

Addis Ababa
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ADDIS ABABA UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
DEPARTMENT OF ACCOUNTING AND FINANCE

RESEARCH

ON

Determining Factors Affecting the Adoption of E-Commerce in the perspectives of Ethiopian
Banks

(A Research Thesis Submitted to the Addis Ababa University College of Business and
Economics in partial fulfillment of the requirements for the Degree of Master of Accounting
and Finance)

By: Nega Bisrat ID No. GSE/9408/09

Advisor: Temesgen Worku (PhD)

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ENDORSEMENT

This thesis Research has been submitted to ADDIS ABABA UNIVERSITY COLLEGE OF BUSINESS AND ECONOMICS DEPARTMENT OF ACCOUNTING AND FINANCE for examination with my approval as University advisor.

Dr. Temesgen Worku

Advisor

Signature & Date

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First and foremost, I would like to thank my Almighty God for blessing me with health, being here and for enabling me to accomplish my research paper. Leave alone the paper; everything is unthinkable without Almighty God. Even he will give us life after death, if we believe on him.

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Declaration

I declare that this thesis proposal is my original work and prepared under the guidance of Dr. Temesgen Worku. All the sources of material used for this thesis proposal have been duly acknowledged. I further confirm that this thesis proposal has not been submitted either in part or in full to any other higher learning institutions for the purpose of awarding any degree.

Abstract

The primary purpose of this study was to investigate the factors affecting the adoption of e-commerce in banking industry in Ethiopia. The study was applied to both state owned and private banking sector which are engaged directly in banking service in Ethiopia. The adoption and use of e-commerce in bank sector is regarded as a tool to widen online banking service and improve efficiency and effectiveness of business operations. More specifically, three contexts (technological, organizational and environmental) were hypothesized which influence the adaption of e-commerce in banks in Ethiopia.

Reasons for focusing on this issue is First, the history of banks around technology adoption like card banking, mobile banking, internet banking & other online banking service were very successful, Second, very few research on ecommerce adoption in Ethiopia and specially no research conducted on ecommerce adoption for banking sector. Thirdly, banks are the most convenience place to accesses the potential markets. The model developed includes IT Capability, Perceived Benefit, Perceived Complexity, Organizational Competence, Supporting Industries and Government Readiness

To conduct the study, the qualitative and quantitative methods were used. Relevant data was collected from randomly selected sample of 137 employees, working in both government and private banks in Addis Ababa. Data was collected from participants using interview, structured questionnaire & focused group discussion. Correlation and multiple linear regressions were employed to analyze the collected data.

The major findings of this study indicated that with the exception of perceived complexity, all other independent variables organization competency, IT capability, perceived benefits, supporting services and government support have statistically significant influence on the adoption of e-commerce, Also, the incorporated model presents a more wide-ranging explanation of e-commerce adoption in organizations and possibly will serve as a foundation for future research on same area.

Keywords: E-Commerce, E-commerce adoption.

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ACRONYMS AND ABBREVIATION

ATM	Automated Teller Machine
ATS	Automated Transaction System
B2B	Business-to-business
B2C	Business- to-consumer
C2C	consumer-to-consumer
CBE	Commercial bank of Ethiopia
E- Commerce	Electronic commerce
EB	E-commerce Adoption
E-business	Electronic business
EDI	Electronic Data Interchange
EDRMS	Electroning Documentation Record Management System
ERP	Enterprises R, source Planning
G2B	Government to Business
G2B	Government to Business
G2C	Government to Consumer
GR	Government Readiness
ICT	Information and Communications Technology
ISP	Internet Service Provider
IT	IT Capability
MS	Top Management Support
NBE	National Bank of Ethiopia
NGOs	Non Governmental Organizations
OC	Organizational Competence
OIB	Oromia International Bank
P2P	Peer-to-Peer
PB	Perceived Benefits
PEER	Perceived environmental e-readiness
POER	Perceived organizational e-readiness
POS	Point OF Sale
PX	Perceived Complexity

SI	Supporting Industries
SMEs	Small & Medium Enterprises
TAM	Technology acceptance model
TPB	Theory of planned behavioral
UN	United Nation

CHAPTER ONE: INTRODUCTION

This chapter presents the background of the research, back ground of the organization, statement of the problem, research objectives, research questions, and significance of the study, scope of the study and organization of the study.

1.1 Background of the Study

Recent years have witnessed a great development of the Internet led to a growing number of Internet users in the world, which has increased the importance of e-commerce. The importance of this stems from the lack of any geographical or political obstacles in front of e-commerce as the business up to millions of consumers in the whole world. Electronic commerce or “e-commerce” is defined as doing business electronically. Electronic commerce covers any form of business or administrative transaction or information exchange that is executed using any information and communications technology (ICT)” (Othman, 2015).

To better understand Electronic commerce (commonly known as E-commerce or e-Commerce), one should distinguish between e-commerce and electronic business (e-business), E-commerce means electronic buying and selling on the Internet. E-business is any electronic transaction (e.g., information exchange), which subsumes e-commerce. E-Business encompasses all the activities that a firm performs for selling and buying services and products using computers and communications technologies as such e-business includes a host of related activities, such as on-line shopping sales force automation supply shopping, automation, chain management, electronic payment systems, web advertising and order management (Kenneth Mlelwa, 2011).

Again, e-commerce is a subset of e-business. However, sometimes the two are used interchangeably. Consequently, E-business, a major contributor to the popularity of global information technologies, is a system that includes not only those business that center on buying and selling of goods and services to generate revenue, but also those transactions that support revenue generation.

E-commerce is defined as “the process of buying, selling, transferring, or exchanging products, services, and/or information via computer networks, mostly through the Internet and intranets” (Turban et al., 2012).

There are various types of e-commerce models, for example, business- to-consumer (B2C), e-banking, business-to-business (B2B), consumer-to-consumer (C2C), peer-to-peer (P2P), and mobile commerce (Laudon & Traver, 2010).

There are extensive works done on the area of factors determining ecommerce adoption in developing countries in general. But there is little well comprehensive research done that shows, factors determining e-commerce adoption in the case of Commercial Banks in Ethiopia. Therefore, this study's aim was at to investigate factors that determining ecommerce adoption in the case company.

1.2 Overview of Banks in Ethiopia

The GOE allowed the establishment of private banks and insurance companies in 1994, but continues to prohibit foreign ownership in this sector. The Ethiopian banking sector is currently comprised of a central bank (The National Bank of Ethiopia or NBE), two government owned banks and sixteen private banks. These are:- Abay Bank S.C, Addis Bank, Awash International Bank, Bank of Abyssinia, Berhan International Bank, Bunna International Bank, Commercial Bank of Ethiopia, Construction and Business Bank, Cooperative Bank of Oromia, Dashen Bank, Dehub Global Bank, Development Bank of Ethiopia/DBE

Established in 1963, the National Bank of Ethiopia (NBE) started its operations in 1964. The Ethiopian central bank issues banking licenses and supervises banks in Ethiopia; regulates the availability, supply, and cost of the country's money and credit; oversees and administers its international reserves; and sets and controls its foreign exchange rates.

Retrieved on Feb. 28, 2019, from

<https://corporatefinanceinstitute.com/resources/careers/companies/top-banks-in-ethiopia/>

Under the Growth and Transformation Plan II (GTP II), NBE increased the minimum capital for banks to operate to 2 billion Birr (\$90 million) and requires all sixteen currently operating private banks to increase their paid up capital to that amount by 2020. As of mid-2018, foreign banks are not permitted to provide financial services in Ethiopia and the market is closed to foreign retail banks, but the sector may be subject to reforms as the government of Prime Minister Abiy Ahmed pursues broad economic reforms. Currently, Ethiopia has allowed some foreign banks to open liaison offices in Addis to facilitate credit to companies from their countries of origins. Chinese, German, Kenyan, Turkish, and South African banks have opened liaison offices in Ethiopia.

Based on the most recently data, the Commercial Bank of Ethiopia (CBE) mobilizes more than 60 percent of total bank deposits, bank loans and foreign exchange. NBE controls the bank's minimum deposit rate, which now stands at 5 percent, while loan interest rates are allowed to float. Real deposit interest rates have been negative in recent years mainly due to inflation.

The state-owned Commercial Bank of Ethiopia (CBE) dominates the market in terms of assets, deposits, bank branches, and total banking workforce. The other government-owned bank is the Development Bank of Ethiopia (DBE), which provides loans to investors operating in priority sectors. DBE extends short, medium, and long-term loans for viable development projects, including industrial and agricultural projects. DBE also provides other banking services such as checking and saving accounts to its clients.

NBE aims to foster monetary stability and a sound financial system, maintaining credit and exchange conditions conducive to the balanced growth of the economy. NBE may engage with banks and other financial institutions in the discount, rediscount, purchase, or sale of duly signed and endorsed bills of exchange, promissory notes, acceptances, and other credit instruments with maturity periods not exceeding 180 days from the date of their discount, rediscount, or acquisition by the bank. The bank may buy, sell, and hold foreign currency notes and coins and such documents and instruments, including telegraphic transfers, as they are customarily employed in international payments or transfers of funds. Lack of access to finance is a significant constraint for local businesses. In 2015, NBE allowed commercial banks to provide mobile banking service and agent banking. Pursuant to NBE's permit, many of the commercial banks added mobile and agent banking in their line of services. Retrieved on Feb. 28, 2019, from <http://export.gov/usoffices>. Last Published: 12/11/2018

1.3 Statement of the Problem

The rapidly growing information and communication technology (ICT) is knocking the front door of every organization in the world, where Ethiopian banks would never be exceptional. In the face of rapid expansion of electronic payment (E-payment) systems throughout the developed and the developing world, Ethiopian's financial sector cannot remain an exceptional in expanding the use of the system (Gardachew, 2010). Technological innovations play a crucial role in banking industry by creating value for banks and customers, that it enables customers to perform banking transactions without visiting a brick and mortar

banking system. On the other hand e-commerce has enabled banking institutions to compete more effectively in the global environment by extending their products and services beyond the restriction of time and space (Turban, 2008). However, mirroring the development of e-commerce, the adoption and diffusion of the system is not yet developed in Ethiopia.

All banks in Ethiopia should clearly chart out the time schedule for technological advancement especially around ecommerce. Some of the banks even today do not have their own market place to sell their own product to their customer.

As it is stated in different e-commerce literature some of the problems related with adoption of e-commerce are: Low level of internet penetration and poorly developed telecommunication infrastructure. According to Jensen (2003), most countries in Africa, except South Africa, have Internet infrastructure only in their major cities. Lack of suitable legal and regulatory framework for e-commerce and payments is another impediment for the adoption of new technology in banking industry. Ethiopia has not yet enacted legislation that deals with e-commerce concerns including enforceability of the validity of electronic contracts, digital signatures and intellectual copyright and restrict the use of encryption technologies and High rates of illiteracy. Low literacy rate is a serious impediment for the adoption of e-commerce in Ethiopia as it hinders the accessibility of banking services. For citizens to fully enjoy the benefits of E-commerce, they should not only know how to read and write but also possess basic ICT literacy (Gardachew, 2010).

By gaining an in-depth understanding of the factors and conditions that influence developing country's ability to fully adopt and realize its benefits, strategic implications can be generated for the researchers and practitioners regarding how to promote the growth of e-commerce in the developing countries.

However, despite the importance of these adoptions, limited studies are currently available in developing countries, the concern of almost all studies were revolve around the prospects and challenges of e-commerce in SME's, but very few in banking industries. Therefore, more studies still required to understand the relevance of e-commerce in the country to identify areas in which the country lags behind that inhibit e-commerce adoption and diffusion.

Even if, no legislation is enacted this time, all banks should be ready for the adoption of e-commerce beforehand, and will be used as a tool to show to government how the legal issue this time is very critical. So, this study is very relevance in determining factors affecting the adoption of e-commerce in banking industries.

Therefore, the current study's main area is determining "Factors Affecting the Adoption of electronic commerce: Evidence from Ethiopian Banks". There are three reasons for concentrating on this topic: 1) Limited research on ecommerce in developing countries particularly in Ethiopia banking industries, 2) Ethiopia with large population size, would be a potentially profitable market for ecommerce services that assist the economy at large and 3) The banking sector has been most successful with e-banking service like card banking, mobile banking, internet banking & other online banking service in Ethiopia, that would make adoption of e-commerce very easy. E-commerce in developing countries especially Africa has not been sufficiently researched (Molla & Licker, 2005). Taking this into consideration, the researcher can be sure that the findings from research conducted in developed countries are not always applicable or transferable to developing countries. So, isn't it essential to conducting a separate research in Ethiopia?

These are not the only reason for conducting of this study, but also because of limited understanding of what drives ecommerce adoption among businesses in developing countries (Molla & Licker, 2005).

E-commerce for the banking industries will help the customers of the bank to transact and make payment online, because both the buyers and sellers will open and maintain accounts in the bank to transact online, this will help the banks to mobilize deposit and expand customer's base. If we think country wide, it will help by creating cashless society.

Some empirical Evidences show that related studies are conducted by different researchers in different parts of the world. However, there are limited numbers of studies conducted in Ethiopia on the adoption of e-commerce. Very few studies were conducted particularly in connection with e-commerce are stated as follows:-

Ayalew et al. (2010) conducted research on E-commerce Readiness in Ethiopia: A Macro-level Assessment. The aim of the study was focused on measuring & identifying the nation's standing regarding its e-commerce readiness.

Mola, (2012) conducted research on Electronic Commerce: Opportunities and Challenges of general importers in Addis Ababa. The aim of the study was focused on assessing the current practices, opportunities, and challenges of E-commerce in Addis Ababa city particularly on general imports.

Singh et al. (2016) conducted research on Consumer acceptance of apparel e-commerce– Ethiopia. The aim of the study was focused on determining the main barriers that prevent the consumers from Online apparel product shopping.

Tilahun & Kifle (n.d.), conducted research on E-commerce Framework for Micro and Small Enterprises in Ethiopia. The primary purpose of this study was to develop an e-commerce framework for MSEs in Ethiopia.

Hassen & Svensson (2014) conducted research on The Role Of E-commerce For The Growth Of Small Enterprises in Ethiopia, The paper aim was to define an adoption level of e-commerce in small Ethiopian enterprises and show that their business requirements and perceived benefits of e-commerce are related to business growth.

As can be seen from the above empirical evidence study conducted on e-commerce adoption, none of them focused on financial institution (banks). Thus, there is a need for more research to improve understanding of the drivers of ecommerce in Ethiopia commercial banks (both private and Governmental) . Gathering empirical evidence from different environments will make it possible to generalize on adoption of ecommerce (Spanos et al., 2002).

According to Guardia (2001) banks can play a pivotal role in ecommerce at two levels. First, they can get ready with payment and communication systems & infrastructure necessary for ecommerce. Secondly banks can deliver services via ecommerce. As different study shows electronic banking is one area of ecommerce that has proven successful in Ethiopia. Ethiopian banks are increasingly seeking to provide general banking facilities online like internet banking, mobile banking, Agent banking etc. So that, conducting a research on ecommerce activity in Ethiopian banks will provide us an indicator to understand its benefit and to determine those factor which impede the adoption of ecommerce in the banking industry in Ethiopia.

Therefore, as discussed above almost all researchers in Ethiopia explore the factors that influence the adoption of e-commerce were limited in one way or another & didn't observe the current big & very critical issue in connection with payment & settlement aspects of e-commerce (i.e. the banking industry), & remain a largely unexplored area, Thus, this study conducted by focusing on the banking industry, that play a pivotal role for the success of ecommerce adoption & it attempts to add something to knowledge gap & to bridge in the literature about e-commerce and shed some light on the adoption of e-commerce by the

banking industry. Therefore, this study was designed to identify the e-commerce adoption situation in Ethiopia generally, in Ethiopian commercial banks as the case study and particularly focused on the determination of factors that affect adoption of e-commerce system.

1.4 Research objective

A research was guided by an objective; this section presents the intended outcomes of this study. The formulated main objective and the specific objective that elaborate the research are presented below:

1.4.1 General Objective

The general objective of this study is to investigate factors that influence adoption of e-commerce in Ethiopia particularly in commercial banks in Ethiopia as the case study. E-commerce is different from e-banking, in the way that; e-banking is just simply transferring money from one account to another account; that is all; simply transferring money is end of the story. But e-commerce is doing business including transferring money online, so e-commerce embrace both buying & selling and e-banking in single platform.

In this study any type of e-commerce activity can be considered, since the focus is availing payment gateway for all business to transact online.

