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Actors Affecting Implementation of Electronic Banking -Evidence from Private Commercial Banks

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BAHIR-DAR UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF ACCOUNTING AND FINANCE

POST GRADUATE PROGRAM

**Factors Affecting Implementation of Electronic Banking -Evidence
From Private Commercial Banks.**

By:

Atnafu Tewabe

Bahirdar, Ethiopia

July, 2020

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Factors Affecting Implementation of Electronic Banking: Evidence From Private Commercial Banks.

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A Graduate Thesis Submitted to Department of Accounting and Finance, Bahir Dar University for the Partial Fulfilment of the Requirements for MSC Degree in Accounting and Finance

July, 2020

BAHIR DAR, ETHIOPIA

Statement of Declaration

I, the undersigned, declare that this study entitled “factors affecting e-banking implementation: evidence from private commercial banks, is my own work. I have undertaken the research work independently with the guidance and support of my research advisor. This study has not been submitted for any degree or diploma program in this or any other institutions and that all sources of materials used for the thesis have been duly acknowledged.

Declared by

Name: Atnafu Tewabe

Signature_____

Date_____

Statement of Certification

This is to certify that the thesis entitled, factors affecting implementation of electronic banking evidence from private commercial banks was carried out by Atnafu Tewabe submitted in partial fulfilment of the requirements for the degree of Master of Science in Accounting and Finance complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Name of Internal Examiner

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Name of External examiner

Signature

Date

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Abbreviations

ATM- Automatic Teller Machine

DIT- Diffusion of Innovations Theory

E-banking- Electronic banking

ICT- Information Communication Technology

OECD – Organization for Economic Co-operation and Development

PBC- Perceived behavioral control

PEOU- Perceived Ease of Use

PU- Perceived Usefulness

SN- Subjective Norm

TAM- Technology Acceptance Model

TPB - Theory of Planned Behavior

TRA- Theory of Reasoned Action

USA- United States of America

WAP-Wireless application protocol

Abstract

This study aimed to examine factors that affect electronic banking implementation evidence from private commercial banks Bahir Dar city branches and to forward some possible recommendations to the concerned organs for solving the problems identified by this study. Post positivist knowledge claim is followed and survey strategy of enquiry is used. The data used in this study were mainly primary and cross sectional survey method was used in data gathering from respondents by using questionnaire. The study incorporates environmental factors, technological factors, organizational factors and strategic factors as independent variable and electronic banking implementation as dependent variable. Descriptive statistics and multiple linear regressions are used for analysis. Assumptions are tested to check the appropriateness of multiple linear regressions for analysis. The hypotheses that were developed have been tested based on the result of inferential statistics. From the four factors used the regression result showed that environmental factors, technological factors and strategic factors affect e-banking implementation positively and statistically significant. Contrary to the hypothesis, organizational factors has been found affecting e-banking implementation positively but statistically insignificant. The study recommended that, the private bank executives strive to improve the e-banking facilities, the outlines and improve the condition of employee's competency on the ground of e-banking to maximize the return. Finally, the inclusion of additional variables like commitment of government, level of literacy and infrastructures might be potential extension of the present research.

Key words: E-banking, implementation, private commercial banks, Bahir Dar city

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CHAPTER ONE

1 Introduction

1.1 Background of the study

According to (Alellegn, 2018), electronic banking defined as a variety of self-service platforms such as internet banking, mobile banking, ATM dispensers, and point of sale where customers access these services using electronic devices without their physical presence in the bank. E-Banking as a banking Channel allows customers to conduct all traditional banking services like, payment of online bill, balance enquiry and account to account transfer without visiting their bank branch (Gezu and Sintayehu, 2017).

(Bultum, 2014) States that electronic innovation emerged in the banking industry since 1970s and customers come to know the change with the introduction of ATM in the 1980s. (Mwiya) et al (2017) summarized the evolution of e-banking service as developed countries as, initially encompassed only Automated Teller Machine (ATM) in the Early 1980s. In the 1990s, the banking sector began to perform some of their e-banking transaction through the telephone. Internet banking services were introduced in 1995 in the United States of America i.e USA

The fastest growth of internet in the world accelerate the modernization of banks by facilitating the accessibility, delivery time, self-service and ease of marketing. In developed countries Internet banking has been widely used and rapidly expanding in developing countries. The advent of E-Business accompanied with technological innovations and globalization is constantly propelling the organization to modify their business operations in terms of value chain reengineering and restructuring business models (Mia, Rahaman, and Uddin 2007). As time goes, banks relied on information technology (IT) to acquire, process, and provide its services to all customers to differentiate their products and services, as well as provide convenient, reliable, and expedient services. As a result, banks have tended to invest more in technology and information to achieve maximum return by efficiently attracting and serving a large number of clients (Mwiya et al).

A number of theoretical and empirical studies has been done in the field of electronic banking. Technology Acceptance Model (TAM), Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB) and Diffusions of Innovations Theory are among these theoretical outlooks

on which the study of E-banking is viewed against. Empirically, the topic is studied from antecedents and outcomes perspective. However little is known on factors affecting Implementation of E-banking. Environmental, strategic, organizational and technological factors are among which literatures in the field identified as main determinants for implementation of E-banking.

According to (Wenda, 2017), 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 rate of illiteracy. Low literacy rate is a serious impediment for the adoption of E-banking in Ethiopia as it hinders the accessibility of banking services. For citizens to fully enjoy the benefit of e-banking, they should not only know how to read and write but also possess basic ICT literacy.

In the Ethiopian context, (Gezu and Sintayehu , 2017) noted that “even though Ethiopian were started to use internet banking service lately, cash bases transaction by front customer service officers are still made. Besides, internet banking systems adoption and utilization are at its infant stage due to different factors. However they argued that in the face of rapid expansion of internet banking systems throughout the developed and developing world, Ethiopia’s financial sector cannot remain an exception in expanding the adoption and usage of e-banking system (Gezu and Sintayehu 2017). Due to the above facts the researcher is highly motivated to see the determinants of E- banking service implementation in Ethiopian banking industry.

The purpose of this study is, therefore, to examine on the rarely studied factors affecting E-banking implementation in the Ethiopian context targeting private commercial banks operating in Bahir Dar city.

1.2 Statement of the problem

(Al-Smadi, 2012) Studied for factors affecting e-banking from customers perspective in Jordan using technological acceptance model (TAM) with the theory of planned behavior model and incorporate five cultural dimensions and found out that uncertainty avoidance has a positive and significant impact on perceived ease of use and perceived usefulness. Perceived risk has the stronger impact on customer attitude, which in turn influence customers intention to use electronic banking services.

A study conducted in Portugal by (Rodrigues B, 2017) factors affecting E- banking adoption found out that lack of trust is one of the main factors negatively influence e-banking adoption. Peer pressure seems to have a relevant impact on e-banking adoption. Whereas perceived ease of use has a positive influence on perceived usefulness and that trust is influenced by perceived Privacy. The research concluded that e- banking users think that future e- banking developments have value added for customers.

A study conducted on factors affecting technology acceptance (Opare, 2018) showed e-banking had made it simple for Eco bank to set up banking facilities in rural areas. Through technology acceptance, the customers and the general public are able to access a branch for a variety of services through the convenience of home banking and finally made the bank and its employees financially profitable.

(Allelign,2018) studied for factors affecting the adoption of e-banking found that user un motivation to use that type of technology is the main factors for the adoption of E-banking and thus it does not bring full benefits to the organization and customers. So to inspire customers to use electronic banking, banks must make remarkable improvements that address the customers' concerns.

The study conducted on the major barriers the Ethiopian banking industry faces in adoption of electronic banking are identified to be security risk, lack of ICT infrastructure and absence of competition between local and foreign banks (Bultum, 2014). And among recommended measures is banks attention on technological innovation than traditional retail banking competition. A recently conducted research in Ethiopia regarding e- banking revealed results that the adoption of internet banking is primarily and positively affected by perceived ease of use,

perceived usefulness, perceived risk, intention to use, prior internet knowledge and convenience focused on the factors affecting its adoption not the implementation.

However previous researches in the field of e- banking have limitations in a number of aspects. Firstly, despite a large body of theoretical and empirical research, especially the TRA (Fishbein and Ajzen, 1975) followed by TAM by (Davis, 1986), none the aforementioned theory concludes about the factors affecting E-banking implementation single handedly.

Secondly, far-reaching empirical researches have been conducted on the topic E- banking. However, the results show inconclusive judgments on the actual factors influencing e- banking implementation notwithstanding countless researches have been conducted. Thus, the factors influencing e-banking implementation still remains riddle.

Third ,all these leading e-banking theories, hypotheses and empirical studies are originally based on developed markets, indeed, it has been conducted in some emerging markets like Kenya, Pakistan, India and Malaysia. But the issue of e- banking on developed countries by no means is a like with developing countries particularly in developing (emerging) economies, where market imperfections are norms than expectations.

Fourth, although little research is conducted in developing countries most of the researches focus on adoption of E-banking. It could, therefore, be argued that factors influencing the implementation of E-banking of banking companies in Ethiopia shall better understand if researchers can examine the major factors affecting E-banking implementation of the banking industry so will add an important contribution to the existing knowledge.

Therefore, having these gaps in mind conducting this study on developing countries specifically in our country Ethiopia is logical and the researcher intends here to test whether the said theories, hypothesis and empirical evidence are similar with developing countries where they formerly originated from.

1.3 Objective of the study

1.3.1 General objective of the study

The general objective of the study was to examine the factors affecting e-banking implementation in private commercial banks in the case of Bahir Dar city.

