

ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES



**DETERMINANTS OF MOBILE BANKING ADOPTION; IN THE
CASE OF LION INTERNATIONAL BANK**

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May, 2018

Addis Ababa Ethiopia

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OF LION INTERNATIONAL BANK**

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ID. SGS/0111/2008B

**A Thesis Submitted to St Mary's University School of Graduates
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of Master in Marketing Management**

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DECLARATION

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

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ENDORSEMENT

This thesis has been submitted to St. Mary's University, School of Graduate Studies for examination with my approval of a University advisor.

Asst. Professor Zemenu Aynadis

Advisor

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LIST OF ACRONYMS

CBE: Commercial Bank of Ethiopia

LIB: Lion International Bank

NBE: National Bank of Ethiopia

M-banking: Mobile Banking

ATM: Automated Teller Machine

POS: Point of Sale

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ABSTRACT

This study investigates Determinants of Mobile Banking Adoption in Ethiopia taking Lion International Bank Share Company as area of the study. To achieve the research objective, the study is used a combination of both TOE and TAM framework with some modifications to benefit from both models and to have a more precise understanding on the determinant factors in the adoption of mobile banking service at Lion International Bank. To address the research objective a convenience sampling was used and 339 sample employees were usable. The gathered data was analyzed using descriptive statistics such as mean, percentage and standard deviation. Besides, Binary logistic regression analysis is conducted to understand the relationship between adoption mobile banking and perceived usefulness, perceived ease of use, perceived risk, organizational factor and environmental factor. As result the study found out that perceived usefulness, perceived ease of use, organizational factors and environmental factor have positive relationship with the adoption of mobile banking whereas perceived risk has negative relationship with the adoption of mobile banking. The study recommended the top managements of Lion International bank have to consolidate their efforts to keep ahead the positive outcomes Hello cash mobile banking and investing on promotional campaign to create awareness, expand customer bases, credibility, security, ease of use, while the government and National Bank of Ethiopia should support banking sector by facilitating sufficient ICT infrastructure development and issue workable legal frameworks to ease the adoption of agency banking system.

Key Words: *Hello cash mobile banking, Adoption and Lion International Bank*

CHAPTER ONE

INTRODUCTION

This chapter consists of the background of the study, statement of the problem, research question, objectives of the study, hypothesis testing, and significance of the study and scope of the study.

1.1. Background of the Study

Commercial banks play a vital role in the economic resource allocation of countries where they channel funds from depositors to investors. Gangal (2013) explained that commercial banks are financial institutions that collect surplus fund from depositor and provide loan to those who have fund shortage. According to Uremadu (2002) access to banking service will only improve the lives of a society but also consolidating once own country economic development agenda. Report released by African development bank in 2013 only 23% of African has bank account whereas high income countries account for 89% and this showed that the need to strength the financial inclusion of unbanked societies. Accordingly, National Bank of Ethiopia has designed a strategy that allows all commercial banks to expand their branches than ever aiming at to address the unbanked societies. Presently, in rapidly changing and highly competitive environment success of the banking industry not only depends on expanding of branches but also on having use of the appropriate technology

Gardachew (2010) confirmed that 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 branch banking system. Mobile Banking is one of the emerging technologies that have changed the operations of the banking sector using mobile devices. Huili and Chunfang (2011) suggested that mobile banking significant for appealing to trendy customers, reducing costs per transactions, gaining revenue from service fees, enabling new service channels, and supporting future

customers. Mobile banking services provide time independence, convenience and promptness to customers, along with cost savings.

Despite these advantages, the use of mobile banking services is much lower than expected in both the developed and developing economies (Agwu 2012). He also stated that mobile phones and its applications are still highly under-utilized and still low from other electronic banking counterparts such as ATM; internet banking, etc. Furthermore, it is noted that the widespread adoption and large usage of mobile telephones did not reflect on the adoption and usage of mobile banking. Thus, the use of mobile banking affected by many factors studies of Solomon et al (2014), Oluoch, (2012) and Abebe (2016) indicated that the main determinant factors for the adoption mobile banking are perceived usefulness, perceived ease of use, perceived risk, low computer and technological skills, environmental and organizational factors. Moreover, according to Kalkidan (2016) relative advantage, compatibility, perceived trust, perceived usefulness, and perceived risk as major influencing factors for mobile banking adoption in Ethiopia.