1.4.2 Specific Objectives

The specific objectives of this research include:

- i. To examine the influence of Perceived Technology Factors on adoption of e-commerce (i.e. Relative Advantage and Complexity).
- ii. To determine the influence of Organization Factors on adoption of e-commerce (i.e. Organizational Competence and IT Compatibility).
- iii. To investigate the influence of Perceived External Factors on adoption of e-commerce (i.e. Government e-Readiness, and support Industries).

1.5 Research Questions

In light of the research objectives stated in the above section, the research has made an attempt to find out answers to the following basic questions:

- i. How does the Perceived Technology Factors affect adoption of e-commerce in

Commercial Banks in Ethiopia?

- ii. How does Organization Factors affect adoption of e-commerce in Commercial Banks in Ethiopia?
- iii. How does Perceived External Factors influence e-commerce adoption of Commercial Banks in Ethiopia?

1.6 Significance of the Study

- ✓ The study attempts to provide a better understanding of the factors that influence the adoption of e-commerce services of commercial banks' in Addis Ababa, Ethiopia.
- ✓ This research contributes to the financial services sector, in that it brings an understanding of e-commerce with regards to the adoption of the services. It also contributes to active academic research and adds to the understanding of technology adoption and e-commerce services the case of commercial banks in Addis Ababa, Ethiopia.
- ✓ The study provides a basis for future researchers in the banking industry technology in Ethiopia. In addition, it will assist players in the e-commerce market to understand the factors influencing and challenges affecting e-commerce adoption hence enable them to come up with better services than the existing ones and assist researchers and students of information technology in gaining understanding of the current trends in e-commerce technologies and their impact.
- ✓ This study will also add to the foundation of knowledge being laid for research in e-commerce technologies.

1.7 Scope/Delimitation of the study

The study was conducted in purposefully selected commercial banks in Addis Ababa. The Banks are Commercial Banks in Ethiopia representing both government & private owned banks. Banks were selected under the probability assumption & are physically closer to the researcher and easy access of information. The population is purposely selected from all banks head office technical and business department of e-payment because ultimately e-commerce is going to be implemented in these departments.

1.8 Study limitations

While conducting this paper there was some limitation, I encountered. Some peoples in private banks were not willing to conduct face to face interview, may be due to being busy in transacting business, but regardless of the reason that they have, they didn't allow me to conduct the interview panel and in addition to that some participants didn't return the questionnaire and some of them didn't properly filled the questionnaires which cause error. The absence of prior research conducted on my topic area was also the study limitation; this was enforcing the researcher to highly depend on outside research paper. The last but not the list time was one of limitation factor.

1.9 Organization of the study

This research study entitled: “determination of factors affecting the likelihood of adoption of ecommerce ” will be organized in the following manner:

Well it is believed that you have seen the first chapter. Chapter two contains related literature review which has a detailed literature related to the content of the study. In chapter three presents the research design and methodology. Data presentation, analysis and discussion presented on chapter four. Final chapter of the study which is chapter five have summary of findings, conclusion, recommendation, and area of further investigation.

CHAPTER TWO: REVIEW OF RELATED LITERATURE

2.1 Definition of e-commerce

E-commerce has been defined in many different ways. From the variety of definitions offered, the following are the key attributes of e-commerce: e-commerce is technology mediated exchanges between parties as well as electronically based intra-organizational activities which facilitate such exchanges (Rayport and Jaworski, 2001).

E-commerce, thus, refers to conducting business via electronic media, and most commonly, the Internet. The internet or world wide web (WWW) is a network of millions of computers linked around the world through telecommunications systems, allowing for almost instantaneous transfer of data.

Several researchers such as Der, Delpachtra & Howard (2004) argue that the Internet has transformed the way in which business is done in the following ways: It (i) transcends the boundaries of time and space allowing business to be conducted at any and all the time , in any and all locations across the world; (ii) allows penetration of global markets without incurring logistical costs of access; (iii) allows organizations to offer their products and services in different locations without having to set up separate sales infrastructure in each location; (iv) allows small businesses to compete more effectively with big businesses; and (v) allows buyers and sellers to communicate and connect and reduces transactions and information costs.

2.2. Classification of E-Commerce

According to Gebrezigabihir (2001), there are different forms of classifications that are used to group E-Commerce operations depending on the parameters that is been used by the author or commentator. Listed below are some of the classifications that are used:

- Classification by seller/buyer. (Government, consumer, business, etc.)
- Classification by product or activity. (Search engine, online commercial, etc.)
- Classification by sources of revenue. (Advertising revenues, fees from referrals, etc.)
- Classification according to tasks. (Shopping, Investment, Banking etc.)
- Classification with technology. (Internet infrastructure, internet Application

framework, etc.)

While the above are varied classifications and methods, the most widely used type is the buyer/seller classification form. This is because of the description of the different parties involved in the transaction which makes reference to person or party that has made the order for the good or services to be sold, who is the seller of the goods and services and the type of transaction that is been done. Based on this, the various classifications of E-Commerce are described below as defined in classification of E-Commerce as outlined by (Turban, Mckay, hMarshall & Viehland, 2008).

2.2.1. Consumer to Consumer (C2C)

This is a type of E-Commerce transaction that is directly between individuals that is void of any human intermediary; it uses a platform that serves as an invincible intermediary. The platforms are often used for sales and auctions of online expertise and also online advertisement of personal services. Examples of these sites includes eBay, MSN.com, and other social networking site like Face book, Twitter, My Space etc fall into this category.

2.2.2. Business to Consumer (B2C)

This is a type of E-Commerce transaction that involves businesses and consumers in which the businesses sells directly to the consumer. The platform for this type of E-Commerce transactions could be for transaction purposes or relationship and brand building, with the main purpose changing consumer attitude by getting more patronage for the products and services. Here the consumer is able to compare prices before making a buying decision and also the business can relate directly with the consumer without the use of intermediaries. Sale of non-standardized products is also possible on this type platform. Examples are compUSA.com, amazon.com, indiaballs.com among others. Multinational companies like British Petroleum, Accenture are also involved in B2C E-Commerce.

2.2.3. Consumer to Business (C2B)

This kind of E-Commerce transactions can also be referred to as demand collections, Turban et al., (2008), describes it to be an avenue where individual sells products and services through the internet to other individuals and organizations. It allows for bidding in which names their price for the good and services available. Involves a situation where the customer based on his/her requirements makes an online post with a price or at least a set

budget, and businesses makes bids based on this, the customer in turn reviews the bids and makes selections as appropriate.

2.2.4. Business to Business (B2B)

This according to Turban et al., (2008) is the largest form of E-Commerce transaction based on value as both the buyers and also the sellers are business organizations with the exemption of individual consumers from such transactions.

Gebrezigabihier (2001) stressed that the earlier forms of B2B was transacted using Electronic Data Interchange (EDI), which mainly involved manufacturers and wholesalers. Gebrezigabihier (2001) went further by positing that B2B is often relational driven and most times it involves the transaction of commodities and standardized products while pricing is mostly based on quantities ordered which makes it negotiable which makes its activities transactional and also relationship building. This helps in direct consumer interaction, building customer loyalty, savings in distribution as well as transaction cost.

2.2.5. Business-to-Business-to-Customer (B2B2C)

Jelassi and Enders (2005) further describe this type of E-Commerce transaction as where a business owner provides a product or service it receives from another business to its customer without adding any extra value on the product or service provided. In this type of transaction, the client acts as an intermediary.

2.2.6. Business to Employee (B2E)

This is mostly used by for organizations that has quite a few mobile staff and/or also run a virtual office as information, goods and services are passed on to the employees through this medium.

Turban et al., (2008) describes the role of government transaction among many other groups and sectors of the economy. Other forms of E-Commerce transactions the government engages into are analyzed below:

2.2.7. Government to Consumer (G2C)

This can also be referred to as Government to Citizen, and this transactions are government related payments such as taxes, levies etc. and is also used in the dissemination of governmental information to the citizens. Mostly used by the IRS and other revenue managing agencies on behalf of the government.

2.2.8. Government to Business (G2B)

In this type of E-Commerce transaction, designated government agencies relate with business owners and organizations in the aspects of corporate taxes, levies, legal regulations etc.

2.2.9. Consumer to Government (C2G)

This according to Gebrezigabihier (2001) may also be referred to as Citizens to Government, which creates a platform for feed backs to the government on happenings and policies from individuals and pressure groups alike, as it allows the citizens to be to make valuable inputs and contribute their own quota to governance and also to make enquiries about governmental services provided to the citizens.

2.3. E-commerce adoption

There are numerous studies explaining e-commerce in organizations or firms and in various countries. E-commerce research spans topics such as technology readiness, factors for adoption, critical success factors, challenges and barriers, e-commerce solutions, and other factors influencing e-commerce. While most of the studies in developed countries focus on e-commerce success factors, payment methods, and institutions, studies in developing countries still focus on e-readiness and e-commerce adoption factors.

Molla and Licker (2005) have developed a framework for e-readiness that is necessary for initial adoption of e-commerce in developing countries. The model has two major factors—perceived organization e-readiness (awareness, resources, commitment, and governance) and perceived external e-readiness (e-readiness of the government, market forces, and support industries). Tan, Tyler and Manica (2007) extended the model to include business typology, sector, firm size, education level of employees, and technological resources when analyzing B2B e-commerce adoption in China.

Other factors for e-readiness of small and medium size enterprises (SMEs) according to Fathian, Akhavan and Hoorali (2008) are ICT infrastructure, organizational features, ICT availability, and security and legal environment. Educational awareness, strong ICT infrastructure, and government support are still significant factors according to a recent study in Saudi Arabia (Al-Ghamdi, Drew & Al-Ghaith, 2012). Recently, some studies investigated the factors influencing e-commerce adoption in a strategic view. Li and Xie (2012) suggested a strategic framework for determining e-commerce adoption and showed that

managerial attitudes, corporate strategies, external pressures and technological strength of the firms are the main factors of significance in China. Moreover, Saffu, Walker and Mazurek (2012) showed that perceived strategic value, which consists of organizational support, managerial productivity and decision aids, positively affects e-commerce adoption among the SMEs in Slovakia.

Some studies have revealed the barriers to e-commerce in different countries and organizations. Among them, one study by Alwahaishi et al., (2009) in Saudi Arabia identified education (illiteracy and lack of computer related skills), cultural factors (such as confidence on the product and availability of reimbursement) and technical factors (such as speed and efficient payment) as obstacles to e-commerce adoption. Other factors that hinder e-commerce adoption include lack of regulations and legislations; lack of awareness and education about e-commerce, cultural factors such as social approval security, availability of standards, resistance to change, negative attitude, and lack of management commitment; economic issues such as cost, social infrastructure, wage, and interest rate; taxation system; Internet security and privacy issues such as absence of laws on consumer protection, copyright, and digital signature; issue of trust infrastructure in online payment; lack of customer services; preference for actual shops; and cognitive factors such as lack of awareness and knowledge of e-commerce, and lack of valuable and useful content for consumer (Al-Gharbi et al.,2006). Financial problems and uncertainty in the e-commerce market were also suggested as two of the most important barriers in e-commerce adoption in a recent study (Solaymani, Sohaili & Yazdinejad, 2012).

Apart from studying e-commerce adoption in general, researchers have also studied factors influencing adoption of e-commerce technology in online shopping, Internet banking, B2B transactions, B2C transactions, e-marketplace, websites, mobile commerce, electronic data interchange (EDI), and electronic payment. Factors that have been found to influence the above forms of e-commerce have been discussed by Al-Qirim (2007), Iacovou, Benbasat and Dexter (1995), Jiang & Sun (2009), Wang, Archer and Zheng (2006) and others. A recent study on the Internet banking of developing countries Varaprasad, Sridharan & Unnithan, (2013) identified a new factor called conspicuousness as the determinant of Internet banking in India.

Abou-Shouk, Megicks and Lim (2012) examined the perceived benefits of e-commerce adoption by Egyptian travel agents. The study showed that marketing, strategic, and business efficiency benefits influence e-commerce adoption. Moreover, the suppliers and competitive pressures were the strong drivers whereas resource limitations, business environments, and technology attributes were key barriers for e-commerce adoption among Egyptian travel agents (Abou et al., 2012). Herrero and San Martín (2012) proposed a new approach to examine the influence of perceived risk on e-commerce adoption. The results show that technology risk is the main determinant of the online purchasing intention, and technology and vendor risk have a negative influence on the attitude towards website use.

There are also studies that compare the e-commerce adoption between the two countries. Kurnia and Ali (2012) compared B2B e-commerce adoption by the grocery industry in Indonesia and Bahrain. The results showed that the differences in the social, economic, technological and political conditions do not create barriers to adoption. As for one of the barriers, the study pointed out that there is very little government intervention to encourage adoption. Asare, Gopolang and Mogotlhwane (2012) compared the adoption of ICT in B2B and B2C e-commerce in Botswana and Ghana. The study showed similarities and differences in the challenges in the adoption in both countries. For example, frequent power disruption was a barrier in both countries, but the lack of technical knowhow was not. A study compared the adoption of e-commerce in China and Malaysia (Ooi et al., 2012) and showed that organizational readiness, innovation attributes, and cultural factors significantly influenced the e-commerce adoption in China, but the cultural factors were not as significant for e-commerce adoption in Malaysia.

Some of the studies on e-commerce adoption in African countries investigated and described the status of e-commerce adoption using descriptive surveys and statistics (Boadi et al., 2007). Migiro S. (2006) compared Web pages of travel and tourism organizations in South Africa, Kenya, Zimbabwe, and Uganda with those of USA and Western European organizations in order to identify the differences in features of Web sites such as product information, reservation, and payment. The results showed that the African websites generally lacked interaction for online transactions.

Migiro (2006) analyzed e-commerce adoption in manufacturing SMEs in Kenya and identified specific barriers using descriptive statistics. The study found the barriers to be high cost funds and lack of technical expertise. Another study that analyzed e-commerce adoption

in South Africa from the perspective of benefit Molla & Heeks (2007) did not find any benefits related to transaction cost and strategic management. They suggested some possible causes of this finding; however, more systematic analysis would be required to accurately identify them. Taylor et al., (2012) examined the factors that affect Internet and e-commerce adoption in Ghana. The result showed that perceived benefits of the technology, lack of qualified staff, and limited resources were the internal factors whereas the limited number of Internet Service Providers (ISP), lack of online payment process, and limited availability of online banking services were the external factors that influenced e-commerce adoption in Ghana.

Another recent descriptive study on the African countries is Mashanda et al. (2012) that explores the factors that influence B2C e-commerce adoption by SMEs in Zimbabwe. It showed that environmental factors such as unreliable network infrastructure and the unreliability of electrical power have a huge impact on the decision to adopt e-commerce.

Other studies on e-commerce adoption in African countries are based on models that explore factors determining e-commerce adoption (Molla & Licker 2005). They suggested factors that affect e-commerce adoption in South Africa from the perspective of e-readiness.

They used factors based on perceived organizational e-readiness (POER) and perceived environmental e-readiness (PEER) as determinants of e-commerce adoption. The results showed that both organizational and environmental considerations were important. Furthermore, Nasri and Charfeddine (2012) explored the factors affecting Internet banking adoption in Tunisia based on the technology acceptance model (TAM) and the theory of planned behavior (TPB). Agnes W, 2013 has also further discussed on Factors Influencing Adoption of E-Commerce among Youth Entrepreneurs in Nakuru Town, Kenya. The findings established that, the number of small enterprises that had so far adopted some aspects of e-commerce was low. The findings further point to the strong influence of perceived benefits, internet diffusion and security/ privacy concerns on adoption of e-commerce. Internet access patterns influence but not as strongly as the other three attributes.

And other studies on the area of e-commerce stipulated by Oluwaseun (2013), about E-Commerce in Developing Nations: Issues and Challenges concerning consumer attitude in the Nigerian Market. From the result of the research, it was clear that the issues and challenges notwithstanding, consumer attitude is on the positive side but issues of trust/confidence in the system needs to be addressed as well as improvement in infra-

structure especially internet supply which is the platform on which E-Commerce stands, also recommendations for further studies and also constant attitudinal checks must be performed regularly as E-Commerce is an evolving trend, and as it evolves, consumer attitude need to be evaluated to ensure its survival in developing counties.

Similar studies had also conducted in Ethiopia, by different researcher and the findings were shown below:

Tizazu (2017) explored the determinants of technology adoption the case of CBE employees. The Major findings of the study showed that perceived usefulness, perceived ease of use and subjective norm significantly contributed to behavioral intension surrounding the bank employees' use of new technology. In addition, subjective norm of employees and the two measures of employees': perceived usefulness and perceived ease of use significantly contributed to employees' behavior to use new technology.

