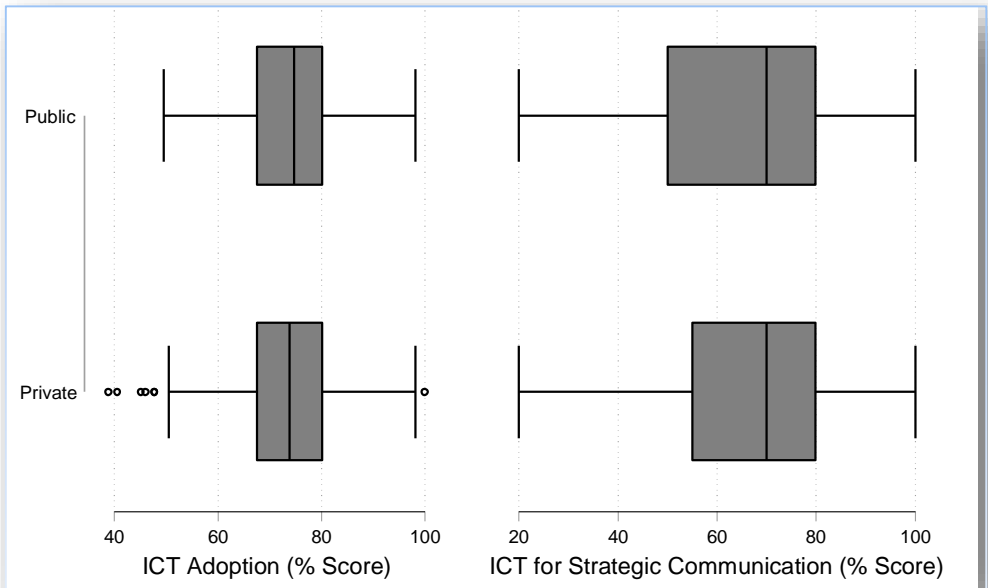


Figure 2. Box Plot of Level of ICT Adoption and Use for Strategic Communication in the Bank Industry, Ethiopia 2021

### 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 3*). The status of ownership of banks was not associated with ICT adoption or modified the relationship between the factors and ICT adoption.

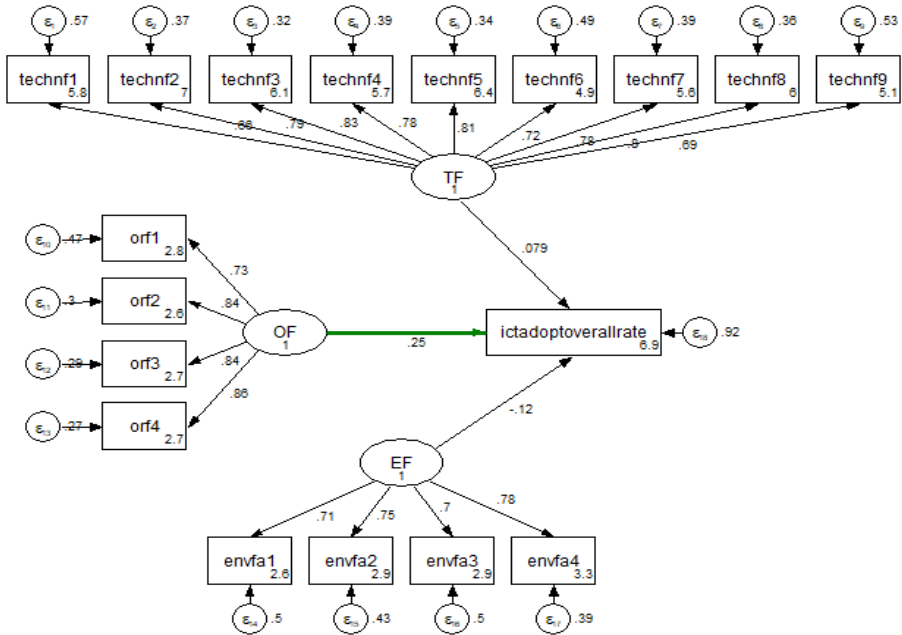


Figure 3. Result from Structural Equation Model for ICT adoption and use for strategic communication private and public banks, Addis Ababa 2021

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 (Herzallah & Mukhtar, 2015; Premkumar, 2003; Tarutė & Gatautis, 2014). 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 were 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, Ayana (2014), Kurtzke and Setkute (2020), Ramdanie and others (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 Roggers (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* ). These results were consistent with the findings of Ayana (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 (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 contests of determinant factors of ICT adoption. Moreover, establishing a clear set of frameworks and investing on ICT infrastructure in

the banking sector of Ethiopia also very important to achieve global competitiveness.

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### **Competing of Interest**

The authors declare that there is no conflict of interest.

### **Authors' Contributions:**

**Author 1:** Conceptualized and developed the study concept, designed the tools, drafted and reviewed the literature, gathered the data, analyzed the data, discussed the findings, wrote the manuscript, and ultimately edited the manuscript in response to reviewer comments.

**Author 2:** Contributed to the study's design, worked on tool validation, and helped with manuscript editing.

All authors read and approved the final manuscript.

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