1.3.2 Specific objective of the study

1. Examine the effect of environmental factors on e-banking implementation in the Ethiopian private banks operating in Bahir Dar city.
2. Examine the effect of strategic factors on e-banking implementation in private banks operating in Bahir Dar city.
3. Examine the effect of organizational factors on e-banking implementation in the Ethiopian private banks operating in Bahir Dar city.
4. Examine the effect of technological factors on e-banking implementation in the Ethiopian private banks operating in Bahir Dar city.

1.4 Research questions

The central question of the research was expected to answer, “What factors predominantly affect the implementation of e-banking in Ethiopia” within that the following specific questions were addressed.

1. What is the effect of environmental factors on the implementation of e-banking in the Ethiopian private banks operate in Bahir Dar city?
2. What is the effect of strategic factors on the implementation of e-banking in the Ethiopian private banks operate in Bahir Dar city?
3. What is the effect of organizational factors on the implementation of e-banking in the Ethiopian private banks operate in Bahir Dar city?
4. What is the effect of technological factors on the implementation of e-banking in the Ethiopian private banks operate in Bahir Dar city?

1.5 Significance of research

The application of E- banking was expected to expand and developed in to a better and customer friend status continuously. The Ethiopian banking sector was not being an exception in this case. Besides as the intent of things further developed the issue of e- banking grows in parallel with positive and negative experiences to face. Hence, studies were expected to offer both theoretical and empirical knowledge that can cope with the fast and complex growing of e- banking. This study offered one of these contributions from the developing market perspective. It was on a vantage point of this relevance for Ethiopian bank sector in general, to the policy and decision makers, and it will be an addition to the specific research topics.

1.6 Scope of the study

The scope of the study was delimited in both geographical and conceptual scopes. Geographically the study will limited to Bahirdar city administration. Conceptually, the study limited to the effect of organizational, environmental, strategic and technological as an independent variable on E- banking implementation.

1.7 Organization of the study

The study was organized in to five chapters. Chapter one incorporates background of the study, statement of the problem, research question, and objective of the study, significance of the study, scope of the study and the organization of the study while chapter two is mainly devoted with the literature review section which includes the introduction, theories, empirical evidences, conclusions and knowledge gaps as well as conceptual frameworks. Under chapter three, the methodology used in this thesis which includes the research approach as well as describes the data collecting and analysis methods used are presented. Chapter four presented results and discussions from which the collected data yields. Finally, chapter five winds up with conclusions drawn from the fourth chapter thereby forwarding possible recommendations.

CHAPTER TWO

2. Literature review

Introduction

This chapter presents the literature review which contains four sections. The first section presented the definition and types of electronic banking while the second section presented the theoretical review of numerous theoretical foundation on e-banking which are related with this topic while the third section presented the empirical reviews that are conducted by tremendous researchers in different countries and fourth section presenting Conclusions and knowledge gaps that led to hypothetical establishments to conduct this study.

2.1 Definition and types of electronic banking

E-banking can defined as a variety of platforms such as internet banking or (online banking), mobile banking, and PC(personal computer) banking whereby customers access these services using an intelligent electronic device, like automated teller machine (ATM), point of sale (POS) (Alellegn 2018). According to Alellegn, there are different types of E -banking and some of the basic are discussed as follow:

1. Automated Teller Machines (ATM)- It is an electronic terminal which gives consumers the opportunity to get banking service at almost any time. To withdraw cash, make deposits or transfer funds between accounts, a consumer needs an ATM card and a personal identification number (PIN).
2. Point-of-Sale (POS)-The system allows consumers to pay for retail purchase with a check card, a new name for debit card. This card looks like a credit card but with a significant difference. The money for the purchase is transferred immediately from account of debit card holder to the store's account.
3. Internet /extranet banking- It is an electronic home banking system using web technology in which Bank customers are able to conduct their business transactions with the bank through personal computers.

4. Mobile banking- Mobile banking is a service that enables customers to conduct some banking services such as balance inquiry and by using of short text message.

2.2 Theoretical reviews

A banking sector acts as the backbone of modern business (Akrani, 2011) and thus it has to be supported through charming technology called electronic banking.

The definition of electronic banking (E-banking) varies amongst researchers partially, Because electronic banking refers to several types of services through which a bank's Customers can request information and carry out most retail banking service via computer, Television or mobile phone (Akrani 2011, Mansah 2012 and Opare 2018).

Since the late 1990s E-Banking has developed from virtual insignificance to tens of millions of users worldwide (OECD, 2001). The beginning of the E- banking age has been shivering the business environment and breaking out innovative and unconventional ways of doing business. One of the latest outcomes this E-Business is internet banking or E-Banking.

Banking sector is now reengineering it to adopt the change and to be the race of globalization. Electronic banking provides consumers with a convenient method of conducting bank business from the comfort and security of their own home and personal computer. Consumers can check account balances and review other account information any time of the day or night and has changed the face of transactional business and affects commerce across many trades and industries (Mia and Rahman, 2007). Consequently, many researchers have been hypothesized and developed different theoretical frame works in the study of adoption and implementation of new technology innovation. Among frameworks that have been developed based on the past studies includes, Technology Acceptance Model (TAM), Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB) and Diffusion of Innovations Theory (DIT) are the most dominant theories of E- banking to the knowledge of the researcher.

2.2.1 Technology Acceptance Model (TAM)

TAM was developed by (Davis , 1986) to explain the computer-usage behavior. According to the model, in clarifying the adoption of any information system, perceived ease of use (PEOU) and perceived usefulness (PU) are the two most important pillars.

According to (Davis, 1986), perceived usefulness refers to the degree to which a person that using a particular system would enhance or improve his or her job performance. While perceived ease of use refers to the degree to which a person that using a particular system would be free from effort. Besides, (Mansah, 2012) and (Opare, 2018) concludes that the adoption of whether to use an information system for a particular individual is very much depend on the perceived usefulness and perceived ease of use of the information system.

Gradually, (Lin, 2005) extended the existing TAM model by adding four new constructs to understand mobile banking adoption in Taiwan. These are perceived credibility, perceived self-efficacy, perceived cost and perceived risk.

Davis recommended that utilizing a data framework is straightforwardly dictated by the behavioral expectation to utilize it, which is thus affected by the client's mentalities toward utilizing the framework and the apparent convenience of the framework. State of mind and Perceived handiness is likewise influenced by the apparent convenience.

2.2.2 Theory of Reasoned Action (TRA)

The original framework of this model was developed by (Fishbein and Ajzen, 1975). TRA explained that the actual behavior follows from behavioral intention and that behavioral Intention is formed by one's attitude towards behavior and subjective norm (Masrom and Hussein, 2008).

(Fishbein and Ajzen, 1975) Defined attitude towards behavior as the individual's feelings about performing behavior. On the other hand, subjective norm was explained as an individual's Perception of whether the behavior should be performed. This would be driven by the motivation that an individual has to comply with opinions from people who are important to the individual (Fishbein & Ajzen 1975).

However, there is a constraint associated with the TRA model regarding the distinction between a goal intention and a behavioral intention, this has also been acknowledged by Fishbein and Ajzen. The limitation is that they establish their model to cope with behaviors, for example, taking weight loss pill, applying for a loan or purchase of car; but not with outcomes that result from behaviors, for example, losing 10 pounds, getting a loan or owning a brand new car. Moreover, only those behaviors are dealt by model that is under an individual's volitional control. The conditions of the model can't be fulfilled, whenever the performance of some action

needs resources, knowledge, skills or Environmental hurdles need to be overcome (Sheppard et al., 1988).

2.2.3 Theory of Planned Behavior (TPB)

The theory of planned behavior (TPB) recommended that the human conduct is dictated by Expectation to play out the conduct, which is influenced together by the state of mind toward Conduct, subjective standard and saw behavioral control (Ajzen, 1991). Attitude is the general sentiment of individual about the allure or undesirability of a particular conduct. Subjective norm (SN) communicates the apparent authoritative or social weight of a man who expects to play out a specific conduct. Perceived behavioral control (PBC) mirrors a Man's view of the straightforwardness or trouble of actualizing a specific conduct.

2.2.4 Diffusions of Innovations Theory

The Innovation Diffusion Theory explains individual's intention to adopt a technology as a Modality to perform a traditional activity. The theory is developed by (Rogers, 1983). The Critical factors that determine the adoption of an innovation at the general level are the following: relative advantage, compatibility, complexity, trial ability and observability (Rogers, 1995).

The theory seeks to explain how, why, and at what rate new ideas and technology spread through cultures. Rogers defines diffusion as the adoption of an innovation "over time by the given social system", as a consequence diffusion processes result in the acceptance or penetration of a new idea, behaviors, or physical innovation. Rogers identified several attributes of an innovation that are key influences on adoption behavior namely relative advantage, compatibility, complexity, trial ability and observability.

The advent of E- Business accompanied with technological innovations and globalization is constantly propelling the organization to modify their business operations in terms of value chain reengineering and restructuring business models. As time goes, banks relied on information technology (IT) to acquire, process, and provide its services to all customers to differentiate their products and services, as well as provide convenient, reliable, and expedient services. As a result, banks have tended to invest more in technology and information to achieve maximum return by efficiently attracting and serving a large number of clients (Mia and Rahaman, 2007).

The general objective this study is to examine the factors that affect e-banking implementation in private commercial banks in Bahir Dar city and thus from the different theoretical arguments it is guided by these theories which are technological acceptance model theory, theory of planned behavior, theory of reasoned action and the theory of diffusion innovation .

The justification of using these theories are, as explained above, banks use technology and information to satisfy their customers at the same time to maximize its return, due to the fact that each theory explains the behavior of users of technology toward e-banking implementation. Hence, technology acceptance model is based on technological factors while theory of planned behavior is based on strategic factor and environmental factor, and diffusion of innovation theory also based on technological factor. As well the theory of reasoned action serve as the foundation for the behavior of users of technology towards organizational factors.