Further research had also discussed by Yoseph (2017) and he investigated the factors that affect customer adoption of internet banking on Commercial Bank of Ethiopia Addis Ababa city branches. The results obtained from regression output indicated that among the studied variables, Perceived usefulness, ease of use, prior internet knowledge, intention to use and convenience were found to be statistically significant determinant of adoption of internet banking. On the other hand, perceived risks were statistically insignificant in affecting adoption of internet banking.

2.4 Empirical Analysis

Different researchers were explored e-commerce adoption in Ethiopia in different perspectives. Here under, the table presented below shows & discusses different researchers study and their major finding as follows.

Table 2.1 Empirical analysis in Ethiopia, Developing countries and developed countries

Authors	Topic of the Study	Research methodology	Major findings
Elizabeth Ayalew et al. (2010)	E-commerce Readiness in Ethiopia: A Macro-level Assessment	The study employed a descriptive survey of e-commerce readiness at the macro level. Specifically, the study will be a facility-based cross-sectional survey which will make use of both quantitative and qualitative study methods.	This study is a work in progress that sets out to measure & identify the nation's standing regarding its e-commerce readiness. Apart from this, customizing existing instruments and developing a new version, is believed to add value to the contemporary knowledge capital in the specific domain.
Belaynew Asrie Mola(2012)	Electronic Commerce Opportunities and Challenges of general importers in Addis Ababa	The researcher used descriptive type of research design. -Questionnaires used close ended and open ended questions & also included likert scaled questions.	Dominant barriers that highly hinder e-commerce adoption are; lack of skilled workers, Fear of risk security and privacy, lack of e-commerce infrastructure.
Wondwossen Tadesse Tsegai G. Kidan (2005)	e-Payment: Challenges and Opportunities in Ethiopia	<ul style="list-style-type: none"> •Literature review • Interview with open-ended questions. • On-site observation. • Selection and use of appropriate e-payment system development tools. 	In this paper we have proposed a model for e-payment that is applicable for the Ethiopian context. Two models one for e-commerce and another for bill payment have been proposed. We have also developed prototypes to demonstrate each model. Details about the models and prototypes can be referred from the annex
N.Singh et al. (2016)	Consumer acceptance of e-apparel	Conducting a online survey, in form of a	The results revealed that the inability to physically interact with

	commerce– Ethiopia	questionnaire,	an item, fear Of risk security and privacy and lack of e-commerce infrastructure are the main barriers that prevent the consumers from Online apparel product shopping.
Kelela Tilahun & Mesfin Kifle (n.d)	E-commerce Framework for Micro and Small Enterprises in Ethiopia	By adopting design science research method, identified the variables & analyzed primary data through expert panel and reliability measure test.	The framework has been constructed taking into consideration the IT adoption contexts and the identified factor items in different studies. The framework consists of users, policy and regulations, awareness, supporting industries (Internet service providers, transaction services and/or loan suppliers), human resource, commitment, e-commerce technology standard, application infrastructure and Security service and MSEs and payment mechanisms.
Yasin Ali Hassen & Ann Svensson (2014)	The role of e-commerce adoption for the growth of small enterprises in Ethiopia.	<ul style="list-style-type: none"> •The method to be used for this qualitative study is mainly a case study performed on five small enterprises in Ethiopia. •The qualitative method is used. •During the case study, in-depth interviews are used as a primary source for data collection. •According to this the two different models 	The findings show that small enterprises in the country have low levels of e-commerce utilization due to: (1) the scarcity of infrastructure development and expertise in the area, and (2) barriers created by government Policy and bank regulations. However, this study found good understanding of the business Opportunities and benefits that could be exploited from e-commerce.

		the adoption ladder model and the transporter model were used to provide a basis for the themes in the interviews.	
Ayana Gemechu Bultum (2014)	Factors Affecting Adoption of Electronic Banking System in Ethiopian Banking Industry	<ul style="list-style-type: none"> •In order to attain the objective of the study and answer the research questions; researcher adopts both quantitative and qualitative (Mixed) research approach. •The method of data collection techniques consists of Survey, interviews and document analysis. 	The study suggests a series of measures which could be taken by the banking industry and by government to address various challenges identified. These measures include: Establishing a clear set of legal framework on the use of technology in banking industry, supporting banking industry by investing on ICT infrastructure and banks needs to be focused on technological innovation competition rather than traditional bases of retail bank competition.
Unknown	Level of e-commerce Implementation	A case study of the selected Hotels in Addis Ababa to analyses and determine the level of E-commerce implementation.	as per our case analysis of the selected hotels in Addis Ababa Ethiopia showed less use of the available e-commerce benefits.
Phares Ochola (2015)	An empirical study of determinants of e-commerce adoption amongst micro, small and medium enterprises in Kenya.	The study was guided by a mixed research design of descriptive and explanatory nature. This design was considered useful since this study involved determination of the statistical significance of the relationship	Findings demonstrate that, first employee level of IT capacity, level of education, age of firm and pervaded innovation characteristics of complexity, and relative advantage have a significant positive effect on e-commerce, second perceived innovation Compatibility, complexity, trialability, observability and

		between the dependent variable (adoption of e-commerce) and explanatory variables (customer perception of innovation determinants)	security/confidentiality affect e-commerce adoption negatively and third age of owner/manager and business focus have no significant effect on e-commerce e adoption. The implications of these findings on e-commerce adoption are discussed in this paper and appropriate recommendations are presented.
Stephen	Adoption of e-commerce in the banking industry of Ghana.	In an exploratory research such as this a qualitative approach will be adopted.	The study showed that e-business is relatively new among Ghanaian banks compared to other developed nations such the Unites States of America. Various reasons account for the adoption of e-business among banks in Ghana. These includes to gain competitive advantage and as a responds to the market conditions. Benefits derived from the adopting e-business include increase in productivity, lower cost, speed & efficiency, facilitation of new products, improves customer services.
Chosniel, O. et al. (2018)	B2B E-commerce Adoption amongst manufacturing SMEs: Evidence from Ghana.	This research used a questionnaire survey-based quantitative data collection process across the manufacturing sector in Ghana.	This research used a questionnaire survey-based quantitative data collection process across the manufacturing sector in Ghana.
Faith-Michael E. , Alice P. and Geoffrey G. (2007)	Behavioral Influence On E-commerce Adoption in Developing Country Context.	The data collection instrument for this research is the questionnaire, which was administered to product/service organizations in both public and private sectors of Botswana. Which were randomly	The results of the study show that perceived advantages, Internet and complexity, accessibility, and management support have statistically significant influence on the adoption of e-commerce, while perceived disadvantages and other facilitating conditions do not significantly affect the decision to adopt e-commerce. The study results

		sampled from the industrial cities of Botswana?	tend to agree with the theory of planned behavior, but attitude seems to weigh more than subjective norm
Gadise,G (2017)	Determinants of E-Banking Services Adoption among Commercial Banks in Ethiopia: Analysis of Banks' Customers Perspectives.	The researchers used cross sectional study was done on eleven commercial banks in Ethiopia. The study was a triangulation of both quantitative and qualitative research approach. The researchers were used primary source of data which is collected via questionnaire. Judgmental sampling was used to select 482 sample respondents with 20% non response rate. Accordingly, 450 questionnaires were returned with 93.4%response rate. The researchers used descriptive analysis and multiple linear regression models due to the continuous nature of dependent variable.	The finding of the study revealed that cost, trust, privacy and security are significant determinants of e-banking service adoption among commercial banks in Ethiopia. The findings of this study would help the banking sectors and its customers to better understand their e-banking market segment, their perception and behaviors in relation to using e-banking services.
Mansour, N. & Nazem, M. (2015)	E-Business Adoption in Banking Sector: Empirical Study.	Our model was tested using a paper questionnaire to collect data. The goal of this questionnaire was to assess the awareness of bank's employees, about the use of	Findings: From the model factors of this study, the results highlight that perceived benefits, competition intensity and technology readiness are significant factors that shape and affect the e-business adoption.

		<p>electronic business in their banking operations. For analyzing the results, multiple linear regression technique was employed.</p>	
<p>Peterson et al. (2011)</p>	<p>E-Commerce Products and Services in the Banking Industry: The Adoption and Usage in Commercial Banks in Kenya.</p>	<p>Purposeful sampling was employed. The choice of the sampling technique used was due to the fact that the chosen respondents had the information sought for. This study relied on both primary and secondary data. The questionnaire was piloted on 10 banks prior to data collection. This was necessary in order to identify any ambiguous and unclear questions and any questions that were not clear to the respondents were clarified. The questionnaires were then submitted to the participating firms after the pilot test in order to get the data and information required, which was administered using e-mail and drop-pick-later method. Follow up was done by telephone. Questionnaires were used because we perceived that it would</p>	<p>This study's main objective was to explore the challenges faced and benefits that accrue from adoption and usage of e-commerce products and services banking by commercial banks in Kenya. Research showed that while the majority of the banks in Kenya have adopted e-commerce products and services, usage levels have remained relatively low, as not many customers are using this innovation in Kenya. To establish benefits and challenges in the adoption and usage of e-commerce, 32 variables were used to measure the level of application among these banks. These variables were analyzed using factor analysis procedure and in order to achieve a simple and meaningful structure, that is, have a nonzero loading of the explained variance for each individual factors, varimax rotation was done. As a result, 10 critical factors were established as the best practices which include: improved customer service, reduced number of customers in the banking hall, reduced operating costs and increased market share. The challenges faced in the adoption of e-commerce products and services include compatibility with existing legacy systems, cost of implementation and security concerns ranked high, ensuring</p>

		<p>save on our time and it would be flexible with the respondents' times who mostly have fixed schedules. The questions were structured in such a way that for fixed response questions were rated against five points scale, from extremely significant (5) to not significant(1). Room was provided for personal responses not captured in the fixed response-questions. The questionnaire.</p>	<p>desired levels of security and privacy. Unreliable telecommunication as well as lack of legislation governing e-commerce transactions rated highly.</p>
<p>LAVIN, A. and XAVERIA, F. (2006)</p>	<p>Factors Affecting Ecommerce adoption in Nigerian Banks.</p>	<p>In order to answer the research questions, we conducted an empirical study of banks that were using ecommerce. The research purpose and question of this thesis can be described as both exploratory and confirmatory but largely confirmatory. The research is designed around the positivistic paradigm with a triangulation approach – the combination of methodologies in the study of the same phenomenon – in the process of collecting and analyzing data. In the following sections</p>	<p>Nine hypotheses were drawn based on the variables identified. All but one of the hypotheses was confirmed. The rank of the factors affecting adoption of ecommerce (in descending order of impacts) is: Perceived complexity, Perceived benefits, Organizational competence, Perceived compatibility, Supporting industries e-readiness, Management support, Market e-readiness, IT capability, and Government e-readiness.</p>

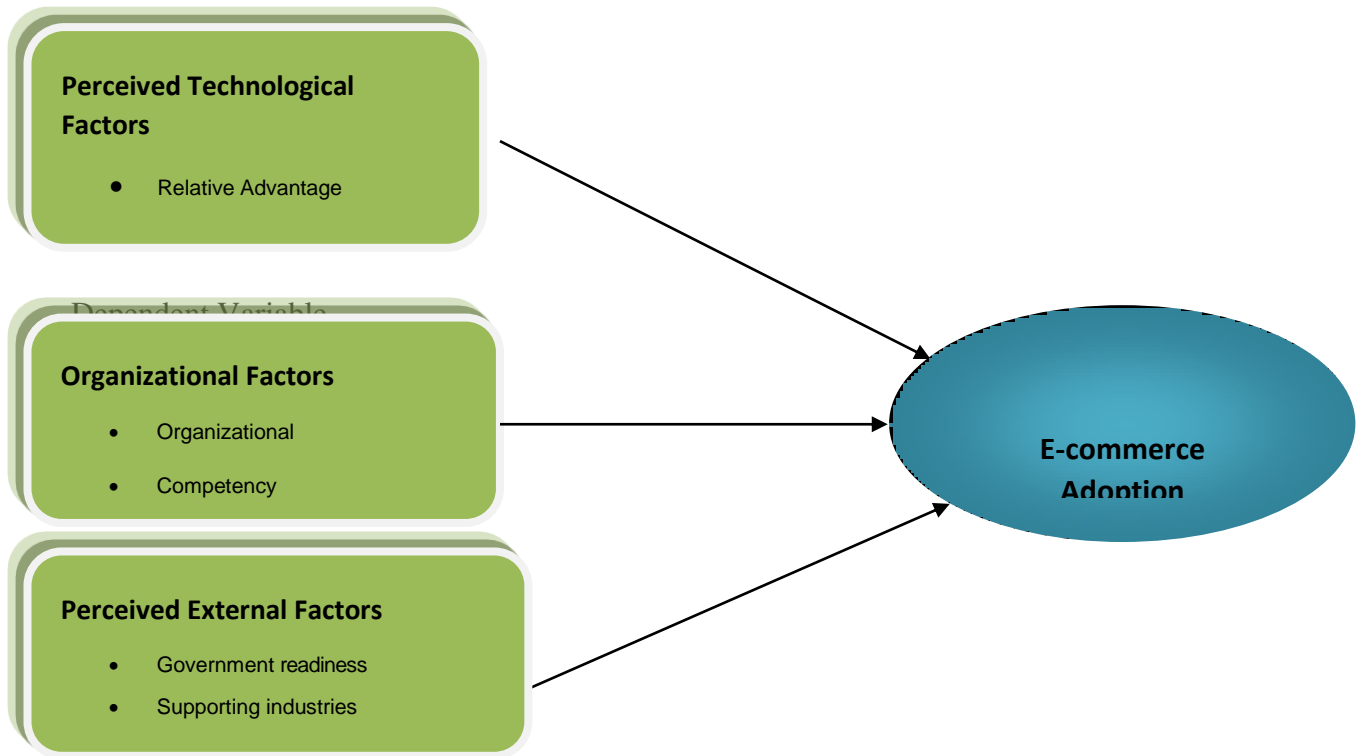
		we discuss why these techniques were used.	
Alice, P. (2012)	Factors Affecting E-commerce Adoption in Small and Medium Enterprises: An Interpretive Study of Botswana.	Data collection tools and techniques involved face-to-face semi-structured and unstructured interviews, telephone interviews, website content analysis, document analysis of SME reports and observations.	Several factors have been discussed and their impact on SMEs in the sample. These are: managerial characteristics and perception of e-commerce adoption, skilled ICT personnel, availability and slow speed of the Internet, the cost of setting-up and maintaining Internet applications, access to payment facilities, organisational culture, supplier and customer preferences, security concerns, local business environment, government role as customer, and the global economic recession. In summary, the study found that although the factors have been widely known to affect e-commerce adoption in SMEs, their manner of impact, interaction, and presentation in the selected SMEs shows similarities but differences as well.
Rita, R. & John D. (2015)	Determinant Factors of E-commerce Adoption by SMEs in Developing Country: Evidence from Indonesia	A survey method using an on-line questionnaire was employed. This was chosen in due to its advantages, namely: cheaper, better, faster, and easier than other methods (Ronald, 2002). The questionnaire was developed by reference to previous studies.	Therefore, the results of this study provide a timely understanding of e-commerce adoption by SMEs in developing countries. The model developed in this study is based on the TOE framework. Eleven variables are proposed as the factors that influence SMEs in adopting of e-commerce. These are organized into four groups, namely: technological factors, organizational factors, environmental factors and individual factors. Based on a survey of 292 Indonesian SMEs, it

			was found that perceived benefits, technology readiness, owners' innovativeness, owners' IT ability and owners' IT experience are the determinant factors that influence Indonesian SMEs in their adopting ecommerce
A. Gunasekaran and E.W.T. Ngai	E-commerce in Hong Kong: an Empirical perspective and analysis.	A structured questionnaire was designed, pre-tested, modified, and used to capture data on e-commerce in Hong Kong.	The conceptual model based on the analysis of literature and some reported case experiences is developed using the current issues that have been highlighted as important e-commerce success factors of implementation. The major factors that influence the application and implementation of e-commerce are: perceived usefulness of web; perceived barriers of the internet for e-commerce; usage of the internet; and perceived benefits of the internet for e-commerce. In addition to this, country-specific factors such as culture, technology competency, government policy, educational level, influence the level of application of e-commerce
Sameer Kumar and Palo Petersen (2005)	Impact of e-commerce in lowering operational costs and raising Customer satisfaction.	Exploratory data analysis and logistics regression were used to analyze data collected from a multi-industry company survey.	The research showed that there is a direct correlation between the use of e-commerce and improved customer service. In particular, e-commerce has improved the availability of information, reduced processing errors, reduced response times, lowered costs of services, and has effectively raised customer satisfaction and the level of service that customers expect to receive

<p>Inma, R., Antoni M. and Jordi, V. (2008)</p>	<p>Factors Influencing the Evolution of Electronic Commerce: An Empirical Analysis in a Developed Market Economy.</p>	<p>We should point out that the data used refer to a specific geographical area—the Spanish market. Whatever the market, collecting data about the e-commerce phenomenon is not without its difficulties. There are few measurements made, and the ones that are often focus more on access and connectivity than on the use that is made of the Internet in the commercial sphere and business. This obliged us, as we describe below, to resort to various sources that employ different methodologies to obtain the data for the variables considered in our model.</p>	<p>This paper explains the temporal evolution of electronic commerce in a developed country. For this purpose, we evaluate the contribution of the size of the potential market represented by the community of Internet users to the development of electronic commerce, as well as of other determinant factors. The validation carried out, for the whole Spanish market and over a period of seven years, reveals the existence of a critical threshold of online consumers that, once surpassed, supposes a change in the growth trend of electronic commerce. Likewise, we verify that broadband technology diffusion, the definition of a legal framework of consumer protection, and the design of a value proposition perceived as “secure”, also influence the development of electronic commerce. We also confirm the contribution of firms’ differentiation strategies to the development of electronic, to the detriment of those based on price leadership. Finally, it seems that possession of a computer is no longer an indicator of access barriers</p>
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Figure 2.1: Conceptual frame work

Independent variable



Source: Adapted from Molla & Licker, 2005.