According to Annual LIB report (2015), the Lion International Bank S.C has launched mobile and agent banking service on 2015 as per NBE directive number FIS /01/2012. It has partnered with Belcash Ethiopia for the installation of mobile banking technology known as Hello cash tech platform in 2015. Hello cash mobile banking would make financial services available to more Ethiopian. The system is designed for multi banks and to be interconnected and offer the mobile money service to their respective customers. This allows any customers of the bank to use their mobile devices anywhere without visiting branch to transact financial services. Therefore, this study is tried to indicate the factors which determine for the adoption of mobile banking in Lion International Bank.

1.2. Statement of the Problem

National bank of Ethiopia promotes commercial banks to increase their paid up capital and to expand their branches in the part of the country to address their accessibility for the community. In line with this, Lion international bank introduced hello cash mobile and agent banking which offered by assigned agents and bank's branches to mobilize deposit and expand availability of the banking service. As, compared to Commercial Bank of Ethiopia where mobile banking services CBE could confine 167,000 active

customers (CBE, 2015) while on June 2015/2016, LIB Hello cash mobile and agent banking reached 1,207 agents with 35,824 customers. On June 2016/2017, the bank arrived at 1400 agents with more than 74,000 active customers. Moreover, the Bank improved its basic features of Hello cash mobile banking deposit, withdrawal, money transfer and mobile top –ups, the customers can also effect payment for their Ethiopian Airlines, Selam Bus and Edna-Mall Cinema tickets (LIB Annual report, 2016 and 2017).

In contrast to total customer bases, Lion International bank has attained 13 percent and 18 percent Hell cash mobile users in June 2015/2016 and 2016/2017 respectively. Though Hell cash mobile and agent banking in the last two years were improving, the proportion of Hell cash mobile users against the total customer bases is still very wide. Accordingly, it is important to examine the major determinants for the adoption of mobile banking. To this end, there are few studies for the adoption of mobile banking in Ethiopia (Worku, 2015 and Kalkidan, 2016). Those studies focused on the determinants of mobile banking on commercial banks in Ethiopia. These studies have the following gap: they were excluded organizational and environmental factors as a determinant for adoption of mobile banking. So that, this paper addresses this gap by taking Lion international bank as the study area and hence, it gives a general clear evidence for the determinants of mobile banking adoption. More importantly, the need to know the determinants mobile banking adoption is the burning issue for Lion International Bank S.C. because in order to create cashless society and to minimize the cost of introduction of Hello cash mobile banking technology.

Therefore this study is attempted to investigate determinants of mobile banking adoption Ethiopia taking Lion international bank as a practical consideration.

1.3. Research questions

The main research question of this study is to examine determinants which influence adoption of mobile banking in Lion International Bank?

To achieve the aforementioned objectives, the study has the following specific questions:

- Is perceived risk of mobile banking a determinant for its adoption?
- How does organizational factor affect mobile banking adoption?
- Does environmental factor influence mobile banking adoption?
- Is perceived ease use of mobile banking a determinant for its adoption?
- Is perceive usefulness of mobile banking a determinant for its adoption?
- What are the major problems which affects mobile banking adoption in Lion International Bank?

1.4. Objectives of the Study

1.4.1. General Objective

The main objective of the study is to identify the determinant for the adoption of mobile banking in the case of Lion International Bank.

1.4.2. Specific Objectives

The specific objectives of the study include;

- To indicate the association between perceived risk and mobile banking adoption?
- To examine the possible link between organizational factor and mobile banking adoption?
- To specify the relation between environmental factor and mobile banking adoption?

- To identify the linkage between perceived ease of use and mobile banking adoption?
- To portray the relationship between perceived usefulness and mobile banking adoption?
- To assess the potential impediments that affect mobile banking adoption in Lion International Bank

1.5. Research Hypothesis

The study has the following research hypothesis;

1. H₀: Perceived risk has no negative effect on adoption of mobile banking.
H₁: Perceived risk has negative effect on adoption of mobile banking.
2. H₀: Organizational factor has no positive effect on adoption of mobile banking.
H₁: Organizational factor has positive effect on adoption of mobile banking.
3. H₀: Environmental factor has no positive effect on adoption of mobile banking.
H₁: Environmental factor has positive effect on adoption of mobile banking.
4. H₀: Perceived ease of use has no positive effect on adoption of mobile banking.
H₁: Perceived ease of use has positive effect on adoption of mobile banking.
5. H₀: Perceived usefulness has no positive effect on adoption of mobile banking.
H₁: Perceived usefulness has positive effect on adoption of mobile banking.