Consequently, various empirical evidences are well come in line with the extension of the Aforementioned theories which originally developed by scholars regarding implementation of Electronic banking beyond its adoption. Those empirical evidences have classified the major Factors influencing the implementation of E-Banking as strategic, technological, Organizational and environmental as they are discussed with separate sections as follows conjointly through astonishing empirical studies.

2.3 Empirical reviews

Several studies have been conducted to examine the relationship between electronic banking and factors influencing its implementation in developed and developing countries yet it is little in the later one. Given the amount of empirical literature available on the topic of this research it would have been quite difficult to present the results of all the studies, therefore here are some of international researches done on e-banking.

2.3.1 Environmental factors and implementation of E-Banking

Gardachew (2010) Smadi (2012), Smith et al. (2013), Rodrigues (2017) and Wenda (2017) Studied on the current working style of banks and found a few difficulties of utilizing E-Banking framework such as absence of reasonable legitimate and administrative casing works for E-trade and E-installments, political insecurity in neighboring nations, high rates of Lack of education and nonattendance of money related systems that connections diverse Banks.

Wondwossen and Tsegai (2009) likewise considered on the difficulties and chances of E-Banking in Nigeria; their goal was concentrating on of E-Banking honours in creating nations, Africa and Nigeria. The creators utilized meeting and on location perception to explore difficulties to E Banking in Nigeria and found that, the fundamental hindrances to the improvement of E-Banking are, absence of clients trust in the activities, unavailability of installment laws and directions especially for E-Banking, lack of talented labor and continuous influence disturbance.

2.3.2 Organizational factors and implementation of E-Banking

Kiare (2015), Awan (2017) and Gezu and Sintayehu (2017) demonstrates that the authoritative factors such as bank measure, utilitarian divisions, specialized staff, specialized infrastructure, thought dangers, leaders' global experience and dominance of advancement are factors which apply noteworthy effect on the implementation of E-Banking, among the basic qualities, the outcome established that Inner mechanical environment of the bank is an essential calculate deciding the appropriation of E-Banking, additionally the outcome demonstrates that banks which are creating in the Universal scale will probably embrace E-Banking developments. At last they argued that the degree of infiltration of e-banking in the development period of a developing business sector has an essential relationship with the change of business execution.

2.3.3 Technological factors and implementation of E-Banking

The Technology Acceptance Model (TAM) proposes that an imminent client's general emotions or states of mind toward utilizing a given innovation based framework or technique speak to real determinants in the matter of regardless of whether he/she will at last utilize the Framework (Davis, 2009). This study has been extensively supported by Akrani (2011), Mansah (2012 and Opare (2018) who found that the fundamental hindrances connected with E-banking, are its multifaceted nature and the security dangers required in utilizing it. Besides, Kiarie (2015), Aldadi et al. (2016) and Mwiya et al. (2017) found that people believe that exchange chance happens when online markets neglect to guarantee that administration will be conveyed with sufficient quality. Regularly, moderate reaction time after the internet collaboration prompts to a postponement of administration conveyance and causes clients to be uncertain that the exchange was finished.

2.3.4 Strategic factors and implementation of E-Banking

Akbari (2012), Mohamed (2013), Assad (2014), Hashezahi (2016), Awan (2017) and Wonda et al. (2017) demonstrated that banks have the decision to offer their Banking benefits through different electronic conveyance stations innovations, for example, Internet Innovation, video banking innovation, phone-banking innovation, and WAP innovation.

They likewise showed that Internet innovation is the fundamental electronic dispersion divert in the banking industry. As it were, E-Banking as internet based banking that includes the arrangement of Banking administrations, for example, getting to accounts, exchanging stores amongst records, and offering an online monetary administration.

2.4 Summary and knowledge gaps

This chapter of the study provides a literature survey on the factors affecting E-Banking Implementation debate; which shows that E-Banking literature offers various theoretical Explanations and contains voluminous empirical research. Summarizing all these studies the Following points can be concluded.

Firstly, the literature on dividend policy had produced a large body of theoretical and Empirical research, especially following the publication of theory of reasoned action (TRA) Followed by (Fishbein & Ajzen 1975) followed by theory of technological acceptance model (TAM) by Davis (1986). None the aforementioned theory concludes about the Factors affecting E-Banking implementation single handedly.

Secondly, far-reaching empirical researches have been conducted on the topic E-Banking. Many scholars have built and empirically tested a great number of models relating to the said Theories to explain what factors influence the adoption and implementation of e-banking and others have surveyed managers to learn what their thoughts are on these factors. However, the chapter shows inconclusive judgments on the actual factors affecting e-banking Implementation notwithstanding countless researches have been conducted. Thus, the factors influencing e-banking implementation still remains riddle.

Third, all these leading E-Banking theories, hypotheses and empirical studies are originally Developed based on developed markets. Indeed, it has been conducted in some emerging Markets like Kenya, Pakistan, India and Malaysia. But the issue of E-banking on developed

Countries by no means is alike with developing countries particularly in developing (Emerging) economies, where market imperfections are norms than expectations that led them to factors influencing e-banking to be more puzzle, and much stronger than in developed countries due to the various factors such as political, social and financial instability, lack of adequate disclosure, poor laws and regulations, weaker financial Intermediaries, newer markets with smaller market capitalizations, weaker corporate Governance and different ownership structures (Mehdin et.al, 2010). Therefore, conducting this study on developing Countries specifically in Ethiopia is logical and the researcher Intends here to test whether the said theories, hypotheses and empirical evidences are similar with developed countries where they formerly originated from.

Fourth, although little research is conducted in developing countries most of the researches focus on adoption of e-banking. But, little studies have been conducted in Ethiopia regarding this topic, specifically in the banking industry. It could, therefore, be argued that factors influencing the implementation of e-banking of banking companies in Ethiopia should be better understood if researchers could examine the major factors affecting e-banking Implementation of the banking industry so that it is expected that it will add an important contribution to knowledge.

Research hypothesis

Based on the review of theoretical and empirical literature the following hypothesis were developed.

H1a: Environmental factors have a significant effect on e-banking implementation in private commercial banks in Bahir Dar City.

H1b: Strategic factors have a significant effect on e-banking implementation in private commercial banks in Bahir Dar City.

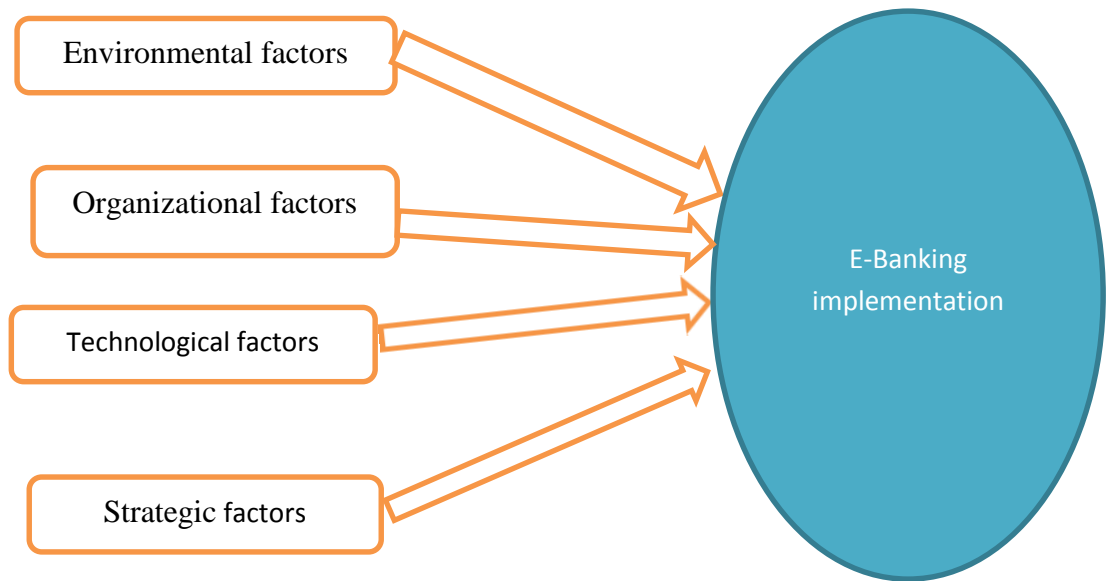
H1c: Organizational Factors have a significant impact on e-banking implementation in private commercial banks in Bahir Dar City.

H1d: Technological factors have a significant impact on e-banking implementation in private commercial banks in Bahir Dar city.

2.5 Conceptual frame work

The figure below depicts the dependent and independent variable of the research and the relation among them. The independent variables includes environmental factors, organizational factors, technological factors and strategic factors.

Figure 2. 1 conceptual framework



Source: TAM, TRA, TPB and previous studies

CHAPTER THREE

3. RESEARCH METHODOLOGY

Introduction

This chapter presents in detail the research approach, research design, data type and source of data, population of the study, exclusion criteria, data collection tools, measurements of variables, data analysis techniques.

3.1 Research approach

In order to achieve the general and specific objective of the study, quantitative research approach used. According to Creswell (2009), if the problem is identifying factors that influence an outcome, the utility of an intervention or understanding the best predictors in outcomes, also to sue or test a theory or explanation, then a quantitative approach is best. This is an approach that places on measurement, collection and analysis of data. Here, all the data processed using quantitative analytical techniques so as to remain objective. This study follows post positivism world view. This philosophy focuses on reductionist that aims to reduce the ideas into a small, discrete set of ideas to test based on the variables that constitute hypotheses and research questions (Creswell & Wisdom, 2013).