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

Here, in this chapter, discussed in connection with research design and methodology. The purpose of a research design is to maximize valid answers to a research question. This was achieved by using a non-experimental, qualitative, quantitative, explanatory-descriptive approach.

This chapter described the research design utilized. Specifically, the chapter describes Research design, Research approaches, Research method, Method of data collection, target population, sampling techniques and sample size determination, the measuring instrument used, and the statistical techniques used to analyze the data and finally, ethical consideration that should be taken into account.

3.1. Research Design

Burns and Grove (2003) define a research design as “a blue print for conducting a study with maximum control over factors that may interfere with the validity of the findings”. As a general plan it is about what to do and as function of research study it is defined as “the choice of specific method of data collection and analysis to answer research question more importantly research design should include strategies and method related with types of data to be collected, data collection technique, sampling methodology, the budget & time framework & data analysis” (Pride and Ferrell, 2007).

Since the study is aimed at examining ecommerce trends in Ethiopia: a case of commercial banks in Ethiopia, the methodology adopted in the study is explanatory case study. In social sciences and life sciences, a case study is a research method involving an up-close, in-depth, and detailed examination of a subject of study (the case), as well as its related contextual conditions.

3.2. Research Method and approaches

The primary aim of this study is to obtain a better understanding on why e-commerce is not yet adopted in Ethiopian banks, as well as to discover factors affecting e-commerce adoption in Ethiopian non-adopting banks. So as to be able to find vital information in related with those factors challenging the process of adopting e-commerce, searching & reviewing literature is compulsory. The research population, sample, sampling size, sampling process and procedure discussed here.

This study focuses on the determination of *Factors Affecting the Adoption of Electronic Commerce* in Ethiopia. The research approach is assumed to be qualitative and quantitative as well as explanatory type. A quantitative research method was also used where by a questionnaire survey was used to collect data from primary sources comprising a sample of banks which are supposed to start & use. Burns and Grove (2003) describe a qualitative approach as “a systematic subjective approach used to describe life experiences and situations to give them meaning”. Holloway and Wheeler (2002) refer to qualitative research as “a form of social enquiry that focuses on the way people interpret and make sense of their experience and the world in which they live”. Researchers use the qualitative approach to explore the behavior, perspectives, experiences and feelings of people and emphasize the understanding of these elements.

The rationale for using a qualitative approach in this research paper was to explore and describe the attitude of different concerned parties toward *Factors Affecting the Adoption of Electronic Commerce* in Ethiopia specifically banks.

According to Polit (2001) explorative studies are undertaken when a new area is being investigated or when little is known about an area of interest. It is used to investigate the full nature of the phenomenon and other factors related to it. In this study, the opinions of different concerned parties including e-commerce professionals regarding *Factors Affecting the Adoption of Electronic Commerce* in Ethiopia explored using questioner, interview and focus group interview.

3.3. Target Population

Parahoo (1997) defines population as “the total number of units from which data can be collected”, such as individuals, artifacts, events or organizations. Burns and Grove (2003) describe population as all the elements that meet the criteria for inclusion in a study. Burns and Grove (2003) define eligibility criteria as “a list of characteristics that are required for the membership in the target population”.

For the purposes of this study, the population was Ethiopian commercial banks’ (both private and government) in Addis Ababa.

Major relevant characteristics of the target population were age, education qualification and e-commerce usage. The unit of analysis for the study will be individual employees, because

the study entirely focuses on the behavior of internal user, these segments are more representatives to deal with the behavior.

A total of Nine banks out of 18 were selected on a randomly basis by giving equal chance i.e. (lottery method). Almost 50 % which is greater than 30% as a rule of thumb (Hogg and Tanis, 2013). These are, Dashen Bank, Bank of Abyssinia, Oromia International Bank, United Bank, Awash Bank, Wegagen Bank, Abay Bank, NIB International Bank, and Commercial Bank of Ethiopia. Total population was 585 employees from all selected banks from different position, (i.e. CBE=273, OIB = 29, DB=40, AB=22, WB=42, AIB=69, NIB=15, BOA=51, & UB=44).

3.4. Sample Size

Holloway and Wheeler (2002) assert that sample size does not influence the importance or quality of the study and note that there are no guidelines in determining sample size in qualitative research. Qualitative researchers do not normally know the number of people in the research beforehand; the sample may change in size and type during research. Sampling goes on until saturation has been achieved, namely no new information is generated (Holloway 1997).

According to Field (2005), whenever it is impossible to access the entire population, it is possible to collect data from sample and use the behavior within the sample to infer things about the behavior of the population.

The basic idea of sampling is that by selecting some of the elements in a population, conclusions can be drawn about the entire population (Zikmund, 2003). According to Zikmund (2003) sample size has a direct influence over the accuracy of the research findings.

In this study the total number of the population was from 9 different categories of the banks those listed and out of which sample was selected. I, the researcher ,had been sure in coincidence with the selection of the sample in all categories of the population in choosing participants, was highly based on people's level of experience as well as their qualifications and both from Business/Operational and Technical.

The sample size of the study is determined using the formula adopted from (krejcie and Morgan 1970).

Thus, the formula used to calculate the sample size is presented under.

$$n = \frac{N}{1+N(e^2)}$$

Where

N= Population

n = Sample size

e = level of precision (error term which is 5% i.e. at 95% confidence interval)

Therefore from above target population, the sample sizes calculated as follows;

$$n = \frac{585}{(1+585(0.05)^2)} = \frac{585}{2.83} = 207$$

As a confirmation, the sample size was also calculated from the target population at the confidential interval of 95% letting a marginal error of 5% and a response distribution of 50% using an online calculator Retrieved on October 7, 2018, Retrieved from <http://www.Raosoft.com>. In terms of the numbers selected above, the sample size n and margin of error E are given by:

Where N is the population size, r is the fraction of responses that you are interested in, and Z(c/100) is the critical value for the confidence level c. So, we get approximately 207 samples and confirmed the same sample result.

3.5. Sampling technique

Burns and Grove (2003) refer to sampling as a process of selecting a group of people, events or behavior with which to conduct a study. Sampling is closely related to generalizability of the findings. In this study the sampling was probability and purposive sampling techniques was used to select sample from the target population. According to Parahoo (1997) states that in non-probability sampling researchers use their judgment to select the subjects to be included in the study based on their knowledge of the phenomenon.

In all Ethiopia Banks, there are districts, branches and head Office located in Addis Ababa & all except very few the e-payments technical as well as business departments were found at their head office. The researcher used the e-payment's technical and business department, organ of the head office (i.e. Existence sampling). The estimated numbers of e-commerce professional and managerial staff identified from each bank based purposive sampling

techniques. Then from each department respondents was selected through random sampling method.

Purposive sampling technique was also used to interview managers who are directly related with the topic under investigation. Parahoo (1997) describes purposive sampling as “a method of sampling where the researcher deliberately chooses who to include in the study based on their ability to provide necessary data”. The rationale for choosing this approach is that the researcher is seeking knowledge about factors affecting e-commerce, which the participants would provide by virtue of their experience. In this study those e-commerce professionals for the purpose of focused group discussion are the only participants selected from CBE; because e-commerce project is under progress to be implemented and some managers for interview panel were the only participant eligible purposively chosen participated in this study due to ease of accesses .

3.6. Data collection method and procedure

According to Parahoo (1997) defined a research instrument is “a tool used to collect data.

An instrument is a tool designed to measure knowledge, attitude and skills.”

In this study I used both primary data and secondary data collection method. As primary source of data, data obtained through questionnaires. Questionnaires were prepared for employees and managers. In this study, the questioner served as the research tool to gather information. I collected data through paper base questioner that was collected from employees and managers at head offices’ e-payments Technical & business departments around Addis Ababa and also focus group discussion as well as face to face interview was conducted on purposively selected bank (i.e. Commercial Bank of Ethiopia).

As secondary sources of data, I collected data for empirical analysis & detail understanding about e-commerce from different source, such as books, publications, Articles, previous research conducted was used which was supposed being related with my topic.

Questionnaires were distributed to employees and customers, which was developed based on Molla & Licker (2005). A five point likert scale questionnaire ranging from strongly disagree, disagree, neutral, agree and strongly agree was distributed to employees working in the head offices’ e-payments Technical & business departments and the questionnaire measure factors determining ecommerce adoption in the case of banks in Ethiopia.

Reliability and validity test was conducted to measure the internal consistency of the data items and measured whether an instrument actually measures what it is supposed to measure respectively

- Focus group discussion

According to Parahoo (1997), a focus group discussion is an interaction between one or more researchers and more than one participant for the purpose of collecting data.

Holloway and Wheeler (2002) state that in focus group discussion researchers interview participants with common characteristics or experience for the purpose of eliciting ideas, thoughts and perceptions about specific topics or certain issues linked to an area of study.

In this study the researcher was discussed with e-commerce professionals who are currently working in commercial bank of Ethiopia on e-commerce projects (i.e. payment gateway and marketing place project) to elicit their opinion about factors affecting e-commerce adoption in Ethiopia specifically commercial bank of Ethiopia; recorded the voice for incorporation.

The types of questions for the focus group discussion and interview is shown in Annexes.

- Conducting face to face interview

Questioners were asked inductively, proceeding from general to specific using a semi-structured interview guide that was prepared before the session (see annex). All the interviewers were appreciated to involve actively for best discussion and output. Ethical issues, in particular, confidentiality, were addressed. The interviewers were told the information they provide will be kept confidential.

According to Holloway and Wheeler (2002), facilitators must have social and refereeing skills to guide the participants to interact effectively and exert control over the topic and participants without directing the discussion or coercing the participants. The researcher dealt with hurtful remarks and prejudice by repeating the ground rules and using good facilitating skills. The researcher also was able to use the instrument required to aid in data collection (i.e. audio recorder was used).

3.7 Research Model

The research questions are: What factors determine the likelihood of adoption of ecommerce in Ethiopia particularly in commercial banks in Ethiopia? The research question is concerned with whether banks are using ecommerce or not. Drawing from technological innovation

literature, an integrated model of ecommerce adoption in selected banks was developed (see figure 3.1). Each of the variables is discussed below.

3.7.1. Variable definition

A) Organizational Competency

The availability of employees with competency for producing new ideas is important for e-commerce adoption (Mohr, 1969). Organizational competency refers to the availability of employees with adequate experience and exposure to information and communication technology and other skills (such as business strategy) that are needed to adequately staff e-commerce projects (Molla & Licker, 2005).

Chwelos et al (2001) stated that the level of management understanding of and support for using IT to achieve organizational objectives may influence the adoption of IT innovation. Thus, an understanding of ecommerce technologies and business models can facilitate the adoption of e-commerce.

So, it is hypothesized that, a high level of competency from within the organization can have a positive impact on ecommerce adoption.

B) IT Capability

IT capability refers to the level of IT resources and personnel IT knowledge of an organization (Akbulut, 2002). Access to adequate equipment in the organization is a major determinant of the adoption of new technologies (Newcomer and Caudle, 1991).

Cohen & Levinthal (1990) state that an organization's ability to appreciate an innovation, to assimilate it, and apply it to new ways is largely a result of the firms preexisting knowledge in areas relating to the intended innovation. Adoption of ecommerce requires organizations to possess a set of IT-related skills and knowledge (Turban et al., 2004) such as telecommunication knowledge, IT security knowledge, and Internet application environment.

So, it is hypothesized that, a high level of IT resources can positively impact ecommerce adoption.

C) Perceived Benefits

Perceived benefits refer to the extent of managements recognition of the relative advantage of adopting ecommerce to the organization. Perceived benefits are an important factor in adoption of new innovations Lacovou et al., (1995) defined Relative advantage as the extent to which an innovation is perceived as better than the idea it supersedes or its nearest alternative.

Relative advantage can be measured in financial terms; however, social status, comfort, and satisfaction are important factors as well. The amounts of objective advantage of an innovation have a great effect, what affects adoption of an innovation is whether the innovation is viewed as advantageous. The greater the perceived relative advantage of an innovation, the more rapid its rate of adoption will be (Rogers, 1995).

The higher the appreciation of the benefits of ecommerce by management the more likely they are to set aside organizational resources necessary to adopt and implement ecommerce.

So, it is hypothesized that, a high level of perceived benefits will positively impact adoption of ecommerce.

D) Perceived Compatibility

Perceived compatibility refers to the degree to which an innovation is perceived as being consistent with existing needs, values, past experiences, and technological infrastructure of potential adopters (Rogers, 1995). An innovation might be perceived as technically or financially superior in accomplishing a given task, but it may not be adopted, if a potential adopter views it as irrelevant to its needs (Rogers, 1995). If e-commerce is seen as compatible with the existing work practices, environments, and overall objective, organizations will be more likely to adopt it.

So, it is hypothesized that, a high level of perceived compatibility will positively impact the adoption of ecommerce

E) Perceived Complexity

Perceived complexity refers to the degree to which an innovation is perceived as difficult to understand and use. New ideas that are simpler to understand are adopted faster than those requiring the adopter to develop new skills and understanding (Rogers, 1995).

Akbulut (2002) state that the complexity of a technology has a major effect on the adoption decision, while Chwelos et al. (2002) state that complexity is a strong inhibitor of intent to adopt innovation.

So, it is hypothesized that, a high level of perceived complexity will negatively impact adoption of ecommerce.

F) Supporting Industries e-readiness

Supporting Industries e-readiness refers to “the assessment of presence, development, service level and cost structure of support-giving institutions such as telecommunications, financial, trust enablers and the IT industry, whose activities might affect the ecommerce initiative of businesses in developing countries” (Molla & Licker, 2005). Existence of adequate IT infrastructure is a necessary condition for the take-off of and development of e-commerce (Palacios, 2003). Since organizations would rather concentrate on their core competencies, it is vital that there are other organizations whose main activity is provision of IT infrastructure and services.

So, it is hypothesized that, the existence of supporting services for e-commerce would positively impact adoption of e-commerce

G) Government e-readiness

Government e-readiness refers to “the organizations’ assessment of the preparation of the nation state and its contributions to promote, support, facilitate and regulate ecommerce and its various requirements” (Molla & Licker, 2005). The government has a strong role in promoting and spreading the benefits of electronic commerce (Bandyo-padhay, 2002). The result of the research carried out in Slovenia showed that government’s activities played an important role in accelerating electronic commerce (Pucihar, 2006).