1.6. Significance of the Study

The findings of this research paper may have multiple values for different organs. It helps for Lion international bank to identify the determinants of Hello cash mobile banking services and develop strategy to be effective in providing banking services via Hello cash mobile banking. National bank of Ethiopia also benefited from this study to have a

general clue on the determining factors of mobile banking adoption and to design an appropriate policy tools. This study is contributing to the body of knowledge and become a source of information on the banking industry.

1.7. Scope of the Study

Though there are different E banking channels like ATM., POS and internet banking, mobile banking and agent banking. This study is confine to the determinants of mobile banking at Lion international bank. Geographically, the study is restricted to customers of Lion international bank both at head office and Addis Ababa branches. Conceptually, the study is limited to identifying determinants of Hello cash mobile banking.

1.8. Organization of the Study

The content of this research consists of five chapters. The first chapter deals introduction: background of the study, statement of the problem, research questions, objectives of the study, the significance of the study, scope of the study and definition of terms. This is followed by the literature review (chapter two), which analyses the existing literature about the subject field to develop a new concept to be tested by this research. Chapter three describes the research methodology in which the execution of this study to achieve the research objectives. Thereafter, Chapter four focuses on the results of analysis and discusses the findings. Finally the researcher portrays the conclusions drawn from the findings and gives relevant recommendations on the basis of the conclusions; this is presented in Chapter five.

CHAPTER TWO

LITERATURE REVIEW

This chapter reviews the literature on mobile banking and determinants of mobile banking adoption factors. Specifically, the chapter addresses the theoretical framework, definition of terms, empirical literature and conceptual framework guiding the study.

2.1. Theoretical Literature on Mobile Banking

2.1.1. Concept and Definition about Mobile Banking

Adoption: Adoption in the context of mobile banking means acceptance, being able to accept a new technology as it is introduced and by accepting the service means a customer willing to use the service. If a customer chooses to adopt mobile banking service, Mallat et al (2004) explained that they will be able to obtain and interact with mobile services anytime and anywhere which in turn initiate great value for them. Cruz et al (2010) and Dasgupta et al (2011) also suggested that if one adopted this service it had great potential to provide reliable services to anyone in any location even those limited by facilities.

Customer A customer is an individual who uses a service whereas in this context it means an individual that uses mobile banking services.

Mobile Banking: is defined as “The availability of bank-related financial services via mobile devices. It comprises services in the field of accounting, brokerage and financial information (Tiwari et al., 2006). Mobile banking is an electronic banking system which allows customers to get access to their bank accounts via telecommunication networks, website of the bank (internet) and smart phone applications. The service offered when using mobile banking is such as withdrawal, deposits and bill payments. The offered services may include transaction facilities as well as other related services that cater primarily to informational needs revolving around financial activities. Mobile banking can offer specific services such as, account information, mini statements, checking of account history, alerts on account activity, access to loan statements, access to card

statements, mutual funds (equity statements, stop payment on cheque, ordering cheque books, balance checking in the account.

2.1.2. Mobile Banking Benefits

Mobile banking has transformed the way people in the developing world transfer money and now it is poised to offer more sophisticated banking services which could make a real difference to people's lives. bank statements and other crucial banking tasks, all in real time over their mobile phones. Mobile banking brings significant benefits to customers and banks in this regards the following Mobile banking benefits:

Time saving: Instead of allocating time to walk into a bank, you can check account balances, schedule and receive payments, transfer money and organize your accounts when you're on the go.

Convenient: The ability to access bank accounts, make payments, and even track investments regardless of where you are can be a big advantage Do your banking at a time and place that suits you, instead of waiting in queues.

Secure: Generally, good mobile banking applications have a security guarantee or send you a SMS verification code you need to input to authorize a payment for added security. Mobile banking is said to be even more secure than online/internet banking.

Easy access to your finances: with the introduction of mobile banking, you are able to access your financial information even beyond the working hours. It helps to avail banking services even by making a call to the bank.

Increased efficiency: mobile banking functions are functional, efficient and competitive. It also helps in decongesting the banking halls and reduces the amount of paperwork for both the banker and the customer

Fraud reduction: one very real advantage to implementing mobile banking. "Customers are being deputized in real time to watch their accounts.