3.2 Research design

It is an advance decision regarding the methods and procedures for collecting and analyzing the needed information for doing the paper is required. If it is appropriate, it is essential in specifying the type of data, data collection technique, the sampling methodology. To conduct this study the researcher used explanatory research design. In this investigation the researcher examined the extent and the nature of cause-effect relationship between the dependent and independents variable in that of e-banking implementation and factors that affect the implementation of e-banking. Explanatory research design focus on an analysis of a situation or a specific problem to explain the patterns of relationships between dependent and independent variables (Zikmund, Babin, Carr & Griffin, 2012). The study has also explained the results by comparing with empirical evidences and theories. Hypotheses were formulated and have been tested on the basis of empirical and theoretical reviews on similar subject matters.

3.3 Population of the study

Population is the total collection of all objects or people to be studied (Brooks,2008) or it is the entire group of people, events or things of interest the researcher wishes to investigate (Sekaran,2016). Besides, (Creswell, 2009) stated that in a research study, the study population define the entire collection of unites or the people that the researcher wants to use for the purpose of drawing conclusions. To formulate a research design, the researcher needed to know the scope of the audience in line with the objectives of the study as the target population included the people or the population who have the information that the researcher intended to use for the purpose of drawing conclusions.

The population of this research was E-banking professionals and branch managers working at all the branches of private commercial banks in Bahir Dar city. In those offices, there are 128 employees of branch managers and e-banking professionals in aggregate that was targeted in this research. Therefore the total populations of this study were 128 employees. The reason that those respondents targeted because, any e-banking related authorizations (approval) is done by managers and any e-banking activity is make by e-banking professionals, they are deemed to be knowledgeable and can provide important perspective on banks implementation of e-banking.

3.4 Data type and source

According to (Kothari, 2004) in deciding about the method of data collection to be used for the study, the researcher should keep in mind two types of data, primary and secondary. The primary data are those which are collected afresh and for the first time, and thus happen to be original in character. Whereas, secondary data have already been collected by someone else and which have already been passed through the statistical process. Thus, the researcher used primary data to keep originality. The major advantage of primary data collection is that it can be collected with the researcher's purpose in mind (Creswell, 2009). The primary data collected using questionnaire from branch managers and e-banking professionals of private commercial banks in Bahirdar city.

3.5 Exclusion criteria

Since the researcher assumes that, the respondents who have not work for long will not have details about e-banking and to collect good data, the study excludes employees who have less than one year experience in E-banking profession.

3.6 Data Collection tools

The primary data collected through questionnaire from the targeted employees of all private commercial banks of Bahir Dar city branch managers and e-banking professionals. Even though it suffers respondent bias, the survey method has an advantage for their external validity/generalization since data was collected in the organizational setting.

As described above, the target respondents were e-banking professionals and branch managers of private commercial banks in Bahir Dar city. A questionnaire was distributed to all of E-banking professionals and branch managers. The respondents were considered as they are deemed to be knowledgeable in due course of implementing and running E-banking system in their line of work.

The questionnaire measures the factors such as environmental, organizational, and technological and strategic factor affecting e-banking implementation with its characteristics in private banks operating in Bahir Dar city. Thus, factors measured using items adapted from previous researches by using a 5- point Likert scale, on which label given for respondents to express their level of agreement for each item among the scales and then the average score on each trait was used during data analysis and interpretation.

3.7 Measurement of Variables

The study that has one dependent variable of e-banking implementation and four independent variables of environmental, organizational, technological and strategic variables are measures as follows. The dependent variable of E-banking implementation is measured by the number of users of e-banking to check account balances, for cash withdrawal, account to account transfer, bank statements and the like. On the other hand, independent variables were explained and measured as in the following manners. To measure environmental Factor; customer pressure, pressure from supplier, sector of business operation and business focus were collected and measured by legal (number of court cases), national ICT infrastructure and competition in the

market. Data related to organizational factor like cost of internet connectivity, cost of ATMs, and networking technology & ICT infrastructure were collected and measured by budget allocation and approval, procurement of computers and related devices. Data related to technological factor like banks understanding of E-banking business model, good Understanding of E-banking application solutions, reliable internet connectivity & contemporary technologies, banks technical, managerial & other skills to implement E-banking were collected and it is measured by number of qualified IT staffs, provision of reliable equipment and reliable internet connectivity. Finally, strategic factors banks understanding of the customer's preference of using e-banking, banks comfortable to customers of using the E-banking facility, banks assurance of e-banking positive impact on users and employees clear vision and mission on E-banking were collected and it is measured by commitment of management and customer relation.

All the items under both the dependent and independent variables were measured in a five- Point Likert items with response options ranging from very low =1 to very high =5. Likert items are those from very high to very low and Likert scales are sums or averages of the results on sets of Likert items and should be measured in Interval scale (Brown, 2011).

3.8 Method of data analysis

Given data analysis usually involves reducing accumulated data to a manageable size, developing summaries, looking for patterns, and applying statistical techniques (Creswell, 2009). This section explains how the data was analyzed, and would also define the statistical terms of Means, and Standard Deviation, which was used to analyze the data. After the data is collected it was analyzed using Statistical techniques based on the information. Therefore, the data were entered on IBM SPSS in order to draw the simple tabulations. These were used to describe the socio demographic characteristics of the research participant. In this study, multiple linear regression analysis was used to examine the how of environmental, organizational, technological and strategic factors affect banks e-banking implementation.

According to Anderson, Sweeney and Williams (2011), multiple regressions analysis is a suitable method of data analysis in a situation where two or more independent variables are involved in a research problem. It enables to consider more factors and it results better estimates than others possible analysis methods. In very general terms, regression is concerned with describing and Evaluating the relationship between a given variable and one or more other

variables. More Specifically, regression is an attempt to explain movements in a variable by reference to movements in one or more other variables (Chris, 2008). The structured questionnaire used likert scale in order to obtain research participants preference of agreement on the given statements. The participants indicated one of the choices given in order to tell their level of agreement. To present the data efficiently, the researcher assigned value to each response allowing it to represent a single character.

Hence, the econometric model for this study formulated as follows.

Multiple Regression Model

$$Y = F(X_1, X_2, X_3, X_4)$$

Where; Y = E-banking implementation

X₁= Strategic factors

X₂= Technological factors

X₃= Environmental factors

X₄= Organizational factors

Based on the above conceptual model, the researcher employed the analytical model presented here under.

$EBV = \beta_0 + \beta_1SV + \beta_2TV + \beta_3EV + \beta_4OV + \epsilon$, which later gave the following equation.

$$EI = 1.099 + .185SV + .304TV + 0.188EV + 0.11OV + \epsilon$$

WHERE Y = E-banking implementation

SV = Strategic factors

TV = Technological factors

ENV = Environmental factors

OV = Organizational factors

β_0 = constant term

β_1 = beta coefficients

ε = statistical discrepancy

The justification for using this model is that when a variable is influenced by more than one Variables, it is of greater interest and more valid to have more than one explanatory variable in the regression equation at the same time, and therefore to examine the effect of all of the Explanatory variables together on the explained variable and the model that can enable a Researcher to do this is called multiple linear regression model (Brooks, 2008). Thus, given this study constituted one dependent variable influenced by four regressors, the researcher found it obvious of using this model.

3.9 Validity and reliability

3.9.1. Validity

Validity is the extent to which a measure adequately represents the underlying construct that it is supposed to measure (Sakaran 2016). Research validity had two groups of internal and external validity. External validity refers to the extent to which the research findings can be replicated to other environments, while internal validity refers to how the research findings match reality. To insure the validity of this study, questionnaire were developed, then pilot test were conducted to check the contextual congruence, then the data were collected from the reliable source of respondents who are working in private banks operate in Bahir Dar city.

3.9.2. Reliability

Reliability is the degree to which the measure of a construct is consistent or dependable (Brooks, 2008). In other words, if we use this scale to measure the same construct multiple times, do we get pretty much the same result every time, assuming the underlying phenomenon is not changing. To check the reliability of the instruments Cronbach alpha reliability coefficient were applied. Cronbach Alpha coefficient of all the items examined to determine the reliability. Usually, an item with Cronbach alpha value, greater than 0.7, which is about 0.899, was considered reliable. Based on the data obtained all items well measured the variables and constructed in their respective appropriately.

3.10 Ethical Consideration

This study considered the following ethical obligations because, science has often been manipulated in unethical way by people and organizations to advance their private agenda and engaging in activities that are contrary to the norms of scientific conduct so this study free from this type of issues. These are voluntary participation and harmlessness, and confidentiality, disclosure, and analysis and reporting.

CHAPTER FOUR

4. RESULTS AND DISCUSSION

Introduction

This chapter presented the data analysis, presentation and interpretation of findings on the data collected from e-banking professionals and branch managers of private commercial banks operating in Bahir Dar city. The main objective of the study was to identify the major factors affecting E-banking implementation of private commercial banks in Bahir Dar city

The researcher targets 128 employees of e-banking experts and branch managers who are currently working in Bahir Dar City. From 128 being distributed, 3 are not returned and 5 which is respond by employees of less than one year experience are excluded. The results are based on 120 questionnaires collected from those employees. The responses of employees gathered through questionnaire were encoded in SPSS version 20 software. In this case, each factor collected from the respondents was given a particular code. After that descriptive and inferential analysis was made and the results are presented using percentages, mean, tables and charts.