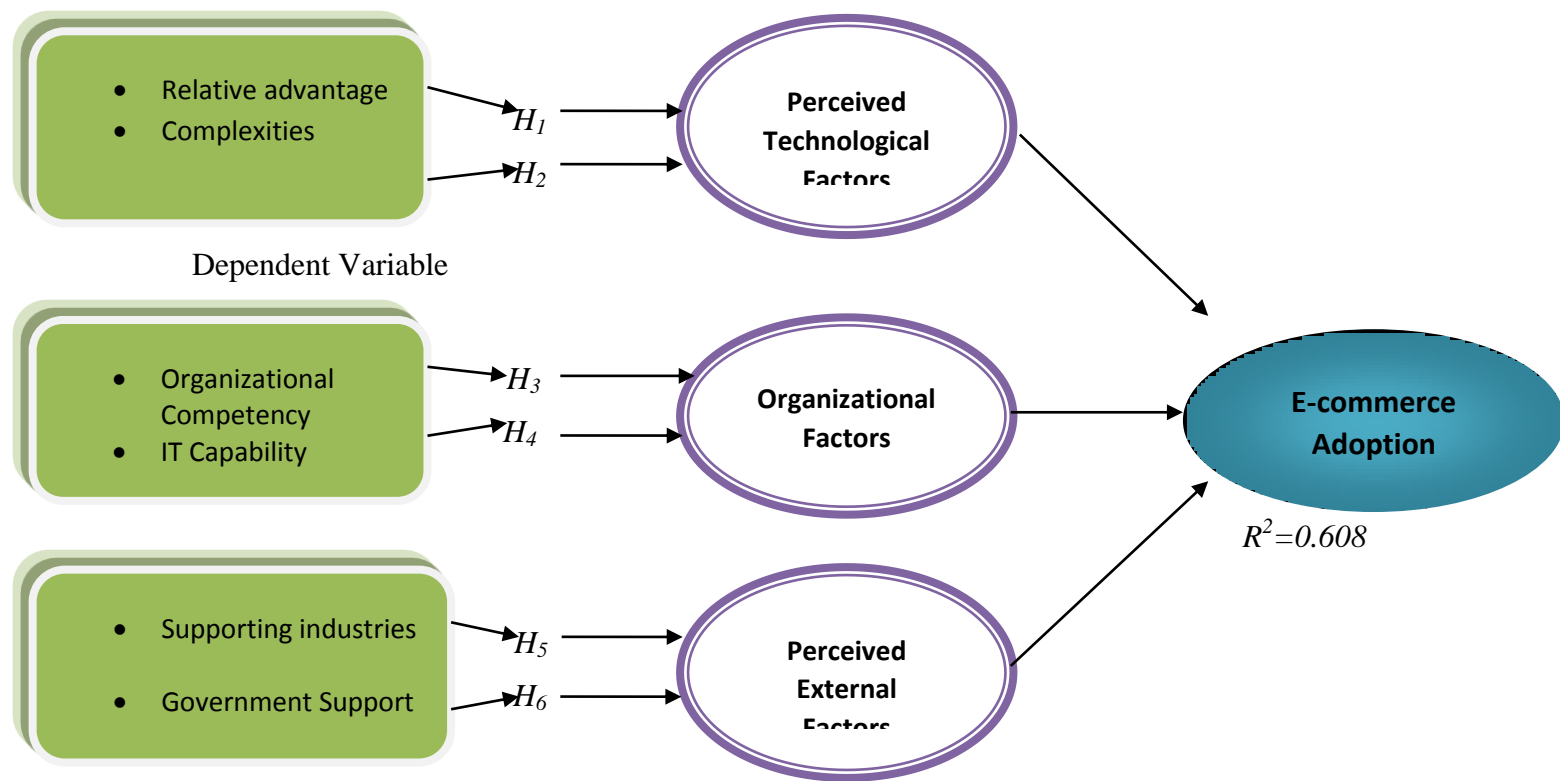
Governments can provide an enabling environment in which ecommerce can realize its full potential. They can help address the problems & challenges of awareness, infrastructure develops, local content creation depending on languages used & cultures prevailing in the local environment (Kamel, 2006).

So, it is hypothesized that, the absence of strong support for e-commerce activities from government would negatively impact adoption of ecommerce.

Figure 3.1: Modified Model

Independent variables

Dependent Variable



3.7.2 Model Specification

Research model constructed using multi linear regression .From this regression equation is derived as follows:

Regression Equation:

$$EA = \beta_0 + \beta_2IT_i + \beta_3PB_i + \beta_5PX_i + \beta_6OC_i + \beta_7SI_i + GV_i \epsilon_i / \text{stochastic error}$$

Where:

EA = E-commerce Adoption

IT = IT Capability

PB = Perceived Benefits

PX = Perceived Complexity

OC = Organizational Competence

SI = Supporting Industries

GR = Government Readiness

ϵ_i = error term at time i , is a coefficient

β_0 is constant term & $\beta_1, \beta_2, \beta_3, \dots, \beta_7$, are coefficients of the independent variables

3.8. Method of Data Analysis

A quantitative data analysis tool was used to analyze the collected data. Descriptive statistics was also used to describe and interpret the result of the study. Correlation analysis more specifically Pearson correlation was used to measure the degree of association between two variables. From inferential statistics, multiple regression analysis, STATA software was used to analyze the data from the.

3.9. Ethical Consideration

The study was conducted by considering ethical responsibility. This includes providing information to the respondents which helps them to identify the purpose of the study and the use of the information as well. Informing clearly the data obtained will be held in strict confidentiality by the researcher. Respondents' anonymity will be kept so that participants were feeling free and safe to express their ideas.

CHAPTER FOUR: DATA ANALYSIS AND DISCUSSIONS

The primary focus of the study is to investigate factors affecting the adoption of e-commerce in the perspectives of Ethiopian banks. This chapter focuses on the results of analysis and the findings using descriptive and inferential statistics. Therefore, the chapter presents the responses that were received from the distributed questionnaires.

4.1. Response Rate

During the survey a total of 207 questionnaires were distributed to the respondents in both state owned and private bank industry, out of this 137 giving an 83.5% complete response rate were returned but rest of them were rejected as a result of so many omissions in filling.

Table 4 .1- Response rate

Response rate	Items Response Rate	
	No. of sample	Percentage
Sample size	207	100%
Collected	173	83.57%
Appropriately filled	137	79.19%

Source: Own survey data, 2018

So, the analysis was made based on 137 successfully responded questionnaires and done in line with the research questions and objectives set in the proposal and it is presented in the form of descriptive and inferential statistics. Moreover, for triangulation purpose the researcher distributed and collected twenty 20 questionnaires from both state owned and private government bank industries and bank staffs & interviewed 5 top level managers to reflect the factors that determine e-commerce adoption.

4.2. Reliability Analysis

Table 4.2

Cronbach's Alpha	No. of Items
0.873	37

For the purpose of determining the internal consistency or average correlation of items in the survey instrument to measure its reliability and internal consistency of the scales used Santos (1999), therefore the Cronbach's alpha has been used. Cronbach's alpha can be interpreted as a correlation coefficient, it ranges in value from 0 to 1 (Coakes and Steed, 2007). The closer value of reliability coefficient gets near to 1.0 are better and the result of reliabilities that are less than 0.6 is considered being poor

Reliability test was conducted to make sure the instrument used in the study was reliable. The elements under analysis are the Thirty Four elements with the additional Three e-commerce adoption measurement instrument. The cronbach's alpha for the general instrument is found to be 0.873 which is more than the acceptable range (Saunders, Lewis and Thornhill 2012).

4.3. Demographic Characteristics of the Respondent's

Table 4.3 Demographic Information

		Frequency	Percentage
Gender	Male	92	67
	Female	45	33
Total		137	100%
Age	22-35	89	65%
	35-45	42	31%
	45-55	3	2%
	> 55	3	2%
Total		137	100%
Education	BA/BSC	63	46%
	MA/ MSC	74	54%
Total		137	100%
Income group	<5,000.00	2	1%
	Birr 5,000-10,000	39	28%
	Birr 10,000-15,000	43	31%
	greater than Birr 15,000	53	39%
Total		137	100%
Years of experience	< 5 years	51	37%
	6- 10 years	49	36%
	10- 15 years	25	18%
	15- 20 years	6	4%
	> 20 years	6	4%
Total		137	100%

Source: Own survey data, 2018

From the data presented in table 4.3, the majorities (67%) of the respondents were male and the remaining (33%) of the respondents were female.

Likewise as explained in the table above, the majorities (65%) of the respondents were under age group of 22-35 years old followed by age group of 35-45 years accounted for (31%). The remaining (3%) were 45-55 years old, again (3%) greater than 55 years group respectively.

The study table revealed the upper and lower level income, less than 5,000.00 Birr and greater than 15,000.00 Birr. The fact that the big percentage of respondents (see table 4.3) 39%, were from income group of greater than 15,000 , followed by 31% of income group 10,000.00 – 15,000.00, and income group of birr 5,000-10,000 respondents were representing only 28,% of total. This indicated that the analysis comprising different income section of the population.

Regarding educational level of the respondents, the above figure portray that the majority (54%) of the respondents were MA/MSc holders, 46 % were BA/BSc. Therefore, the educational backgrounds of most respondents were MA/MSc holders reflecting that the respondents were in a good position to understand and answer the research questions.

With regard to years of experience in Banks (37%) have < 5 years' experience , (36%) of them have been working in Banks from 6-10 years, (18 %) employees have an experience of 10-15 years, (4%) of them have 15-20 years of experience and the remaining 4% have been working in Banks for more than 20 years. The majority of the respondents constituting about (92%), do have experience of < 15 years, that seem okay with the sample population taken. The rest around 8% of the respondents were > 15 years, these people are assumed to be from managerial position and it is believed that almost all employees are well experienced and have good knowledge about the existing ICT information as well as operation & business in their working place.

4.4. Descriptive Statistics

To describe statistical analysis to analyze the six components of the conceptual framework developed for this study. The analyses were on: IT capability, perceived benefit, perceived complexity, organizational competency, supporting industries, government e-readiness affecting e-commerce adoption.

The above listed factors are the most critical parts of the conceptual framework and basic research variables of this paper. Therefore, the discussion of the above conceptual framework components will answer the basic research questions and meets the stated objectives of this study.

For the analysis of all these variables, mean and standard deviation is used. Particularly mean value of the respondents has considered as an important indicator to the

extent of each factor in determining e-commerce adoption and group mean was calculated and used.

In order to specify the relative importance of the questionnaire items, to highlight the degree of adoption of e-commerce activities and to determine the organization awareness at the Ethiopian commercial banks, an ordinal scale was developed to give meaning to the arithmetic mean. Table 5 shows the scale of the relative importance of the items calculated according to the following formula: (The Maximum limit (5)–The Minimum limit)/ number of required measurements (3). The result (1.33) was then added to each scale (Al-Dmour, Nweira, & Al-Dmour, 2017). Then Scale of Relative Importance of questionnaire items is 1 – 2.33 Low/poor, 2.34 – 3.67 Average/moderate and 3.68 – 5 High.

Table 4.4 Descriptive Statistics for the IT Capability

Item	Mean	SD
Our organization is well computerized with LAN and WAN	4.03	0.813
We have high bandwidth connectivity to the Internet	3.87	0.898
We have an established enterprise-wide IT infrastructure	3.59	0.845
We have sufficient experience with network based applications	3.80	0.946
Average	3.82	0.751

Source: Questionnaire, 2018

The descriptive statistics which are the means and standard deviations of the IT capability statement of criteria or facets is displayed in Table 4.4 as per the magnitude of their means. As shown descriptively the mean or the average response of the respondents relatively equal /above the grand mean.

This indicates that majority of respondent agree that their companies engaged with LAN & WAN, access with high band width connectivity and further confirm their employees have the skills and experience in network based application. The statement of criteria of the IT capability mean or standard deviation which constitute was 4.03 (SD=.813), 3.87 (SD=.898), 3.8 (SD=.946) respectively. And the respondents were in consent that this variable is strongly affecting e-commerce adoption in the case industries. But, the enterprise –wide IT infrastructure show average/ moderate i.e. 3.59 (SD=.845) as compare to the grand mean.

Therefore, as can be seen from table 4.4 the relative importance of IT Capability is relatively high.

Table 4.5 Descriptive Statistics for the Perceived Benefits

Item	Mean	SD
Reduce cost of business operations	3.89	0.744
Improve customer service	3.55	0.727
Improve distribution channels	3.88	0.853
Reap operational benefits	4.05	0.668
Increase ability to compete	4.15	0.601
Average	3.90	0.485

Source: Questionnaire, 2018

As table 4.5 reveals that, five items were used to measure the Perceived Benefits in the bank industries. Out of five items developed to see the extent of perceived benefits in e-commerce adoption, surprisingly all of the items scored the mean value are not above the average mean value of 3.9, but supposed to be. Especially the second criteria/facet i.e. Improve customer service, scored mean value of 3.55 which is lower than the grand mean. Generally, the groups mean value of perceived benefits is 3.90, which is interpreted as this variable has higher mean score as compared to the standard 3.68.

Therefore, as can be seen from table 4.5 the relative importance of perceived benefit is relatively high.

Table-4.6 Descriptive Statistics for the Perceived Complexity

Item	Mean	SD
Learning to operate electronic commerce is/would be easy	3.72	0.764
Interacting with electronic commerce is/would be flexible	3.93	0.671
My interaction with electronic commerce is/would be clear and understandable	3.99	0.675
It would be easy for me to become skillful at using electronic commerce	3.62	0.698
Average	3.81	0.468

Source: Questionnaire, 2018

As table 4.6 indicate that, four items were used to measure the Perceived Complexity in the bank industries. Out of four items developed to see the extent of perceived Complexity in e-commerce adoption, two of the items scored the mean value above the grand mean and two items are below the grand mean which is 3.81. But as we can see, all of them are well distributed around the grand mean. To name those facets learning to operate electronic commerce is/would be easy which contributes high mean value 3.72, next interacting with electronic commerce is/would be flexible which is 3.93, the third rank mean is my interaction with electronic commerce is/would be clear and understandable which is 3.99. The lowest mean value is 3.62.

Therefore, as can be seen from table 4.6 the relative importance of Organizational Competency is relatively high as compared to the standard 3.68.

Table- 4.7 Descriptive Statistics for the Organizational Competency

Item	Mean	SD
Our organization has a good understanding of electronic commerce business models that are applicable to our business	3.80	0.736
We have a good understanding of electronic commerce application solutions that are applicable to our business	3.72	0.764
Our bank has the necessary technical, managerial and other skills to implement electronic commerce	3.71	0.584
Our bank has the necessary technical, managerial and other skills to implement electronic commerce.	3.98	0.861
Training is always provided before new changes are implemented	3.82	0.915
Average	3.81	0.474

Source: Questionnaire, 2018

Table 4.7 above depicts that five essential organizational competency attributes were used to investigate the extent of these items on e-commerce adoption. In view of this, except our organization has a good understanding of electronic commerce business models that are applicable to our business, mean of 3.72 and Our bank has the necessary technical, managerial and other skills to implement electronic commerce with mean of 3.71, all items scored a mean value of greater than 3.81, Higher mean score shown on an item namely, our organization has the necessary technical, managerial and other skills to implement electronic commerce and Training is always provided before new changes are implemented which have mean value of 3.98, 3.82 respectively.

Therefore, as can be seen from table 4.7 the relative importance of Organizational Competency is relatively high as compared to the standard 3.68.

Table-4.8 Descriptive Statistics for the Supporting Industries

Item	Mean	SD
The telecommunication infrastructure is reliable and efficient	1.47	0.529
The technology infrastructure of commercial and financial institutions is capable of supporting electronic commerce transactions	1.55	0.527
We feel that there is efficient and affordable support from the local IT industry to support our move to the Internet.	1.55	0.527
Our industry is pressuring us to adopt electronic commerce.	2.27	0.536
Average	1.71	0.404

Source: Questionnaire, 2018

As depicts in table 4.8 above concerning supporting Industries that, the telecommunication infrastructure is reliable and efficient 1.47(SD=0.529), which is the lower mean score compared to the grand mean of 1.71, it sounds right; from the fact that we have on the ground.

The second and third facet/criteria , the technology infrastructure of commercial and financial institutions is capable of supporting electronic commerce transactions equal with that of the criteria, we feel that there is efficient and affordable support from the local IT industry to support our move to the internet 1.55(SD=0.527) also below the group mean of 1.71. That also seems okay, because facts tell something. The only facet scored above the group mean is, our industry is pressuring us to adopt electronic commerce 2.27(SD=0.536). As it is known this is may be because of, National Bank of Ethiopia is pressuring all banks to adopt world class banking technologies before the time, the door is opened to the international banks are coming and allow operating. If not, that time may be very dangerous for those banks which are waiting as they are, because the competition will be very stiff and even probably will be collapsed and kicked out of the market; because those international banks will come up with great pragmatic innovative banking technologies to surprise and amaze for calling up the existing customers of local banks.