It utilizes the mobile connectivity of telecom operators and therefore does not require an internet connection. You can check your account balance, review recent transaction,

transfer funds, pay bills, locate ATMs, deposit cheques, manage investments, etc. Mobile banking is available round the clock 24/7/365, it is easy and convenient and an ideal choice for accessing financial services for most mobile phone owners in the rural areas.

2.1.3. Theoretical Models of Mobile banking

Branchless banking represents a new distribution channel that allows commercial banks and other financial institutions to offer financial services outside traditional bank premises. Theories of branchless banking can be classified into three broad categories: Bank-focused theory, Bank-led and Nonbank-led theory.

2.1.3.1. Bank-Focused Theory

The bank-focused theory emerges when a traditional bank uses non-traditional low-cost delivery channels to provide banking services to its existing customers. For example range from use of automatic teller machines (ATMs) to internet banking or mobile phone banking to provide certain limited banking services to bank's customers. This model is additive in nature and may be seen as a modest extension of conventional branch-based banking. Although the bank-focused model offers advantages such as more control and branding visibility to the financial institutions concerned, it is not without its challenges. Customers' primary concerns are to do with the quality of experience, security of identity and transactions, reliability and accessibility of service and extent of personalization allowed. Banks address these issues by providing a branchless banking service with an easy to use interface, made secure with the help of multi-factor authentication and other technology, capable of running uninterrupted for 365 days in a year (Kapoor 2010).

2.1.3.2. Bank Led Theory

In the most basic version of the bank-led theory of branchless banking, a licensed financial institution (typically a bank) delivers financial services through a retail agent. That is, the bank develops financial products and services, but distributes them through retail agents who handle all or most customer interaction, Lyman et al. (2006). This model is composed of a sequence of three main entities; the bank, the retail agent, and the Customer. This sequence starts when banks develop their financial products and services that are delivered to clients through retail agents that interact directly with clients' on

behalf of the banks. Basically, the bank is mainly responsible for opening and holding the account (cash in cash out transactions). The retail agents are responsible for verifying customer's ID, performing face to face transactions, processing applications, forming groups, disbursing small values to the bank, collecting customers deposits, vending insurance products, and dealing with small remittances. Customers are able to access the mix of financial and non-financial services available. To enable retail agents to facilitate the communication between the customer and the bank, the bank is responsible for installing electronic technology. Whatever the establishment, each retail agent is outfitted to communicate electronically with the bank for which it is working. The equipment may be a mobile phone or an electronic point-of-sale (POS) terminal that reads cards.

2.1.3.3. Non-bank Lead Theory

This model is composed of the mobile network operator (nonbank), the bank who holds a reserve of the equivalent e-value, the retail agent who acts as the third entity in this chain and deals with the customer. Banks are not a main player on this practice and the non-bank manages customer e-money accounts. The retail agent checks customer's ID and transacts on behalf of the nonbank using either mobile phone or smartcard reader. Whereas the customer requests financial services using again either the cell phone or the smart card. Customers can use their e-money to buy products or services, save or exchange their balance for cash at the retail agent. The uniqueness about this model is that customers can enjoy a mix of financial services without having a typical traditional bank account. They can exchange their cash for a value stored on a card or their mobile phone (Anyasi, 2009).

The mobile phone network operator has already a pre-established relationship with both the retail agents and customers through its mobile phone services. One of the most successful applications of the nonbank model is the Hello cash agent and mobile banking in Ethiopia. The model is also being adopted around the world for example in Tanzania, Kenya, Afghanistan, South Africa, Philippines and Sudan among others. Hello cash agent and mobile banking is a mobile payments system that enables customers to keep money in an e-float value on their account maintained in a server by the Ethiopian

telecom and Belcash technology solution provider and operated by users through their mobile phone.