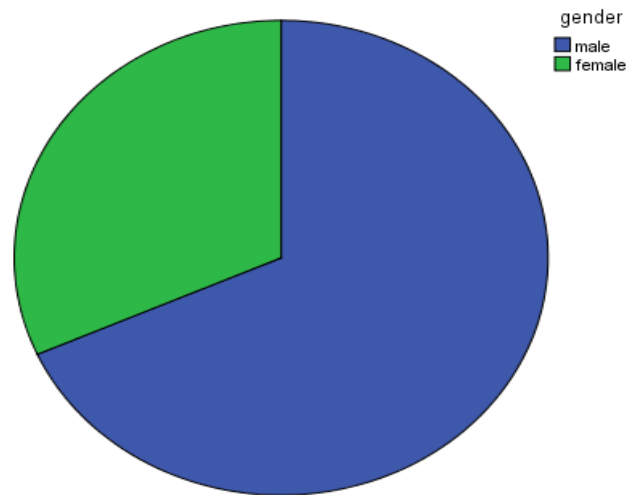
Accordingly, sections 4.1 to 4.4 deals with the analysis and summary of results of the Questionnaire gathered from employees in Bahir Dar city. Sections 4.5 summarize the Findings of all the responses from employees to answer the main research question: “Factors affecting E-banking implementation; the case of private commercial banks in Bahir Dar city”.

4.1 Demographic Characteristics

This section describes respondents and their general information such as gender, educational Level and the experience.

Accordingly the demographic data of respondents such as gender, education levels and the Experience they are engaged with, are discussed under the following figure 4.1, figure 4.2 and figure 4.3. Concerning the gender of respondents, figure 4.1 below shows that 82(68.33%) of the respondents were males and 38 of the respondents which represents 31.67% of the total respondents were females. This shows that the majority of the employees of e-banking professionals and branch managers working in private commercial banks in Bahir Dar city are males.

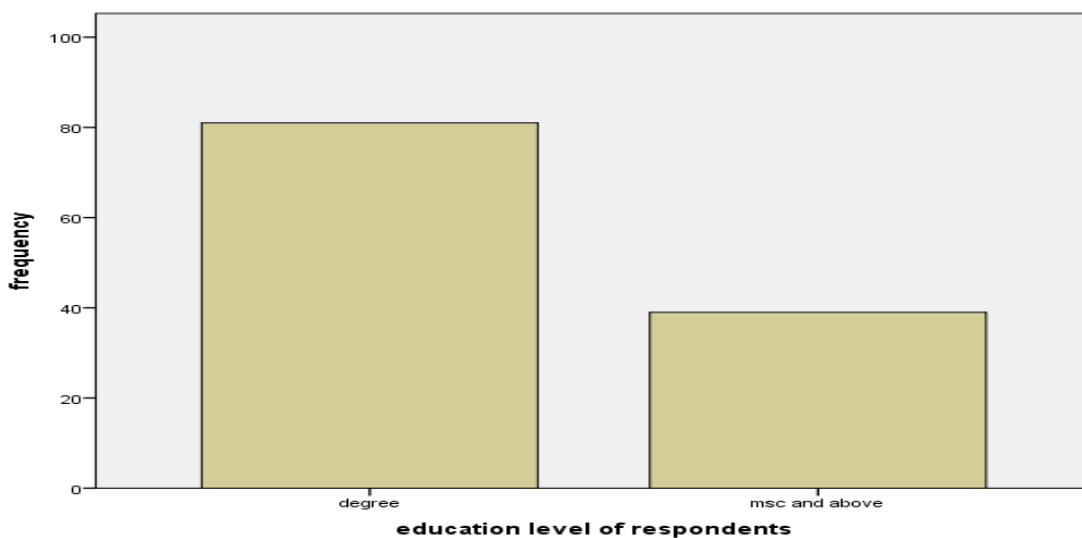
Figure 4. 1 Gender of respondents



Source: SPSS output, 2020

Concerning the educational qualification of the respondents, the following figure 4.2 illustrates that, 81 (67.5%) of the Respondents are degree holders. On the other hand, the number of respondents who have Master's degree and above is 39 representing 32.5% of the total respondents respectively.

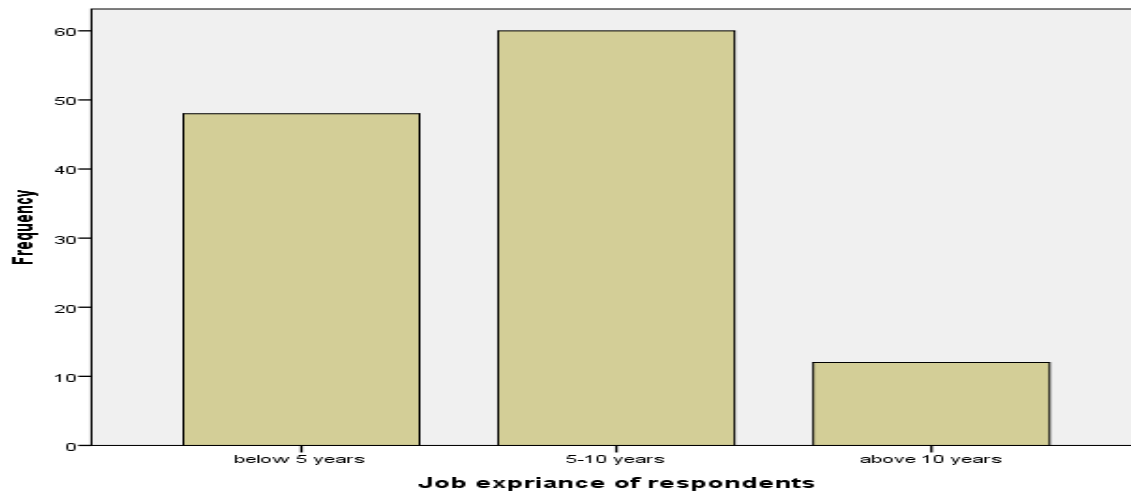
Figure 4. 2 Educational levels of the respondents



Source: SPSS output, 2020

Regarding the job experiences of the respondents in the industry, 48 (40%) of the respondents have less than five years' experience, 60 (50%) were found between five to ten years of experience and the rest which is about 12 (10%) are found having above a ten years' experience.

Figure 4. 3 Job experiences of respondents



Source: SPSS output, 2020

4.2 Descriptive statistics

Table 4.1 provides a summary of the descriptive statistics of the dependent and independent variables for total of 120 observations. The table includes the mean, standard Deviation, number of observations, minimum and maximum for the independent and dependent variables of the model. It shows the average indicators of variables computed from the survey questionnaire.

The mean score indicates the degree of respondent's average response on the given idea, hence the higher the mean score, the more respondents agreed on the given idea and the vice versa. On the other hand standard deviation specifies how far the values are spread above and below the mean and high standard deviation indicates the data is widely spread but low result shows the data are clustered closely around the mean and it is more reliable.

Accordingly the following table shows, strategic factors have the mean score of 2.67, which is the highest among other independent variables. The second variable which is organizational factors has a mean score of 2.66. Besides, the third factor which is perceived by respondents is environmental which has a mean score of 2.65. Lastly, compared to other variables the least

popular influencing factor perceived by the respondents is technological factors which have the mean score of 2.62. Respondent's aggregated E-banking implementation from the following table is 3.18. From the data collected, most respondents in Bahir Dar city perceived their bank implement E-banking less due to weak strategic, technological, environmental and organizational factors.

Table 4. 1 Descriptive statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
EV	120	1.5	4.8	2.65	.75866
ST	120	1	4.2	2.67	.63778
OV	120	1.2	4.0	2.66	.57306
TV	120	1.25	4.5	2.62	.69284
EI	120	2	4.8	3.19	.54889
Valid N (listwise)	120				

Source: SPSS output, 2020

4.3 Correlation Analysis

The correlation coefficient is a measure of linear association between two variables. The value of this coefficient can take a value between +1 and -1, in which a value of +1 shows that perfect positive correlation. This means that the two variables are precisely related and that, as values of one variable increase, values of the other variable will increase. By contrast, a value of -1 represents a perfect negative correlation. Again, this means that the two variables are precisely related; however, as the values of one variable increase those of the other decrease. Correlation coefficients between +1 and -1 represent weaker positive and negative correlations, a value of 0 meaning the variables are perfectly independent. Within business research it is extremely unusual to obtain perfect correlations (Saunders, Lewis, & Thorn hill, 2009).

Besides, the correlations between the dependent (E-banking implementation) and Independent variables (strategic factors, technological factors, environmental factors, and Organizational factors) are singly handedly offered through table 4.2 presented here under.

Accordingly, table 4.2 provides the correlation matrix for the variables used in the analysis below. As can be seen from the table, the result of correlation between implementation and Strategic factors showed a positive coefficient .853. It indicates that the higher the Strategic awareness, banks do have the higher the tendency to implement E-banking. The correlation result between technological factors and implementation showed a Positive sign with a coefficient of .852. This indicates, if, banks perform better in technological factors, E-banking implementation among the banks will increase obviously.

Besides, environmental factors had a positive correlation with E-banking implementation which is about .843. This implies that the safer the environmental factors the more E-banking Implementation performed. Meanwhile, there was positive correlation between organizations Factors and E-banking implementation and the coefficient was .792. This shows that as Organizational factors improved better, the more E-banking implementation.

Table 4. 2 Correlation matrix

Correlations					
	EI	EV	ST	OV	TV
EI	1				
EV	.843	1			
ST	.853	.858	1		
OV	.792	.806	.865	1	
TV	.852	.798	.822	.734	1

Source: SPSS output, 2020

4.4 Tests for the classical linear regression model (CLRM) assumptions

This section presents the test for the assumptions of classical linear regression model (CLRM) namely the error have zero mean, heteroskedasticity, autocorrelation, normality and multicollinearity.