Therefore, as can be seen from table 4.6 the relative importance of supporting industries is relatively low as compared to the standard 2.33.

Generally, these indicate that the current situation of supporting industries, telecommunication & the technology infrastructure are not supporting the e-commerce adoption in a given bank.

Table-4.9 Descriptive Statistics for the Government e-readiness

Item	Mean	SD
We believe there are effective laws to protect consumer privacy	3.24	0.613
We believe that there are effective laws to combat cyber crime	3.18	0.678
We believe the legal environment is conducive to conduct business on the Internet	3.20	0.687
We believe that the government demonstrates strong commitment to promote electronic commerce	3.34	0.689
Government regulations allow electronic settlement of electronic commerce transactions	1.55	0.527
Average	2.90	0.484

Source: Questionnaire, 2018

Table 4.9 above indicates the Government e-readiness in bank industries. Accordingly, the group means of the statement of criteria/facets in this variable is 2.90 which is average/moderate factor affecting e-commerce adoption with respect to the overall measures taken into consideration.

Specifically, the named variable we believe that the government demonstrates strong commitment to promote electronic commerce, We believe there are effective laws to protect consumer privacy and We believe the legal environment is conducive to conduct business on the Internet shows higher mean score value of 3.34, 3.24 and 3.20 respectively.

However, the mean score of the item label Government regulations allow electronic settlement of electronic commerce transactions and show weak mean value which is 1.55.

Therefore, as can be seen from table 4.6 the relative importance of government e-readiness is relatively moderate as compared to the standard 2.33.

This indicate that Government regulations allow electronic settlement of electronic commerce transactions now a days is not yet enacted to maintain the desired outcomes, considering the fact that the electronic commerce and transaction regulation and related issues is simply at infant stage.

Table-4.10 Descriptive Statistics for the e-commerce adoption

Item	Mean	SD
All in All, do you believe e-commerce Adoption is feasible in commercial banks, with current situation?	2.27	0.536
Do you believe, e-commerce could help you to achieve your organization strategic plan?	3.24	0.613
Do you believe e-commerce adoption is part of technological innovation?	4.15	0.601
Average	3.22	

Source: Questionnaire, 2018

Table 4.10 above indicates the Descriptive Statistics for the e-commerce adoption the mean score was between 3.24 and 4.15. High mean vale registered on the criteria/facets Do you believe e-commerce adoption is part of technological innovation? (4.15), so we can say that banks are giving great attention & apply maximum effort for technological innovation. The next high mean vale registered on the criteria/facets, Do you believe, e-commerce could help you to achieve your organization strategic plan? (3.24), this shows that almost all banks do have strategic plane that are in alignment with technology.

However, the mean score of the item label All in All, do you believe e-commerce Adoption is feasible in Ethiopia, with current situation? Show weak mean value 2.27 this indicates that the feasibility of adopting e-commerce with the current situation will be very challenging.

Therefore, as can be seen from table 4.6 the relative importance of e-commerce Adoption is relatively high as compared to the standard 3.68.

4. 5. Correlation Analysis

The table below shows the Pearson’s correlation coefficient between the six dimensions and e-commerce adoption which is found using the STATA14.2version. According to (Field, 2009) the classification of the correlation efficient (r) is as follows: 0.1 – 0.29 is weak; 0.3 – 0.49 is moderate; and > 0.5 is strong. Strong positive value of coefficient of correlation shows that there is correlation between factors affecting and e-commerce adoption. Positive values of correlation coefficient indicate that increase in one variable causes increase in other variable and vice versa.

Table 4.11: Correlation matrix

	EA	IT	PB	PX	OC	SI	GV
EA	1						
IT	0.0066 0.9386	1					
PB	0.4060* 0.0000	-0.0118 0.8908	1				
PX	0.1920* 0.0246	0.0848 0.3246	0.5280* 0.0000	1			
OC	0.1011 0.2397	0.4508* 0.0000	0.5502* 0.0000	0.5067* 0.0000	1		
SI	0.2846* 0.0008	0.0153 0.8588	-0.0752 0.3826	-0.0088 0.9184	-0.0580 0.5011	1	
GV	0.5706* 0.0000	-0.2001* 0.0191	0.1280 0.1359	0.1931* 0.0238	0.1581 0.0649	0.1463 0.0880	1

*= Correlation is significant at the 0.05 level (2-tailed)

Own survey, 2018

The results indicated that all the E-commerce indicators have positive correlation effect on e-commerce adoption though their degree of effect varies. Therefore, when the banks make changes to one e-commerce dimension there is likely to positively raise e-commerce adoption. The government e-readiness yielded the highest positive relationship with e-

commerce adoption coefficient of ($r=.5706$). The perceived benefit dimension was the second highest positive regarding its association with e-commerce adoption ($r =.4060$). Moderate relationship also absorbed in factors like supporting industries ($r=.0.2846$), which might indicates that supporting industries like Road infrastructure , Telecommunication at present time for adopting e-commerce by banks do not affect largely and weak relationship was also encountered with e-commerce adoption factors like information technology ($r= 0.0066$), perceived complexity ($r=0.1920$) and organizational competency ($r=0.1011$) respectively.

4.6. Important Assumptions of Multiple Linear Regression Model

Before directly dealing with the regression model the researcher check some important assumptions in relating to the multiple Linear regression model, to look at those hypotheses whether to accept or reject and to check no important assumptions are violated Multicolliniarity, hetroschdasticity, Normality and outlier tests was conducted as follows.

4.6.1 Multicollinearity Test

Table 4.12 Multicollinearity Test

Independent variables		Collinearity Statistics	
		Tolerance	VIF
	IT Capability	1.60	0.626860
	Perceived Benefit	1.82	0.549927
	Perceived Complexity	1.56	0.642789
	Organizational Competency	2.38	0.419925
	Supporting industries	1.04	0.960385
	Government-readiness	1.19	0.842405
	(Constant)		

Two major methods were utilized in order to determine the presence of multicollinearity among independent variables in this study. These methodologies involved calculation of both a tolerance test and variance inflation factor (VIF), the results of these analyzes are presented in Table 4.12.

According to (Greene, 2000), multicollinearity is a high degree of correlation among several independent variables. This test was performed concerned on two values—Tolerance and

VIF. In social sciences research, a VIF value below 10 and tolerance above 0.02 is considered to be acceptable (Field, 2009).

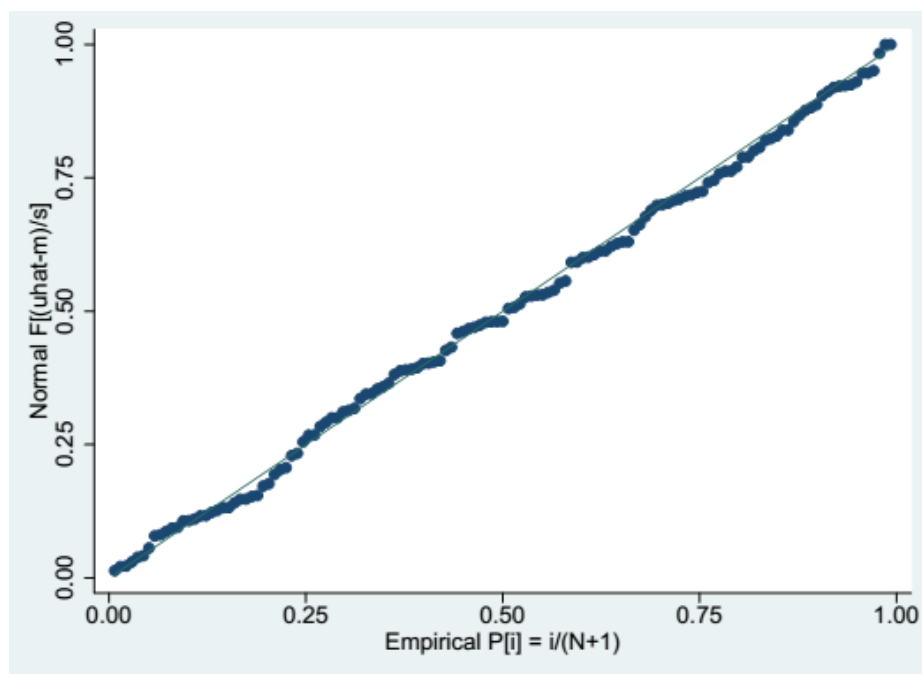
The first assumption is to check the problem of multicollinearity. The presence of multicollinearity in the model is detected by using Variance Inflation Factor (VIF). As noted by Gujarati (2004), the rule of thumb suggested that if variance inflation factor exactly or exceeds 10 then there is a problem of multicollinearity. Multicollinearity happens when there is a strong correlation between more than two independent variables. Perfect collinearity occurs when at least one independent variable is a perfect linear combination of the others. This means that if there are two independent variables that are perfectly correlated, the values of β for each variable are interchangeable (Gujarati and Porter, 2010).

As shown in the appendix the output of VIF showed that a value of less than 10 for all the independent variables and the Tolerance value are greater than 0.02 . Thus, knowing that there is no serious multicollinearity problem among the variables, they can be considered in the model estimation.

4.6.2 Heteroskedasticity Test

The p-value should be bigger than 0.05 to not reject the null of homoscedasticity at the 5% level, so, since the p value of the chi2 is greater than 0.05, problem of heteroskedasticity is not detected in the model.

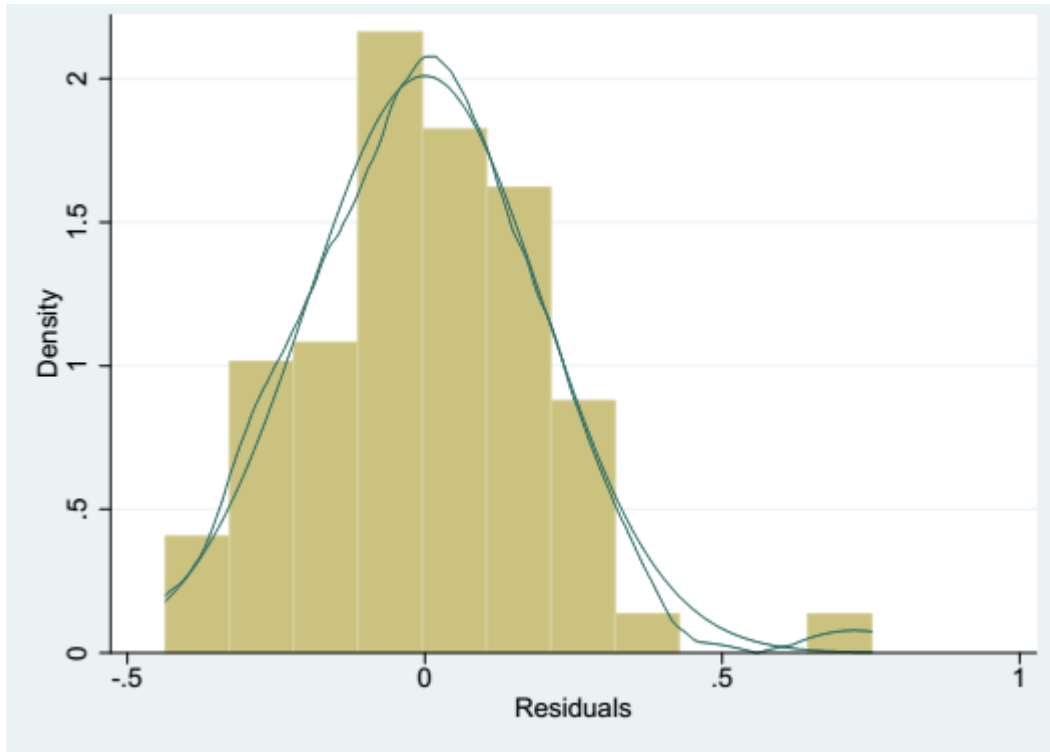
Graph 4.1 Linearity and homoscedasticity normal point plot of standardized residua



4.6.3 Normality Test

This study involves a relatively large sample (207) and therefore, the central limit theorem could be applied and hence there is no question on normality of the data.

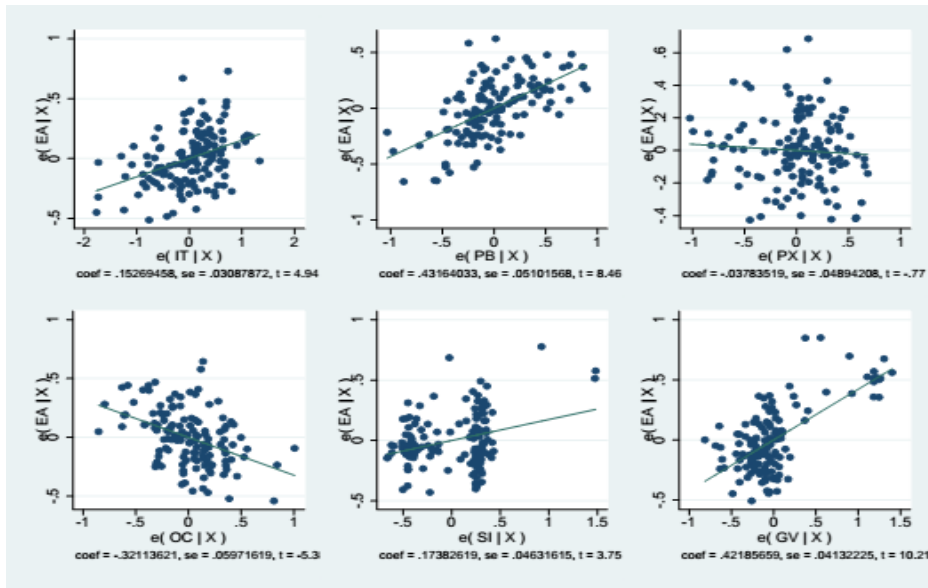
Graph 4.2 Histogram for normally distributed standardized residual



A kernel density plot above produces a kind of histogram for residuals, the option normal overlays a normal distribution to compare, here residuals are symmetrical, bell-shaped and it follows a normal distribution, seems okay.

4.6.4 Outlier Test

Graph 4.3 Outlier Variables Plots



From the graph depicted above (variable outlier plots), there are no as such more outliers found in all variable outlier plots except very few.

Accordingly, the model passes the entire assumptions of multiple regressions and interpreting the results is valid and correct.

4.7. Multiple Regression Results

In this study the binary regression model is used to predict e-commerce adoption of both state owned and private bank industries in Addis Ababa. Some of the output of the regression includes the constant term, variables, coefficients, standard error; model fit (NR^2) and p-value presented below.

4.8. Regression analysis:

4.8.1 REGRESSION MODEL SUMMARY

Table 4.13: Model Summary

	R	R-Square	Adjusted R-Square	Std. Error of the Estimate
Model 1	0.780	0.608	0.590	.334405

Dependent Variable: EA Predictors: (Constant), GV, PB, SI, IT, PX, OC
 Source: STATA 14.2version output (2019)

Table 4.14: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	9.25295685	6	1.54215948	33.66	0.0000
	Residual	5.9554778	130	.045811368		
	Total	15.2084347	136	.111826725		

Predictors: (Constant), GV, PB, SI, IT, PX, OC
 Source: STATA 14.2 version output (2019)

Table 4.15: Regression Coefficient

Variables	Coefficients	St. Error	t	p	[95% Conf. Interval]	
IT Capability	.153	.031	5.43	0.000	.0916047	.2137844
Perceived Benefit	.432	.051	9.04	0.000	.3307119	.532568
Organizational Competency	-.321	.060	-5.93	0.000	-.1346612	.0589909
Perceived Complexity	-.038	.049	-0.86	0.394	-.4392775	.2029949
Supporting industries	.174	.046	3.34	0.001	.0821952	.2654572
Government-readiness	.422	.041	13.16	0.000	.3401055	.5036077
(Constant)	.795	.228	3.07	0.003	.3433861	1.246128

Dependent Variable: EA Predictors: (Constant), GV, PB, SI, IT, PX, OC
 Source: STATA 14.2version output (2019)

The model independent summary table 4.13 indicated that multiple correlation coefficient $R = 0.780$ indicates there is a strong positive correlation between independent variables and e-commerce adoption. Besides, the value there is a statistically significant effect between the independent variables and dependent variable where F value of the model was (33.66) at 0.000 ($P < 0.05$) in which $R^2 > 0$, which states that there is statistically significant effect of independent variables collectively on e-commerce adoption.

The model summary table 4.13 also states that the six independent variables that constitute the e-commerce adoption of coefficient of determination R square is 0.6084, which implies that there is quite significant explanatory power, 61.3% variation on dependent variable is caused by independent variables and the remaining 38.7 % is because of other unknown variables.