2.1.4. Mobile Banking Technology Adoption Models

Technology adoption is thus the process of beginning to use new technology or different technology by customers, organizations etc. As result of the dynamism of the information and communications technology innovative technological products are released. And the growth of nations, organizations and individuals is highly dependent on how best they adopt the technology in their operations. In order to understand how people can accept or adopt technology various models are developed and used. In the following paragraphs some technology acceptance models are briefly discussed which include:

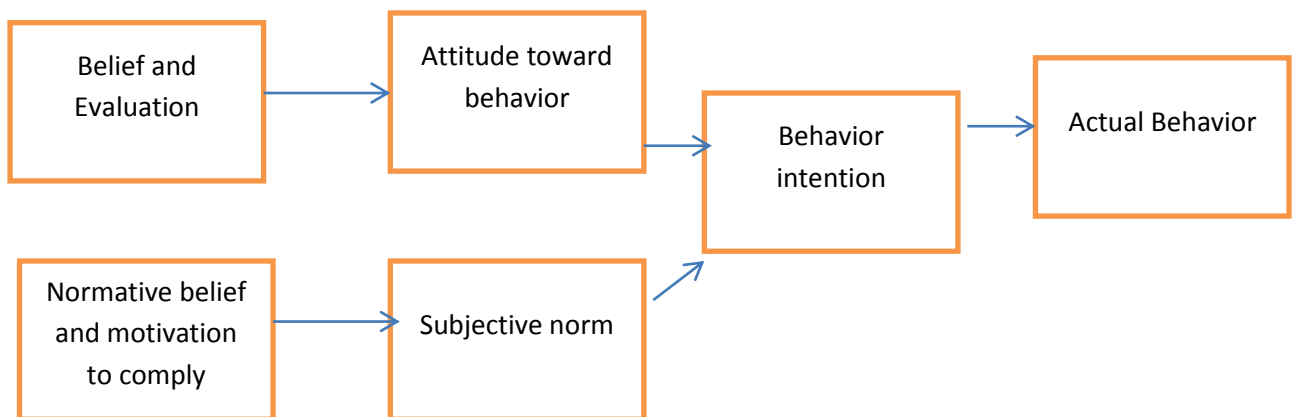
- The Theory of Reasoned Action (TRA)
- Theory of planned Behavior (TPB)
- Innovations Diffusion Theory
- Technology Acceptance Model (TAM)

2.1.4.1. The Theory of Reasoned Action (TRA)

According to The Theory of Reasoned Action (TRA), beliefs influence attitude and social norms which in turn shape a behavioral intention guiding or even dictating an individual's behavior (Ajzen and Fishbein 1980). Intention is the cognitive representation of a person's readiness to perform a given behavior, and it is considered to be the immediate antecedent of behavior. TRA has two core constructs: (1) attitude toward behavior (ATB) and (2) subjective norm (SN) associated with that behavior. The attitude toward the behavior (ATB) is the previous attitude of a person toward performing that behavior. It suggests that people think about their decisions and the possible outcomes of their actions before making any decision to be involved or not involved in a given behavior. This theory views the intention of an individual whether to perform a given behavior or not as the immediate determinant of action, and attitude is determined by the person's beliefs and evaluation of behavioral outcomes. So an individual, who strongly

believes that positive outcomes will result from performing a particular behavior, will have positive attitudes towards that behavior. On the other hand, if a person strongly believes that a particular behavior will have a negative outcome, then there will be negative attitudes towards that behavior. Subjective norm (SN) is the social pressure exerted on the person or the decision maker to perform the behavior. SN refers to an individual's perception about what other people think of his or her behavior in question (Leach et. Al., 1994).

Figure 1: TRA Conceptual Model



2.1.4.2. Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB) is proposed as an extension of the Theory of Reasoned Action (which was related to voluntary behavior), because of the limitations of TRA in dealing with behaviors over which people have incomplete Volitional/autonomous control. The TPB introduced a third independent determinant of intention, perceived behavior control (PBC). For this reason, TPB was introduced by Ajzen in 1985 The theory was called the theory of planned behavior (TPB) since it evolved from the Theory of Reasoned Action, with an additional construct (PBC). According to Ajzen (1991), TPB incorporates an additional construct in order to account for situations where an individual lacks the control or resources necessary for carrying out the targeted behavior freely. TPB is a theory that predicts deliberate behavior,

because behavior can be deliberative and planned, and TPB is considered to be more general than TRA because of PBC (Chau and Hu 2002).

2.1.4.3. Innovations Diffusions Theory

The Innovation Diffusion Theory has been used to study a variety of innovations. Rogers identifies five attributes of an innovation that influence the adoption and acceptance behavior: relative advantage, complexity, compatibility, trial ability, and observe-ability. In the Information Systems field, Moore and Benbasat (1991) expand this attributes set to study information technology acceptance. The set includes:

Relative Advantage: “the degree to which an innovation is perceived as being better than its precursor”.

Ease of use: “the degree to which an innovation is perceived as being difficult to use”.