4.4.1. Assumption one: the errors have zero mean ($E = 0$)

According to (Brooks, 2008), if a constant term is included in the regression equation, this

Assumption will never be violated. Thus, since the regression model used in this study included a constant term, this assumption was not violated.

4.4.2. Assumption two: Heteroscedasticity test

If the errors do not have a constant variance, it is said that the assumption of homoscedasticity has been violated. This violation is termed as heteroscedasticity.

In this study Breusch-Pagan test was used to test for existence of heteroscedasticity across the range of explanatory variables. According to Breusch-Pagan test the result is excess of 0.05, this Show that there is no evidence in the presence of heteroskedasticity.

Table 4. 3 Heteroskedasticity Test- Breusch-Pagan

		LM	Sig
Breusch-Pagan		7.228	.124

Source: SPSS output, 2020

4.4.3. Autocorrelation

While performing multiple linear regression analysis, the independence between error terms is crucial. This eventuality is sometimes described as a lack of autocorrelation. This assumption can be tested with the Durbin–Watson test, which tests for serial correlations between errors (Field, 2009).

Based on the general rule of thumb rule a critical value with in the range of 1.5 up to 2.5 there is no autocorrelations (www.google.com). According to Field (2009), the values under 1 or more than 3 are a definite cause for concern for autocorrelation. In this model the Durbin-Watson $d = 1.902$, which is between the two critical values of the general rule of thumb $1.5 < d < 2.5$, field critical value between $1 < d < 3$. Therefore, I can assume that there is no auto correlation in this multiple linear regression data. So, it can be safely assumed that there is no problem of autocorrelation in the multiple linear regressions as shown in the table 4.4 below.

Table 4. 4 Autocorrelation - Durbin-Watson

Model Summary^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.906 ^a	.821	.814	.23643	1.902
a. Predictors: (Constant), TV, OV, EV, ST					
b. Dependent Variable: EI					

Source: SPSS output, 2020

4.4.4. Assumption four: Multicollinearity Test

Multicollinearity in the regression model suggests substantial correlations among independent variables. This phenomenon introduces a problem because the estimates of the sample parameters become inefficient and entail large standard errors, which makes the coefficient values and signs unreliable. In addition, multiple independent variables with high correlation add no additional information to the model. It also conceals the real impact of each variable on the dependent variable (Gujarati, 2004).

Therefore, checking co-linearity problem with the assumption of tolerance and VIF(Variance Inflation Factor) statistics is important before regressing. (Andy, 2006) suggested that a tolerance value less than 0.1 almost certainly indicates a serious co-linearity problem. (Liu, 2010) also suggested that for a VIF value greater than 10, there is also serious co-linearity problem.

Accordingly, Table 4.5 below shows the tolerance values of the independent variables of this research are .224, .153, .236, and .292 for environmental factor, strategic factors, organizational factor and technological factors respectively. Likewise, the variance inflation factors (VIF) are 4.465, 6.556, 4.231 and 3.421 for environmental factor, strategic factors, organizational factor and technological factors respectively. Based on the result, there was no multi co-linearity problem in factors affecting implementation of E-banking under this paper.

Table 4. 5 Multicollinearity test: Variance Inflation Factors

Model		Collinearity Statistics	
		Tolerance	VIF
	EV	.224	4.465
	ST	.153	6.556
	OV	.236	4.231
	TV	.292	3.421

- Dependent Variable: EBV
- Source: SPSS output, 2020

4.4.5. Assumption five: normality test

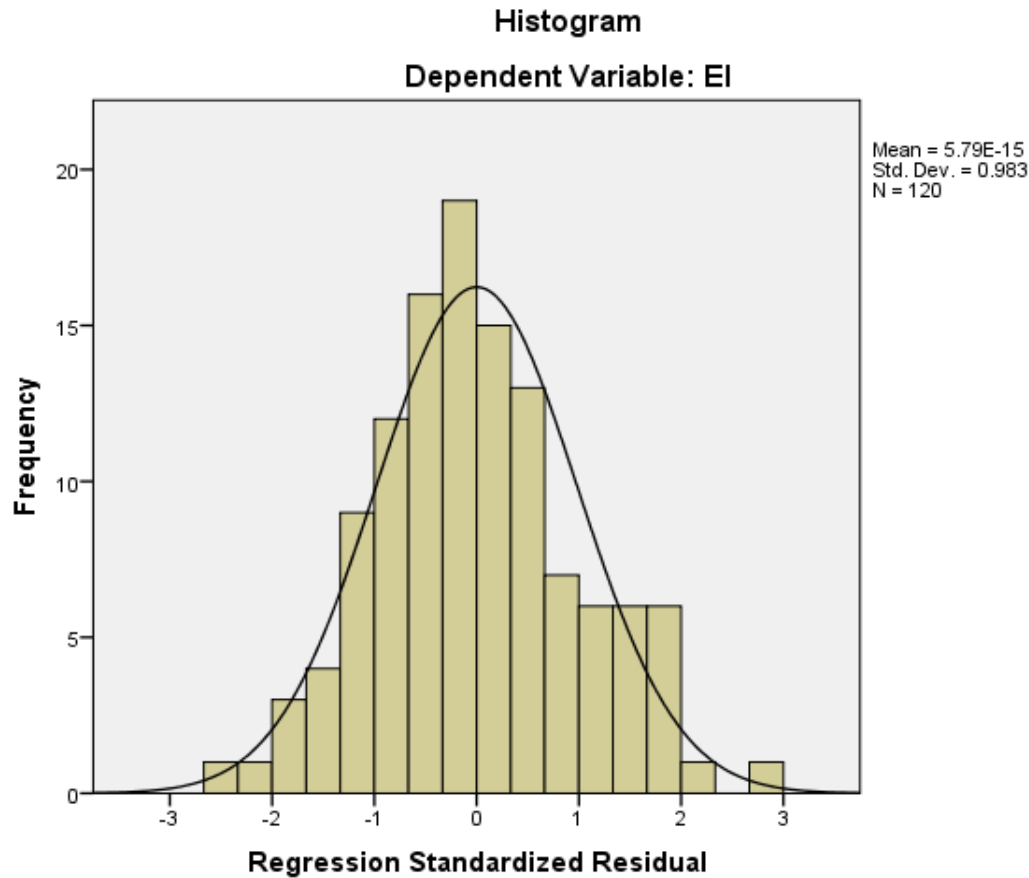
A very important assumption in regression analysis is the normality test. The normal distribution of errors or residuals is another assumption. In other ways, the data would be distributed symmetrically around the center of all scores. i.e., the residuals in the model are random and it is normally distributed variable around mean of 0 (Field, 2009). As such, if we drew a vertical line through the center of the distribution then it should look the same on both sides. This is known as a normal distribution and is characterized by the bell-shaped curve (Field, 2009). Normality of distribution is tested using histogram as is shown below. In order to check normality assumption the researcher also used Shapiro-Wilk test .The Shapiro-Wilk Test is greater than 0.05, which is 0.467 the data is normal. If it is below 0.05, the data significantly deviate from a normal distribution.

Table 4. 6 Test of normality

Tests of Normality			
	Shapiro-Wilk		
	Statistic	df	Sig.
Unstandardized Residual	.989	120	.467
*. This is a lower bound of the true significance.			
a. Lilliefors Significance Correction			

Source: SPSS output, 2020

Figure 4. 4 Histogram of normally distribution of error



Source: SPSS output, 2020

As clearly portrayed in the histogram above, the distribution shows a bell-shaped curve and if one can simply view the vertical line stands at $-0-$, the right and left hand sides of the curve looks like equal. Also, the normal distribution of the variables is tested using normal probability plot as shown below. The straight line in this plot represents a normal distribution, and the points represent the observed residuals. Therefore, in a perfectly normally distributed data set, all points will lie on the line. In this plot with a slight deviation, the points lie on the line. If it is so, the histogram satisfies the assumptions of normality test.

4.5. Multiple Regression Analysis

As indicated above multiple linear regression assumption are acceptable and the next step is regressing the influence of independent variables (environmental factors, organizational factors, technological factors & strategic factors) on dependent variable (E-banking implementation) or

determining the extent to which the explanatory variables explain the variance in the explained variable.

4.5.1 Model Summary

The following table provides the summary of the model about R, R square, adjusted R square and the standard error of the estimate, which can be used to determine how much percent of dependent variable is explained by predictors' variables under this investigation.

Table 4. 7 Model Summary

Model Summary^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.906 ^a	.821	.814	.23643
a. Predictors: (Constant), TV, OV, EV, ST				
b. Dependent Variable: EI				

Source: SPSS output, 2020

As it is shown in the above table, in multiple correlation coefficients R can be considered as one of the measure of the quality of prediction between the predictors and outcome. A value of .906 in this model summary indicates a good level of prediction on models for observed data. R square value is .821 this means that 82.1% of variation observed in e-banking implementation by banks can be explained by the four independent variables under this study. In other words, of the potential determinants of factors affecting e-banking implementation, 82.1% can be attributed by environmental variables, organizational variables, technological variables and strategic variables.

The model explains only 82.1% of variation observed in factors affecting implementation of e-banking and the remaining 17.9% of the variance is explained by other variables not included in this study.

4.5.3 Regression Coefficient

The following table displays the estimated coefficients of the multiple regressions of e-banking implementation against the independent variables for the sample of 120 respondents.