The adjusted $R^2 = 0.590$ concerns the generalizability of the model, allowing the results to be taken from the sample and generalized for the whole population. It is noticed that the value of the adjusted R^2 is very close to the value of R^2 . If the adjusted R^2 is excluded from R^2 ($0.6084 - 0.590$) = 0.0184. This minor decrease (0.0184) means that if the model has been fitted when the whole population participates in the study, the higher variance in the outcome will be 0.0184.

Therefore, variables, IT Capability, Perceived Benefit, Perceived Complexity, Organizational Competency, Supporting industries and Government e-readiness were checked and the t value resulted 5.43, 9.04, -0.86, -5.93, 3.34, and 13.16, respectively which indicates that the variables have statistically significant predictive capability; which implies that they exert a significant influence on the bank's ability and decision to adopt e-commerce, except Perceived Complexity and Organizational Competency.

Perceived complexity and organizational competency have negative value and their impact on e-commerce adoption in the bank industry is less but Organizational Competency has statistical influence whereas perceived complexity has no statistical influence on e-commerce adoption, it is most probably because banks are well experienced in adopting different types of technological innovation like ATM system, Online banking system, core-banking system and other more similar banking technologies, these all technology adoption experience will help them to adopt similar technologies easily and also we can say that all banks are capable of all necessary resources, financial as well as human aspect, so competencies will not be

considered as a bottleneck to adopt e-commerce technology to commercial banks as per participant responses.

Based on multiple linear regression analysis, the above table 4.15 reveals the impact of each determining factors in e-commerce adoption and their significance. The impact of Perceived Benefit, Government-readiness, Supporting industries, IT Capability, Perceived Complexity and Organizational Competency on e-commerce adoption with Bank industries in Ethiopia are .432, .422, .174 , .153, -.038 and -.321, respectively, in their descending order. By examining this beta weight of data analysis result the finding shown that Perceived Benefit followed by Government-readiness, supporting industries and IT Capability was making relatively larger contribution to the prediction model.

This is consistent with previous findings by (Looi, 2005) and (Molla and Licker, 2005). (Molla and Licker, 2005) found that at the initial stage of e-commerce adoption, organizational and environmental factors affect e-commerce adoption in developing countries.

Results of this study in general support the idea that these factors influence e-commerce adoption in Ethiopian commercial banks.

From this the regression equation is derived as follows:

Regression Equation:

$$EA = \beta_0 + \beta_1 IT_i + \beta_2 PB_i + \beta_3 OC_i + \beta_4 PX_i + \beta_5 SI_i + \beta_6 GV_i + \epsilon_i \text{ /stochastic error}$$

$$EA = .795 + .153 IT_i + .432 PB_i - .321 OC_i - .038 PX_i + .174 SI_i + .422 GV_i + \epsilon_i$$

Where:

EB = E-commerce Adoption

IT = IT Capability

PB = Perceived Benefits

OC = Organizational Competence

PX = Perceived Complexity

SI = Supporting Industries

GV = Government Readiness

ϵ_i = error term at time i

4.9 Magnitude of the Factors Affecting E-commerce Adoption

The model illustrates that when all variables are held at zero (constant), the value of the magnitude of e-commerce adoption would be 0.795. However, holding other factors constant, a unit increase in IT capability in Ethiopian banks would lead to a 0.153 increase in the magnitude of e-commerce adoption, a unit increase in perceived benefits in Ethiopian banks would lead to a 0.432 increase in the magnitude of e-commerce Adoption.

However, a unit decrease in organizational competence in Ethiopian banks would lead to a 0.321 decrease in the magnitude of e-commerce adoption, , a unit decrease in perceived complexity in Ethiopian banks would lead to a 0.038 decrease in the magnitude of e-commerce adoption,

Furthermore, a unit increase in supporting industries in Ethiopian banks would lead to a 0.174 increase in the magnitude of e-commerce adoption and a unit increase in government readiness in Ethiopian banks would lead to a 0.422 increase in the magnitude of e-commerce adoption.

The above results confirm that the six independent variables under consideration contribute individually and jointly to the magnitude of e-commerce adoption in Ethiopian banks.

- ✓ It was hypothesized that; a high level of organizational competency from within the organization can have a positive impact on ecommerce adoption.

The result of table 4.12 shows that standardized coefficient beta and p value of organization competency was statistically strong significant on e-commerce adoption (beta= -.321, $p < 0.05$). Therefore, the first hypothesis is accepted. Its' beta coefficient negative indicates organizational competency play an important role in e-commerce adoption in our country commercial banks but goes in reverse way, as one increases the other decreases & vice versa.

However, the financial resources are not major determinant in e-commerce adoption, which was discussed by Scupola (2009) and Mehrtens et al. (2001). In this study organization competency (financial resource and human resource) has been found as negative factor influencing e-commerce adoption and it adds some spices to the

literature as evidence for the reverse sign.

But the fact on the ground is the availability of employee with sufficient knowledge of technology innovation will make the adoption of e-commerce easy. The IT know how by management and employees also matter on the process of adoption.

The result is consistent with other previous findings by Scupola (2009) and Mehrtens et al. (2001).

- ✓ It was hypothesized that; a high level of IT capability can positively impact ecommerce adoption

The result of table 4.12 shows that standardized coefficient beta and p value of IT was statistically strong significant on e-commerce adoption (beta=.153, $p < 0.05$). Therefore, the second hypothesis is accepted.

According to the interview panel and the focused group discussion, it highly supported that IT plays a pivotal role.

The result is consistent with previous findings by (Looi, 2005), (Molla and Licker, 2005) & Lavin and Fotoh, 2006).

- ✓ It was hypothesized that; a high level of perceived benefits will positively impact adoption of e-commerce.

The result of table 4.12 shows that standardized coefficient beta and p value of perceived benefits was statistically strong significant on e-commerce adoption (beta=.432, $p < 0.05$). Therefore, the third hypothesis is accepted.

The respondents seems to believe that ecommerce helps Reduce cost of business operations & increase productivity, Improve customer service and satisfaction, improve distribution channels, Reap operational benefits and increase ability to compete.

According to the interview panel and the focused group discussion, was also show the same result that there is a good belief on the perception of the benefit of e-commerce.

The result is consistent with previous findings by (Looi, 2005), (Molla and Licker, 2005) & Lavin and Fotoh, 2006).

- ✓ It was hypothesized that; a high level of perceived complexity will negatively impact adoption of ecommerce

The result of table 4.12 shows that standardized coefficient beta and p value of perceived complexity was not statistically significant on e-commerce adoption (beta=-.038, $p > 0.05$). Therefore, the fourth hypothesis is rejected.

As per the interview panel and the focused group discussion, the perceived complexity will not be as such the problem in CBE said the manager technical support, Ato Mersha. He continued, our bank is well experienced in adopting different banking technology like core banking, ERP & other banking technology. So, this will help us to adopt e-commerce technology easily. Therefore e-commerce technology will not be complex to adopt at our end.

The result is consistent with previous findings by (Looi, 2005), (Molla and Licker, 2005) & Lavin and Fotoh, 2006).

- ✓ It was hypothesized that, the existence of supporting services for e-commerce would positively impact adoption of ecommerce

The result of table 4.12 shows that standardized coefficient beta and p value of perceived supporting industries was statistically significant on e-commerce adoption (beta= .174, $p < 0.05$). Therefore, the fifth hypothesis is accepted.

As per to the interview panel and the focused group discussion, it is believed that there is some kind of problem on road & telecom infrastructures. This could impede some kind of a bottle neck on the process of adopting e-commerce.

It is expected that the presence of supporting industries e-readiness within the context of the country is expected to influence the adoption of e-commerce (Molla & Licker, 2005). It also depends on the extent of the tendency of the bank to be willing to pay off to e-commerce adoption.

As we can see clearly that the level of development of supporting industries in Ethiopia is very low, this has negative impact on the adoption of e-commerce.

The result is consistent with previous findings by (Looi, 2005), (Molla and Licker, 2005) & Lavin and Fotoh, 2006).

- ✓ It was hypothesized that, the absence of strong support for e-commerce activities from government would negatively impact adoption of e-commerce.

The result of table 4.12 shows that standardized coefficient beta and p value of perceived benefits was statistically strong significant on e-commerce adoption (beta=.422, $p < 0.05$). Therefore, the sixth hypothesis is accepted.

According to the interview panel and the focused group discussion, now a days there is a good level considerations about information technology by the government. But still we don't have rules and regulation about the e-commerce activity, this is very critical because an online transaction may cause some kind of trust problem, Therefore NBE should enact regulation.

However, government can play a key role in the growth of e-commerce in country at large by availing the telecommunication infrastructure, road infrastructure and support by awareness creation. These results suggest that government e-readiness is not well recognized and all respondents share a common view concerning government e-readiness.

The result is consistent with previous findings by (Looi, 2005), (Molla and Licker, 2005) & Lavin and Fotoh, 2006).

CHAPTER FIVE:

SUMMARY, CONCLUSION AND RECOMMENDATIONS

The summary of the findings of the study, the conclusions inferred from the findings, and recommendations forwarded in relation to what is concluded is presented in the following subsections.

5.1 SUMMARY

This study was conducted to investigate Factors Affecting the Adoption of E-Commerce in the perspectives of Ethiopian banks (both private and government banks). To accomplish this study researcher had to review various literatures relating to e-commerce especially based on the research objectives and questions that were set. A number of documents had been reviewed in order to support the factors that have been identified. All of the concepts, ideas, opinions and theories that related to the research objectives were presented. I used both quantitative and qualitative approach when conducting the study. Data was collected through self administered questionnaires while semi-structured interviews and focused group discussion were used to gain a thorough understanding of findings from the questionnaire assessment.

The collection of data was based on the research questions whereby structured questionnaires were used. In order to get the data, the questionnaires had been distributed to 207 respondents which consist of employees who are working in both government and private banks in Addis Ababa. Data analysis was done through the use of STATA 14.2 version as well as Microsoft Excel 2007.

The result of descriptive statistics among factors determining the adoption of e-commerce in Ethiopian banks shows that respondents are above the grand mean score of 3.32 with perceived benefits (M=3.90, SD= 0.485), perceived complexity (M=3.81, SD= 0.468), Organization Competence (M=3.81, SD= 0.474) and IT capability (M=3.82, SD= 0.751), Government e-readiness (M=2.90, SD= 0.484), followed by Supporting Industries (M=1.71, SD=0.404), slightly below the grand mean score. But, they have been considered by respondent as factors affecting e-commerce adoption in banking industry in Ethiopia.

Depending on the result of inferential statistics, the government e-readiness yielded the highest positive relationship with e-commerce adoption coefficient of ($r=.571$). The perceived benefits dimension was the second highest positive regarding its association with e-commerce adoption ($r=.406$). Moderate relationship also absorbed in factors like Supporting Industries ($r=.285$) and Perceived complexity($r=.192$). Furthermore, weak relationship was also encountered with e-commerce adoption factors like the IT capability ($r=.007$), & organizational competency ($r=.101$) respectively with e-commerce adoption in the banking industry.

Based on multiple linear regression analysis, it reveals the impact of each determining factors in e-commerce adoption and their significance. The impact of IT Capability, Perceived Benefit, Supporting industries, Organizational Competency, Government E-Readiness, and Perceived Complexity on e-commerce adoption with bank industries in Ethiopia are 0.153, 0.432, 0.174, -0.321, 0.421, -0.038 respectively. By examining this beta weight of data analysis result the finding shown that Government e-readiness followed by Perceived Benefit and Supporting industries was making relatively larger contribution to the prediction model.

The model summary reveals that the proportion of the variation in e-commerce Adoption is explained by the six independent variables collectively are 60.84% and the remaining 39.16% of the variance is explained by other variables.

5.2 CONCLUSION

The primary purpose of this study was to investigate factors affecting the adoption of e-commerce in bank industries in Ethiopia. Six independent variables that contribute to e-commerce adoption was explored in this study including: IT capability, perceived benefits, perceived complexity , Organizational Competence, Supporting Industries and Government e-readiness.

The descriptive statistical analysis showed that different dimension factors affecting e-commerce adoption are significantly related. Weak relationship was also encountered with e-commerce adoption factors like the IT capability ($r=.007$), & organizational competency ($r=.101$) respectively as per the respond obtained from respondent respectively. These shows that other than these factors the remaining could possibly, have highly affected the adoption of e-commerce in both private and government banks.

The result of the multiple regression analysis regressing independent variables against e-commerce adoption, as dependent variable significantly explains the variance in e-commerce adoption. The result indicated a relative high percentage of variation in e-commerce adoption as a result of those independent variables.

Now a day in the world there are a lot of novel ideas and pragmatic innovative technologies are coming every day. So Ethiopia should move with this dynamic change, not to be stagnant. Banks should adopt e-commerce technology and introduce to their customers, so this will definitely help them by creating cashless society, reducing foreign currency paid for the purpose of printing the notes and ultimately help the economy at large.

Therefore, we all are witnessing that, there is a paradigm shift on how business are carried out. Electronic commerce significantly alter business activities globally, this dynamic environment Ethiopian commercial banks should adopt e-commerce technology like other banking technologies to support their customers by providing e-marketplace that offers a virtual space in which buyers and sellers transact each other & make payment online, it replaces the traditional marketplace and ultimately helps to improve business transaction.

To fully exploit the potential of the internet and e-commerce the government should support all commercial banks to adopt e-commerce technology.

5.3 RECOMMENDATIONS

The research paper provides a kind of relationship between various factors and adoption of e-commerce. The findings of this research have a number of important implications that may assist different banks and governments to facilitate the adoption of e-commerce. Based on the major findings that have been discussed so far the following points are recommended for practical application to enhance the adoption of e-commerce in Ethiopian banking industries.

Commercial banks in Ethiopia should start providing e-commerce service to their customers. That will be considered one part of online banking service and actually will always be seen in the eyes of potential customers. Additionally, since the customers / buyer and merchant transact online using mobile banking , internet banking or could be card banking, because the payment is made by transferring from one account to another account through the mentioned alternative payment channels; the physical money will not be withdrawn, this will help banks to mobilize deposit.

Therefore, all commercial banks in Ethiopia should give attention to the continuous improvement and pragmatic innovative technologies to help them to take competitive advantages in the banking industry.

According to the interview conducted with Ato Tafesework Negussie/ Manager Mobile Money Service –CBE said that, we are in the millennia of technology, but our banks still don't adopt e-commerce technology for payment facilitation, this lead some company like Kifiya Financial Technology which provide e-commerce platform to its customers is forced to use foreign banks, which is actually Kenyan Banks. So this leads the country to lose foreign currency.

The results also confirmed that there is a kind of partial online trading activities in Ethiopia, like Ethiogift. Merkato.com, MekinaNet, Gebeya.com Dumbulo, YenePay, & more others platforms. But when we come to the payment issue once again they get back to the traditional payment system (physical cash movement); this is because of absence of banks payment and settlement gateways. So to alleviate payment problem all banks should avail the payment gateway to their customers to harvest the full benefit of e-commerce.

According to the interview and focused group discussion, commercial bank of Ethiopia has big project on e-commerce, preparing the e-commerce platform and payment gateway. This will be on air to the coming few year, that is good news. In connection with this other

commercial banks should also give due attention in preparing e-commerce platform and payment gateway to their customers.

At the bank level, banks should set e-commerce goals and objectives that are tied to their strategies. Training on e-commerce should be provided before new changes are implemented. This would attune employees' habits and thus minimize resistance and blocking of new changes in the organizations.

For management this study demonstrates the importance of business owners and management in developing e-commerce during the adoption and implementation process. In fact, without the knowledge and commitment of management, and their willingness to share the responsibility of the implementation process with employees and middle management, e-commerce will not be successfully adopted and implemented. Moreover, it is essential for management in banking industry to trust and encourage their employees in using new technology.

In addition, high quality internal information technology (IT) infrastructure, and access to financial resources, will help banking institutes in developing countries to adopt e-commerce. The government needs to improve IT infrastructure by liberalizing Internet services and allowing a wide range of companies to operate services rather than allowing a monopoly on computation services. Furthermore, the government has to encourage private sector to establish logistics services that can facilitate e-commerce up take in the country.

For government, this study reveals that without government support in developing countries, businesses and the public will not embrace e-commerce, particularly in Ethiopia, where the people trust the government more than private enterprise. Costs of Internet connectivity should be made affordable which would further encourage penetration of Internet beyond the urban areas.