Image: “The degree to which use of an innovation is perceived to enhance one's image or status in one's social system”.

Visibility: The degree to which one can see others using the system in the organization.

Compatibility: “the degree to which an innovation is perceived as being consistent with the existing values, needs, and past experiences of potential adopters” Results

Demonstrability: “the tangibility of the results of using the innovation, including their observe- ability and communicability”.

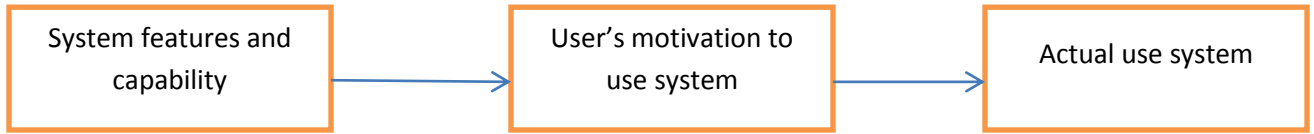
Voluntariness of Use: “the degree to which use of the innovation is perceived as being voluntary or of free will”.

Innovation diffusion research regards individuals’ perceptions about these characteristics of an information technology as important factors in influencing an individual’s acceptance behavior (Agarwal and Prasad, 1997, 1998; Karahanna et al., 1999; Plouffe et al., 2001).

2.1.4.4. Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) was developed from TRA by Davis (Davis 1985). He proposed that systems use is a response that can be explained or predicted by users’ motivation which in turn is directly influenced by an external stimulus consisting of the actual systems features and capabilities.

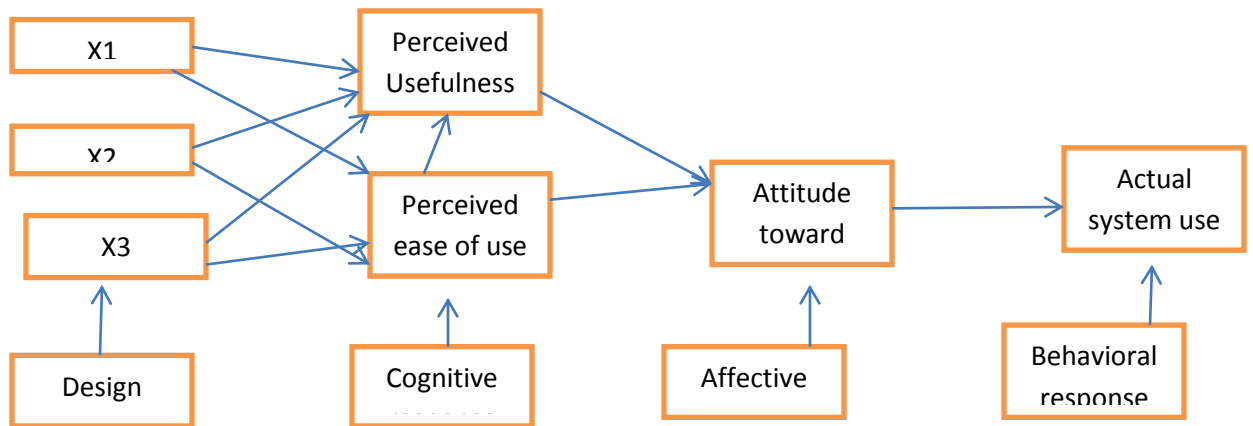
Figure 2: Conceptual Model for Technology Acceptance Model



Davis further developed his conceptual model to propose Technology Acceptance Model (TAM) as follows:

In his conceptual model Davis suggest that users' motivation can be explained by three factors: perceived ease of use, Perceived Usefulness, and Attitude toward Using the System. According to the model a potential user's overall attitude towards using a given system is hypothesized to be a major determinant of whether or not he actually uses it. Attitude towards using, in turn, is a function of two major beliefs: perceived usefulness and perceived ease of use perceived ease of use has causal effect on perceived usefulness. Design Features directly influence perceived usefulness and perceived ease of use and design features is an external variable hence it affects the attitude and behavior indirectly through perceived usefulness and perceived ease of use.

Figure 3: Developed Technology Acceptance Model – TAM



According to Davis (1985);

Use: refers to an individual's actual direct usage of the given system in the context of his or her job.