Table 4. 8 Regression coefficient

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.099	.106		10.408	.000
	EV	.188	.06	.26	3.111	.002
	ST	.185	.087	.215	2.13	.035
	OV	.11	.078	.115	1.411	.161
	TV	.304	.058	.384	5.26	.000
a. Dependent Variable: EI						

Source: SPSS output, 2020

The unstandardized coefficients B column, provides us the coefficients of the independent variables in the regression equation together with all the predictor variables as indicated below;

$$EI = 1.099 + .188EV + .185SV + .11OV + .304TV$$

Where: EI= E-banking implementation

EV=environmental variables

ST= strategic variables

OV= organizational variables

TV= technological variables

As shown in the above table, the coefficient of environmental variables, strategic variables organizational variables and technological variables shows the positive value which implies the presence of positive and significance effect up on the dependent variable (e-banking implementation of banks) except organizational variable.

Table 4.8 further shows that, the three explanatory variable of environmental variables, strategic variables and technological variables included in this study can significantly explain at 95% confidence level to the variation on the dependent variable of e-banking implementation.

Thus among the four explanatory variables, the largest influence on e-banking implementation is explained by technological factors (0.304), the next is environmental variables (.188) and followed by strategic variables (.185) and last organizational variables (0.11).

Beta weight is the value that indicates the dependent variable increases or decreases when the independent variables decrease or increases by one unit respectively (all other independent variables are held constant). Therefore unstandardized coefficients beta coefficients are interpreted as follows;

- On average E-banking implementation by banks will increase or decrease by .304, if there is a 1% increment or decrement in technological factors respectively (all other independent variables are held constant).
- On average E-banking implementation by banks will increase or decrease by .188, if there is a 1% increment or decrement in environmental factors respectively (all other independent variables are held constant).
- On average E-banking implementation by banks will increase or decrease by .185, if there is a 1% increment or decrement in strategic factors respectively (all other independent variables are held constant).
- The dependence between organizational factors and E-banking implementation is not statistically significant i.e. implementation of e-banking is not statistically dependent on organizational factors.

4.6. Discussion of the result

This section of the chapter discusses some of the main implications of the results. The analysis is based on the results of the regression between the dependent variable and the independent variables presented in table 4.8 above.

4.6.1. Strategic Factors

As explained in the hypothesis, strategic factors have a significant effect on e-banking implementation in private commercial banks of Ethiopia in the case of Bahir Dar City. The result is in line with the hypothesis. In particular, the coefficient on strategic factors was positive and statistically significant at five percent level with a Sig. value of 0.035. This means that the more better the private commercial banks in strategic factors, they are more likely to implement E-banking.

This result is congruent with theory of planned behavior (TPB) which stated that human conduct is dictated by expectation to play out the conduct, which is influenced together by state of mind toward conduct, subjective standard and saw behavioral control (Ajzen, 1991), which directly affects the strategic management of banks in the E-banking implementation. Moreover, this study found the same result with the work of Akbari (2012), Mohamed (2013), Assad (2014), Hashezahi (2016), Awan (2017) and Wenda et al. (2017) who concluded that banks have the decision to offer their banking benefits through different electronic conveyance stations innovations like internet innovation, video banking innovation, phone-banking innovation, and WAP innovation. Furthermore, they showed that Internet innovation is the fundamental electronic dispersion divert in the-banking industry.

Generally, it can be summarized that, strategy is considered as an important factor in influencing E-banking implementation. This result clearly supports the hypothesis that Strategic factors have a significant effect on e-banking implementation.

4.6.2. Environmental Factors

As explained in the hypothesis, environmental factors have a significant effect on e-banking implementation in private commercial banks of Ethiopia in Bahir Dar city.

The result is in line with the hypothesis. In particular, the coefficient on environmental factors was positive and statistically significant at five percent level with a Sig. value of 0.02. This means that the more the private commercial banks are safer in environmental factors, they are more likely to implement E-banking. This result is congruent with theory of planned behavior in that the general sentiment of Individuals about the allure or undesirability of a particular conduct and communicates the apparent authoritative or social weight of a man who expects to play out a specific conduct Which later affects environmental factors (Ajzen,1991) such as customer pressure, suppliers pressure, business focus and sector business operation.

This study is congruent with the work of (Gardachew, 2010), (Smadi, 2012), (Smith et al., 2013), (Rodrigues, 2017) and (Wonda, 2017) who found a few difficulties of utilizing E-Banking framework such as absence of reasonable legitimate and administrative casing works for E-trade and E-installments, political insecurity in neighboring nations, high rates of lack of education and nonattendance of money related systems that connections diverse banks.

This hypothesis is also supported by study of (Wondwossen and Tsegai, 2009) who found that fundamental hindrances to the improvement of E-Banking are, absence of clients trust in the activities, Unavailability of installment laws and directions especially for E-Banking, lack of talented labor and continuous influence disturbance.

Hence, environmental factors is considered as an important factor in influencing e-banking implementation of private commercial banks in Bahir Dar city. This result clearly supports the hypothesis that environmental factors have a significant effect on e-banking Implementation in private banks of Ethiopia in the case of Bahir Dar City.

4.6.3. Technological Factors

As explained in the hypothesis, technological factors have a significant impact on e-banking implementation in private commercial banks of Ethiopia in Bahir Dar City. The result is in line with the hypothesis. In particular, the coefficient on technological factors was positive and

statistically significant at five percent level with a Sig. value of 0.00. This means that the more the private commercial banks utilized and adopted technological factors, they are more likely to implement E-banking.

This result is consistent with technology acceptance model (TAM) which clarifies the adoption of any information system, perceived ease of use and perceived usefulness as the two most important pillars of implementation supported by Davis (1986), Mansah (2012) and Opare (2018). TAM concludes that the adoption of whether to use an information system for a particular individual is very much dependent on the perceived usefulness and perceived ease of use of the information system. The model also purports that the degree to which a person that using a particular system would enhance or improve his or her job performance while perceived ease of use refers to the degree to which a person that using a particular system would be free from effort.

This result is also congruent with diffusions of innovation theory which believe that technology should be adopted to utilize many advantages such as compatibility, complexity, trial ability and observability (Rogers, 1995). This study has been extensively supported by (Akrani, 2011), (Mansah, 2012) and (Opare, 2018) who found that the fundamental hindrances connected with E-Banking, are its multifaceted nature and the security dangers required in utilizing it.

This result is also supported by the study (Kiarie, 2015), (Aldadi et al., 2016) and (Mwiya et al., 2017) found that people believe that exchange chance happens when online markets neglect to guarantee that administration will be conveyed with sufficient quality. Hence, technology is considered as an important factor in influencing e-banking implementation of private commercial banks in Bahir Dar city. This result clearly supports the hypothesis that technological factors have a significant impact on e-banking implementation in private Commercial banks of Ethiopia in Bahir Dar City.

4.6.4. Organizational Factors

As explained in the hypothesis, that organizational factors have a significant effect on e-banking implementation in private commercial banks of Ethiopia in Bahir Dar city. The result is not line with the hypothesis. Even the coefficient on organizational Factors was positive it is not significant at five percent level with a Sig. value of 0.161.

This means that the improvement of the organizational factors in private commercial banks have not significant to implement E-banking. This result is incongruent with theory of reasoned action (TRA) which relates organizational factors with subjective norm that explained an individual's perception of whether the behavior should be performed driven by the motivation that an individual has to comply with opinions from people who are important to the individual (Fishbein & Ajzen 1975).

This study is also incongruent with the work of Kiare (2015), Awan (2017) and Gezu and Sintayehu (2017) who demonstrated that the authoritative factors such as bank measure, utilitarian divisions, specialized staff, specialized infrastructure, thought dangers, leaders' global experience and dominance of advancement are factors which apply noteworthy effect on the implementation of E-Banking. Even though it is insignificant, it supports the work of Mayer (2008) who argued that the degree of infiltration of e- banking in the development period of a developing business sector has an essential relationship with the change of business execution.

Generally the most significant factors that make the variability of banks implementation of e-banking in private commercial banks in Bahir Dar city were significantly affected by strategic factors, technological factors and environmental factors positively.

4.7 Hypothesis Testing

By reviewing different empirical and theoretical literatures with regard to factors affecting e-banking implementation the researcher had been formulated the hypothesis about the relationship between the dependent variable of E-banking implementation and independent variables of environmental factors, organizational factors, technological factors and strategic factors. Based on the result of SPSS on table 4.8 the hypothesis are tested as follows.

H1a: Environmental factors have a significant effect on e-banking implementation in private commercial banks in Bahir Dar City.

Based on table 4.8 environmental factors have positive relationship and significant effect on E-banking implementation ($\beta = .188$, $P < 5\%$). Because of this the first alternative hypothesis is supported or accepted.

H1b: Strategic factors have a significant impact on e-banking implementation in private commercial banks in Bahir Dar city.

As shown in the regression coefficient table 4.8, strategic factors also has positive effect on e-banking implementation and significant ($\beta = .185$, $P < 5\%$) so the second variable is accepted.

H1c: Organizational factors have a significant effect on e-banking implementation in private commercial banks in Bahir Dar City.

Table 4.8 shows that organizational factors has positive effect on e-banking implementation but it is insignificant ($\beta = .11$, $P = .161$). Since probability value is greater than the significant level ($.161 > 5\%$) the third alternative hypothesis is rejected.

H1d: Technological factors have a significant impact on e-banking implementation in private commercial banks in Bahir Dar City.

The SPSS result on table 4.8 portrays also technological factors has positive effect on e-banking implementation and significant ($\beta = .304$, $P < 5\%$ which is $.000$). Due to this the fourth hypothesis is accepted.

Table 4. 9 Comparison of the actual result and the expected result

Independent variables	Expected relationship with E-banking implementation	Actual result	Statistical significance test
Strategic factors	+	+	Significant
Technological factors	+	+	Significant
Environmental factors	+	+	Significant
Organizational factors	+	+	Insignificant

CHAPTER FIVE

5. CONCLUSION AND RECOMMENDATION

Introduction

This chapter presents conclusion drawn from the overall overviews of the research by adding the main findings of the analysis part and give recommendations and future research directions. Accordingly, the chapter started its discussion by briefly sum up the overviews of the study and its main findings. In section two based on the study finding the researcher highlight some recommendations finally the limitation and future research directions are presented.