The government should implement in full the ICT Master Plan and enforce its overall policy statement on Internet pertaining to technical, economic and political perspectives. This will, among other things, create an enabling environment for e-business start-ups and incubation projects. A legal framework and regulatory guidelines for commercial transactions to handle cyber-crimes should be enacted and implemented in liaison with the neighboring countries to ensure conformity.

Adequate attention should be paid to risks and security, which is a major issue why consumers are afraid of & away from using e-banking technologies in general. Expert's belief that e-commerce may not be totally void of fraud as it is still possible even in developed economies, more secured platforms are being introduced on a daily basis and this should extend to developing markets coupled with a good risk management system. This is where the government should play an active role.

Finally, future research should aim to improve the internal validity of the research by controlling confounding and extraneous variables and the hypothesis need to be tested in a vast scope in the future. It will also be interesting to investigate how other factors other than the six independent variables impact on e-commerce adoption level.

REFERENCES

- Aghaunor, L., & Fotoh, X. (2006). Factors affecting e-commerce adoption in Nigerian banks. *Journal of Internet Banking and Commerce*, 20(1), 23-28.
- Al-Dmour,H., Nweira, M., & Al-Dmour R. (2017). The Influence of Organizational Culture on E-Commerce Adoption. *International Journal of Business and Management*; Vol. 12, No. 9
- ALICE, M. (2013). Thesis-Factors Affecting the Adoption of Internet Banking In Commercial Banks : A Survey of Commercial Banks in Nairobi.
- Asare, S., Gopolang, B., & Mogotlhwane, O. (2012). Challenges facing SMEs in the adoption of ICT in B2B and B2C e-commerce: A comparative case study of Botswana and Ghana. *International Journal of Commerce and Management*, 22(4): 272-85.
- Bultum, A. (2014). Factors Affecting Adoption of Electronic Banking System in Ethiopian Banking Industry. *Journal of Management Information System and E commerce*, Vol. 1, No. 1; June 2014.
- Chong, S., & Pervan, G. (2007). Factors influencing the extent of deployment of electronic commerce for small and medium-sized enterprises. *Journal of Electronic Commerce in Organizations*, 1–29.
- Chosniel, O., Selorm, A., David, K. & Adelaide, S. (2018). B2B E-commerce Adoption amongst manufacturing SMEs: Evidence from Ghana. *Australian Journal of Economic and Management Science*, Volume 8, Issue 1.
- Chwelos, P., Benbasat, I., & Dexter, A. S. (2001). Empirical test of an EDI adoption model. *Information Systems Research*, 12(3), 304 –321.
- Elizabeth A., Lemma L., Mariye Y. (2010). E-Commerce Readiness in Ethiopia: A Macro-level Assessment. *Proceedings of the Sixteenth Americas Conference on Information Systems*, Lima, Peru.
- Faith-Michael E., Alice P. and Geoffrey G. (2007). B2B E-commerce Adoption amongst manufacturing SMEs: Evidence from Ghana, the *Electronic Journal on Information Systems in Developing Countries*.

- Gardachew, W. (2010). Electronic-banking in Ethiopia: practices, opportunities and Challenges. *Journal of internet Banking and commerce*, 15(2):2-9
- Greene, W. (2000). *Econometric Analysis*. prentice Hall, Saddle River, New Jersey.
- Guardia, N. (2001). Regulating E-commerce in Financial Services. *Centre for European Policy Studies*
- Gunasekaran A. & Ngai, E. (2005). E-commerce in Hong Kong: an empirical perspective and analysis. *Internet Research*, Vol. 15 No. 2, pp. 141-159
- Hassen, Y. & Ann S. (2014). The Role Of E-commerce For The Growth Of Small Enterprises In Ethiopia. *The Electronic Journal of Information Systems in Developing Countries* (2014) 65, 1, 1-20.
- Hogg, V., & Tanis, E. (2013). *Probability and Statistical inference*.
- Inma, R., Antoni M. and Jordi, V. (2008). Factors Influencing the Evolution of Electronic Commerce: An Empirical Analysis in a Developed Market Economy. *Journal of Theoretical and Applied Electronic Commerce Research*.
- Keeling, K., Vassilopoulou, K., McGoldrick, P., & Macaulay, L. (2000). Market realities and innovation in small to medium enterprises: Facilitators and barriers to the use of electronic commerce. *New Product Development and Innovation Management*, 2(1), 57– 70
- Kelela,T, Mesfin K. (n.d). E-commerce Framework for Micro and Small Enterprises in Ethiopia. *HiLCoE Journal of Computer Science and Technology*, Vol. 3, No. 2
- Kenneth, M. (2011). E-Commerce awareness and its impact on the Small Scale Tourism. Research report.
- Klein, K., & Sorra, J. (1996). The challenge of innovation implementation. *Academy of Management Review*, 21(4), 1055-1080.
- Krejcie, R., & Morgan, D. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*
- Kumar, S. & Petersen, P. (2005). Impact of e-commerce in lowering operational costs and raising customer satisfaction. *Journal of Manufacturing Technology Management*,

Vol. 17 No. 3, 2006, pp. 283-302

- Lane M., Van Der ,G. Delpachtra S., Howard S. (2004). An Electronic Commerce Initiative in Regional Sri Lanka: The Vision for the Central Province Electronic Commerce Portal. *The Electronic J. Info. Syst.Developing Countries*, 16:1-18.
- Laudon, K. and Traver, C. (2008). E-Commerce: Business, Technology, Society. *Prentice Hall*, Upper Saddle River, New Jersey.
- Laudon, K. & Traver.(2010). E-commerce 2011. London, UK. Prentice Hall.
- Lavin, A. & Xaveria, F. (2016). Factors Affecting Ecommerce adoption in Nigerian Banks. *Jonkoping University*
- Looi, H. (2005). E-commerce Adoption in Brunei Darussalam: A Quantitative Analysis of Factors Influencing its Adoption. *Communications of the Association for Information Systems*, 15, 61-81.
- Mashanda, P., Cloete, E. & Tanner, M. (2012). An analysis of factors affecting the adoption of business-to-consumer ecommerce by SMEs in a developing country. Zimbabwe.
- Migiro, S. (2006). Diffusion of ICTs and e-commerce adoption in manufacturing SMEs in Kenya, South African . *Journal of Libraries and Information Science*, 72(1): 35-44.
- Mola, B. (2012). Electronic Commerce: Opportunities and Challenges of general importers in Addis Ababa. Addis Ababa University, Addis Ababa, Ethiopia
- Molla A., and Licker, P. S. (2005). Ecommerce Adoption in Developing Countries: A Model and Instrument. *Information and Management*, pp. 877 - 899.
- Molla, A. and Licker, P.S. (2005). Perceived E-Readiness Factors in E-Commerce Adoption: An Empirical Investigation in a Developing Country. *International Journal of Electronic Commerce*, 10(1), 83-110.
- Nagender S., Manisha Y., Omprakash S. (2016). Consumer acceptance of apparele-commerce–Ethiopia, *Intellectual Economics*, 55–62
- Ochola, P. (2015). An empirical study of determinants of e-commerce adoption amongst micro, small and medium enterprises in Kenya. *International Journal of Economics*,

Commerce and Management, United Kingdom, Vol. III, Issue 12

- Othman, M. (2015). E-commerce adoption. *El-fitouri Int. Journal of Engineering Research and Applications*, Vol. 5, Issue 1(Part 1), pp.102-115
- Peterson, O., Michael, M., Richard, B., Gladys, M., Margaret, K., Kipngeno, M., Henry, K. and Peninah, N. (2011). E-Commerce Products and Services in the Banking Industry: The Adoption and Usage in Commercial Banks in Kenya. *Journal of Electronic Banking Systems*.
- Phares O. (2015). An emperical study of determinant of e-commerce adoption amongst micro, small and medium enterprises (MSMES) in Keniya. *International Journal of Economics, Commerce and Management*, United Kingdom, Vol. III, Issue 12.
- Rayport, J. and Jaworski, B. (2001). E-commerce. *McGraw-Hill/Irwin*, New York, NY.
- Sait, S., Al-Tawil, K., & Hussain, S. (2007). E-commerce in Saudi Arabia: Adoption and perspectives. *Australasian Journal of Information Systems*, 12(1).
- Santos, J. (1999). Cronbachs's alpha : a tool for assessing the reliability of scales J. extension, 37: 1-15
- Scupola, A. (2009), SMEs' e-commerce adoption: perspectives from Denmark and Australia, *J Enterprise Inform. Manag.* , 22 : 152-166
- Seyal, A., Awais, M., Shamail, S., & Abbas, A. (2004). Determinants of electronic commerce in Pakistan: Preliminary evidence from small and medium enterprises. *Electronic Markets*, 14(4), 372– 387.
- Spanos, Y., and Voudouris I. (2009). Antecedents and trajectories of AMT adoption: The case of Greek manufacturing SMEs. *Research Policy* 38(1): 144-155.
- Syed S., Ali K., & Hishamuddin I. (2008). Factors affecting e-commerce adoption in the electronic manufacturing companies in Malaysia. *International Journal of Commerce and Management*, Vol. 17 No. 1/2, pp. 125-139
- Turban, D. (2008). *Electronic commerce: a managerial perspective*, 4th Edition, Prentice Hall.
- Turban, E., King, D., Lee, J., Lian, T. & Turban, D. (2012). *Electronic commerce*. London. *Prentice Hall*.

UNCTAD, “E-commerce and Development Report”, United Nations, New York, 2003, retrieved from <http://www.unctad.org/> e-Commerce, Last accessed on Dec. 2019.

Varaprasad, G., Sridharan, R. & Unnithan, A. B. 2013. Internet banking adoption in a developing country – an empirical study. *International Journal of Services and Operations Management*, 14(1): 54-66.

Wegene D., Anthony O. and Jose N. (2016). Factors Affecting the Adoption of Information and Communication Technologies: Small Hotels and Tour Operators in Addis Ababa, Ethiopia. *LIBRI*; 66(2): 151–165

Wondwossen, T and Tsegai, G. (2005). E-payment: challenges and opportunities in Ethiopia. *Economic commission for Africa*, Addis Ababa Ethiopia.

Zakaria, M., & Hashim, M. K. (2003). Malaysian SMEs perceptions of e-business: Some empirical evidence. *Proceedings of the national seminar on e-commerce*, Kuala Lumpur, Malaysia, pp. 31–38.

<https://corporatefinanceinstitute.com/resources/careers/companies/top-banks-in-ethiopia/>,

Retrieved on Feb. 28, 2019, from

<http://export.gov/usoffice>, Last Published: 12/11/2018, Retrieved on Feb. 28, 2019

Addis Ababa
University
(Since 1950)



ADDIS ABABA UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
DEPARTMENT OF ACCOUNTING AND FINANCE

Masters of Science (MSC) Program in Accounting and Finance Questionnaire to be distributed to

Ethiopian Banks' E-banking Technical & Business department staffs

Research Questionnaires on the Topic “Determining Factors Affecting the Adoption of E-Commerce in the perspectives of Ethiopian Banks”

Part I: Introduction

Dear Sir/ Madam

Just to introduce myself, I the researcher, Nega Bsrat Gebre, is the final year student at Addis Ababa University College of Business and Economics in the Department of Accounting and Finance, conducting a thesis authorized by same- on the title called

“Determining Factors affecting the adoption of E-Commerce in the perspectives of Ethiopian Banks” for the partial fulfillment of Master degree.

Dear respondent, one thing to tell & assure you is that, this questionnaire is designed to solicit and congregate information for purely academic purpose only. Your idea and response is fundamental to the conclusion of the study and you are sympathetically requested to completely and genuinely answer all questions. This research is going to be carried out based on your genuine response and other relevant document.

This questionnaire will take approximately 15-20 minutes. You are not required to write your name and all information you provide will be handled in strict confidential manner.

If in case you do have further explanation or comments to add, here I left space at the end of the questionnaires.

I would like to extend my deepest gratitude in advance for giving me your precious time.

If you have any questions about this survey, please do not hesitate to contact me via my phone number 0911961218 or via my email address: Negabisrat137@gmail.com

N.B:

- ✓ You don't need to write your name.
- ✓ The student, researcher has scheduled to get the filled questionnaire back within 3 days.
- ✓ The information and comments you provide are highly honored & kept confidential.
- ✓ Please kindly tick (✓) or provide your own answer where applicable.

Thank you So much in Advance for your time and participation!!!

Background

Name of Bank-----

Department: ----- Technical Business

When was the Bank established -----?

Your Title / Position in the Bank: -----

Part II:

In this section the researcher wants to know your perception toward the adoption of e-commerce in Ethiopian Banks. Please kindly point out the appropriate scale for your opinion by Circling on the space that indicate from the option range “Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A), Strongly Agree (SA)

Item	Description	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
IT Capability (IT)						
IT1	Our organization is well computerized with LAN and WAN	1	2	3	4	5
IT2	We have high bandwidth connectivity to the Internet	1	2	3	4	5
IT3	We have an established enterprise-wide IT infrastructure	1	2	3	4	5
IT4	We have sufficient experience with network based applications	1	2	3	4	5
Perceived Benefits (PB): Electronic commerce would help to ...						
PB1	Reduce cost of business operations & increase productivity	1	2	3	4	5
PB2	Improve customer service and satisfaction	1	2	3	4	5
PB3	Improve distribution channels	1	2	3	4	5
PB4	Reap operational benefits	1	2	3	4	5
PB5	Increase ability to compete	1	2	3	4	5
Perceived Complexity (PX):						
PX1	Learning to operate electronic commerce is/would be easy	1	2	3	4	5
PX2	Interacting with electronic commerce is/would be flexible	1	2	3	4	5

Determining Factors Affecting the Adoption of E-Commerce in the perspectives of Ethiopian Banks

PX3	My interaction with electronic commerce is/would be clear and understandable	1	2	3	4	5
PX4	It would be easy for me to become skillful at using electronic commerce	1	2	3	4	5
Organizational Competence (OC)						
OC1	Our organization has a good understanding of electronic commerce business models that are applicable to our business	1	2	3	4	5
OC2	We have a good understanding of electronic commerce application solutions that are applicable to our business	1	2	3	4	5
OC3	Our bank has the necessary technical, managerial and other skills to	1	2	3	4	5
OC4	Our bank has the necessary technical, managerial and other skills to implement electronic commerce.	1	2	3	4	5
Supporting Industries (SI)						
SI1	The telecommunication infrastructure is reliable and efficient	1	2	3	4	5
SI2	The technology infrastructure of commercial and financial institutions is capable of supporting electronic commerce transactions	1	2	3	4	5
SI3	We feel that there is efficient and affordable support from the local IT industry to support our move to the Internet	1	2	3	4	5
SI4	Our industry is pressuring us to adopt electronic commerce	1	2	3	4	5
Government Readiness (GR)						
GV1	We believe there are effective laws to protect consumer privacy	1	2	3	4	5
GV2	We believe that there are effective laws to combat cyber crime	1	2	3	4	5
GV3	We believe the legal environment is conducive to conduct business on	1	2	3	4	5
GV4	We believe that the government demonstrates strong commitment to promote electronic commerce	1	2	3	4	5
GV5	Government regulations allow electronic settlement of electronic	1	2	3	4	5
EA						
EA1	All in All, do you believe e-commerce Adoption is feasible in Ethiopia, with current situation?	1	2	3	4	5
EA2	Do you believe, e-commerce could help you to achieve your organization strategic plan?	1	2	3	4	5
EA3	Do you believe e-commerce adoption is part of technological innovation?	1	2	3	4	5

Part III. Personal information

1. Gender:

- Male Female

2. Your Educational background

- High School Master's degree & above
 Technical/vocational certificate Bachelor's degree
 Bachelor's degree other (specify if any)

3. Age

- Less than 22 years 45-55 years
 22-35 years above 55 years
 35-45 years

4. Occupation

- Government Privet Other

5. Your work experience

- Less than 5 years 15-20 years
 6-10 years above 20 years
 10-15 years

6. Level of income

- Less than ETB 5,000
 ETB 5,000 - ETB 10,000
 ETB 10,000 - ETB 15,000
 Over ETB 15,000

7. Which E- banking services does your bank offer to customer?

- Mobile Banking Card Banking
 Internet Banking POS Banking

Agent Banking

Branch Banking

8. How would you rate internet facilities provided by Ethio telecom?

Excellent Good

Satisfactory Bad

9. Does your bank have clear strategic vision about E-commerce?

Yes No

If anything you want to say; please state here-----

Thank you So Much!!!

Nega Bisrat

Phone - 0911 96 12 88

E-mail - Negabisrat137@gmail.com