Attitude: refers to the degree of evaluative affect that an individual associates with using the target system in his or her job

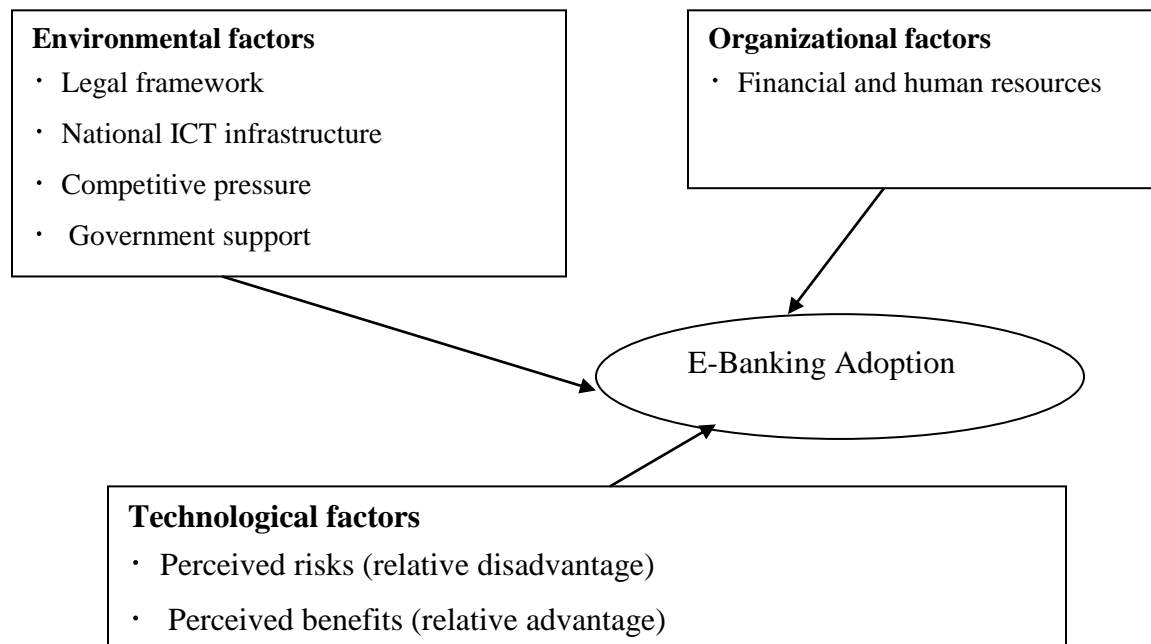
Perceived usefulness: is defined as the degree to which an individual believes that using a particular system would enhance his or her job performance.

Perceived ease of use: is defined as the degree to which an individual believes that using a particular system would be free of physical and mental effort. Perceived ease of use is hypothesized to have a significant direct effect on perceived usefulness, since all else being equal a system which is easier to use will result in increased job performance (i.e., greater usefulness) for the user.

2.1.4.5. Technology-organization-Environment Framework (TOE)

It is developed by Tornatzky and Fleischer (1990) which identifies three basic factors for the adoption of technological innovation, i.e, technological factors, organizational and environmental factors. This framework is a comprehensive and well received framework in the context of innovation adoption by organizations and has been used in many studies (Salwani, *et al.*; Zhu & Kraemer 2006).

Figure 4: Technology-Organization-Environment Framework



Source: Tornatzky and Fleischer (1990)

2.2. Empirical Literature

The research finding of Oluoch (2012) showed that perceived usefulness is the most important significant factor affecting the adoption of M-banking technology and perceived risk hinders majority of bank customers from adopting mobile banking in Kenya in the case of Nakuru Municipality.

A similar study conducted in Tanzania by A.R. Ishengoma (2011), adoption of mobile banking technology by customers is highly influenced by perceived value of the technology to the customers “the intention to use M-Banking service was brought forward by the perceived value of the M-Banking services, most were registered because of the belief in M-Banking that enabled them to access financial services in an easy way. Mattila (2003) focused on the drivers and inhibitors of mobile banking services. The author found that complexity, compatibility, relative advantage, observability, and confidentiality are the significant factors influencing customer decision making in mobile banking adoption. Also, security and confidentiality of information are fundamental pre requisites for any mobile banking services to be successful.

Laforet and Li (2005) carried out a research to examine the online/mobile banking in China. Analysis of the finding indicated that lack of understanding and awareness of mobile banking benefits are the main factors hindering the adoption of mobile banking usage in China. Luarn and Lin (2005) conducted a survey in Taiwan in order to understand user’s behavioral intention to use mobile banking service based on the extension of technology acceptance model (TAM). In this finding, it was also observed that credibility was a major issue, which has a stronger influence on user’s behavioral intention than the technology acceptance model (TAM) of perceived ease of use and perceived usefulness.