5.1 Conclusions

The research has focused on examining the factors affecting e-banking implementation of private commercial banks in Bahir Dar city. More specifically, the research goes to examine the level of e-banking implementation by identifying the factors that determine e-banking implementation and analyze the relationship between e-banking implementation and identified factors. Environmental factors, organizational factors, technological factors and strategic factors are identified and modeled for analysis. Literatures related with environmental, organizational, technological and strategic factors were reviewed from available books and research journals. Primary data was collected from respondents of being selected for this purpose through distribution questionnaires. As the extent to which an instrument measures what it purports to measure and the consistency of measurement instrument in producing similar output at two different points in time are the basic issues that measure the quality of measurement instruments, validity and reliability tests are conducted. The collected data is analyzed by using descriptive statistics and inferential statistics.

From the collected data, most respondents perceived, banks implement e-banking less due to weak strategic, technological, environmental and organizational factors. The assumptions of multiple linear regressions are tested and they are appropriate to run multiple linear regression model and as the result of the regression coefficient there is a significant positive relationship between environmental factors and e-banking implementation. This positive relationship can be elaborated as, the more better the private commercial banks in environmental factors, they are more likely to implement E-banking. So the study concluded that environmental factors such as,

customers and suppliers pressure, sector of business operation and business focus are critical in the implementation of e-banking.

The researcher also found that there is a significant positive relationship between technological factors and e-banking implementation. This also can be elaborated as, the more the private banks utilized and adopted the technological factors, the private commercial banks are the more likely to implement e-banking. So the study concluded that technological factors like understanding of e-banking business model, application solutions; reliable internet connectivity and adoption of contemporary technologies as well as technical, managerial & other skills play a vital role to implement E-banking.

There are also a significant positive relationship between strategic factors and e-banking implementation and this means that, the more better the private commercial banks in strategic factors, they are more likely implement e-banking. This study observed that an existence of effective strategic factors, especially in relation to customers preference and comfort ability as well as in affording employees a clear vision & mission on e-banking aligned with the banks which significantly affect its implementation.

Opposite to the research hypothesis the study also found that positive but insignificant relationship between organizational factors and e-banking implementation. This means that the improvement of the organizational factors in private commercial banks have not significant influence to the implementation of E-banking.

5.2 Recommendations

E-banking service is a new banking technology in our country and hence its expansion from time to time is increasing. Due to these, the findings of this study are helpful for the private commercial banks and it provide the information regarding the implementation of e-banking and also inform them about the implementation policies used by their peers. The information is useful for maintaining a healthy competition and improving organization profitability.

Based on the findings reached the following possible solutions are recommended so as to increase e-banking implementation of private commercial banks. These recommendations are proposed to indicate the areas that need prime focus about e-banking implementation by private commercial banks.

- ✓ The study recommends that the private commercial bank executives ought to endeavor to think of more on security of e-banking in order to win the trust of their customers furthermore to guarantee that they don't confront any misfortune because of weakness in strategies they framed which significantly affects e-banking implementation.
- ✓ The private commercial banks ought to Participate in order to guarantee that the banks get sufficient framework and gear's required for e-banking to guarantee shirking on high expenses and boosting of security to utilize the competitive advantages of technology.
- ✓ The study recommends that private banks ought to be quick to inspect their rivals move in e-banking to guarantee that they are not left behind by keeping an eye on their rivals they will have the capacity to create administrations that make the customers and suppliers satisfied to revitalize environmental factors.
- ✓ Private commercial banks ought to ensure that they undertake their employees on preparing on the most proficient method to enable them Conduct e-banking so as not to make blunders amid their operations furthermore to outfit them with great comprehension of e-banking implementation

5.3. Limitation of the Study

The study has its own limitations. The first limitation is e-banking implementation by private commercial banks limited by various factors like, government performance, level of literacy and infrastructures and such like factors. These factors may affect e-banking implementation of private banks directly or indirectly, but these factors are not included, and this study only incorporates Strategic factors, technological factors, environmental factors and organizational factors in its finding. As indicated in the model summary only 82.1% of variation observed in e-banking implementation by private banks can be explained by the four independent variables included in this study. This indicates that 17.9% of factors that affecting e-banking implementation are remain unexplained.

The second limitation is, the study sample is limited to e-banking professionals and branch managers under Bahir Dar city branches, but supervisors, other managerial level employees are not included in the study. If this is done, the generalizability of the study would increase.

5.4. Implications for further research

This research has opened direction for future research especially in context of Ethiopia. There are several potential directions for future research and improvements in E-banking implementation. Since the study is limited on factors affecting e-banking implementation in private commercial banks in Bahir dar city, additional study should be done at main offices or country level.

The study considers on the limited variables that affect e-banking implementation so future researchers should work their study by including additional variables like level of literacy, commitment of government and infrastructure. Since the nature of this study is cross-sectional, the application of longitudinal study in which a comparison of more years and using other data sources like interviews and experiment is another potential extension of the present research.

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Appendix 1: Questionnaire



BAHIR-DAR UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF ACCOUNTING AND FINANCE

POST GRADUATE PROGRAM

This questionnaire is to be filled in by branch managers and e-banking professionals of private commercial banks in Bahir Dar city.

Dear Respondent,
Good Day!

*I, students of Accounting and Finance in Bahirdar University am currently working on My thesis entitled "**Factors affecting implementation of Electronic Banking**" in Bahir Dar City. In line with this, I would like to ask your good office to grant my humble request by answering this questionnaire. This will enable me to gather significant information in fulfilling my study. It will be rest assured that whatever information I gathered will be used only for thesis purposes and be treated with uttermost confidentiality.*

Your cooperation will be highly appreciated!

Part I: Demographic Information

1. Gender: Male Female
2. What is your highest level of education?
Diploma BA/BSC Masters & above
3. In what private bank you are currently working with _____?
4. I have worked for ____years in the banking industry.

Part 2: The Influence of environmental, organizational, technological and strategic factors on electronic banking implementation.

Please kindly rate the following phrases in the table below by ticking (✓) to measure the extent to which environment, organization, and technology and strategy factors influence E-banking implementation. Use a scale of 1-5 where: 1 = very low, 2 = low, 3 = indifferent, 4 = high and 5 = very high to answer the whole questions stated below.

<i>Code</i>	<i>Statement</i>	<i>Very low</i>	<i>Low</i>	<i>indifferent</i>	<i>High</i>	<i>Very high</i>
	<i>Environmental factors</i>					
ENV1	Customer pressure is a critical implementation factor.					
ENV2	Pressure from suppliers is a critical implementation factor					
ENV3	Sector of business operation is a critical implementation factor.					
ENV4	Business focus is a critical implementation factor.					

	Organizational factors					
<i>Ogr1</i>	High costs of development of Internet connectivity and internet site.					
<i>Ogr2</i>	High costs of computers, ATMs & networking technologies for E-banking.					
<i>Ogr3</i>	Our bank has inadequate ICT infrastructure & poor internet connectivity					
<i>Ogr4</i>	E-banking comes with deterioration of relations with customers					
<i>Ogr5</i>	We employees are interested in the use of E- banking					
	<i>Technological factors</i>					
<i>Tec1</i>	Our bank has good understanding of E-banking business model.					
<i>Tec2</i>	We have good understanding of E- banking application solutions.					
<i>Tec3</i>	Our bank has reliable internet connectivity & contemporary technologies					
<i>Tec4</i>	Our bank has technical, managerial & other skills to implement E-banking.					
	<i>Strategic factors</i>					
<i>Stg1</i>	Our bank think customers prefer the use of E-Banking.					
<i>Stg2</i>	We are comfortable with customers using the E-banking facility.					
<i>Stg3</i>	Our bank has effective & reliable E-banking facility for our customer					
<i>Stg4</i>	Our bank assured E-Banking have positive impact on users.					

<i>Stg5</i>	We employees have a clear vision & mission on E-banking aligned with the bank.					
	<i>E-banking implementation</i>					
<i>Eb1</i>	Our bank reduces customers queue because of E-banking.					
<i>Eb2</i>	Bank statement request by customer is reduced because of E-banking					
<i>Eb3</i>	Our bank improved its distribution channels because of E-banking.					
<i>Eb4</i>	Dispute from customers are reduced because of E-banking.					
<i>Eb5</i>	Balance update request by customer is minimized because of E-banking					

Appendix -2 output of SPSS

		LM	Sig
Breusch-Pagan		7.228	.124

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.906 ^a	.821	.814	.23643	1.902
a. Predictors: (Constant), TV, OV, EV, ST					
b. Dependent Variable: EI					

Model		Collinearity Statistics	
		Tolerance	VIF
	EV	.224	4.465
	ST	.153	6.556
	OV	.236	4.231
	TV	.292	3.421

Tests of Normality			
	Shapiro-Wilk		
	Statistic	df	Sig.
Unstandardized Residual	.989	120	.467
*. This is a lower bound of the true significance.			
a. Lilliefors Significance Correction			

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
EV	120	1.5	4.8	2.65	.75866
ST	120	1	4.2	2.67	.63778
OV	120	1.2	4.0	2.66	.57306
TV	120	1.25	4.5	2.62	.69284
EI	120	2	4.8	3.19	.54889
Valid N (listwise)	120				

Correlations					
	EI	EV	ST	OV	TV
EI	1				
EV	.843	1			
ST	.853	.858	1		
OV	.792	.806	.865	1	
TV	.852	.798	.822	.734	1