Cruz et al. (2010) studied the factors inhibiting the adoption of mobile banking among internet users in Brazil. They identified risk, cost, complexity, and lack of understanding about the relative advantages of these services as the main determining factors of using mobile banking services. Laukkanen and Kiviniemi (2010) tested the factors affecting the adoption of mobile banking in their study. The findings of this study indicated that providing information and guidance on the part of the bank have significant effect on

reducing the barriers of use, image, value, and risk in mobile banking, but do not reduce the barriers of tradition.

Wessels and Drennan (2010) conducted a study to identify and test the key factors stimulating and hindering the adoption of mobile banking, as well as the effect of user's attitude on the intention of use. They found out that perceived usefulness, perceived risk, cost, and compatibility have significant effect on the adoption of mobile banking. Mohammad RokibulKabir (2013) the researchers investigated on the factors that influence the, use of mobile banking in Bangladesh. The data was analyzed using multiple regressions and the outcome of the research was that, variables such as ability, integrity, benevolence, perceived usefulness, perceived ease of use relative cost and time advantages were found to influence the adoption of mobile banking.

Sripalawat et al. (2011) examined positive and negative factors affecting mobile banking acceptance in Thailand. Perceived usefulness, perceived ease of use, were considered as the positive factors, and device barrier, perceived risk, lack of information, and perceived financial cost as the negative factors. They found that the positive factors have more influence than negative factors towards the acceptance of mobile banking.

Dineshwar and Steven (2013), the researchers investigated the complex factors that prevent customers from adopting and using mobile banking services in Mauritius. The study revealed that age, gender and salary had no influence on adoption but rather, Convenience, compatibility and banking needs influenced banking adoption. On the other hand, perceived security risk and reliability were found to be the only obstacles to mobile banking usage but also that mobile banking usage is not associated with age, gender and salary.

Cheah et al (2011), this was an empirical study that was conducted with the aim of investigation on the factors that affect the Malaysian customers from adopting mobile banking services. From the study, variables such as perceived ease of use, Perceived usefulness and relative advantage were found to be positively and significantly related to the intention to adopt mobile banking services while a constructs such as perceived risk was found to be negatively correlated with the adoption of mobile banking.

Wondwossen and Tsegai (2005) also studied on the challenges and opportunities of E-payments in Ethiopia; their objective was studying of E-payment practices in developing countries, Africa and Ethiopia. The authors employs interview and on site observation to investigate challenges to E-payment in Ethiopia and found that, the main obstacles to the development of E-payments are, lack of customers trust in the initiatives, Unavailability of payment laws and regulations particularly for E-payment, Lack of skilled manpower and Frequent power disruption.

The study conducted by Daghfous and Toufaily (2007) on the success and critical factors in adoption of E-banking by Lebanese banks. The results of their study shows that the organizational variables (bank size, functional divisions, technical staff, technical infrastructure, perceived risks, decision makers` international experience) are variables which exert significant impact on the adoption of E-banking, among the structural characteristics, the result revealed that internal technological environment of the bank is a very important factor in determining the adoption of E banking.

According to Ayana (2010), unfamiliarity with the service provided through ATM, Internet banking, telephone and mobile phone by customers, Lack of technical and managerial skills on the use of technological innovation and Lack of skills to implement E-banking system are considered as barriers for the adoption of E-banking system of Ethiopia. Kuan (2001) financial resources are also an important factor in facilitating innovation adoption for any organization and they are often correlated with the firm size.

Kalkidan (2016) conducted a study on the factors influencing the usage of mobile banking in Ethiopia. A research model uses the TAM model and IDT model. The research results found relative advantage, compatibility, perceived trust, perceived usefulness, and perceived risk as major influencing factors for mobile banking adoption whereas perceived ease of use and awareness were found to have insignificant effect on mobile banking usage for bank customers located in Addis Ababa, Ethiopia.

Worku (2015) this research paper aimed to understand the factors that affect the adoption of mobile banking technology in the case of Commercial Bank of Ethiopia Addis Ababa city customers using technology acceptance model developed by Davis with additional variable namely perceived risk. Understanding the factors that will affect customers`

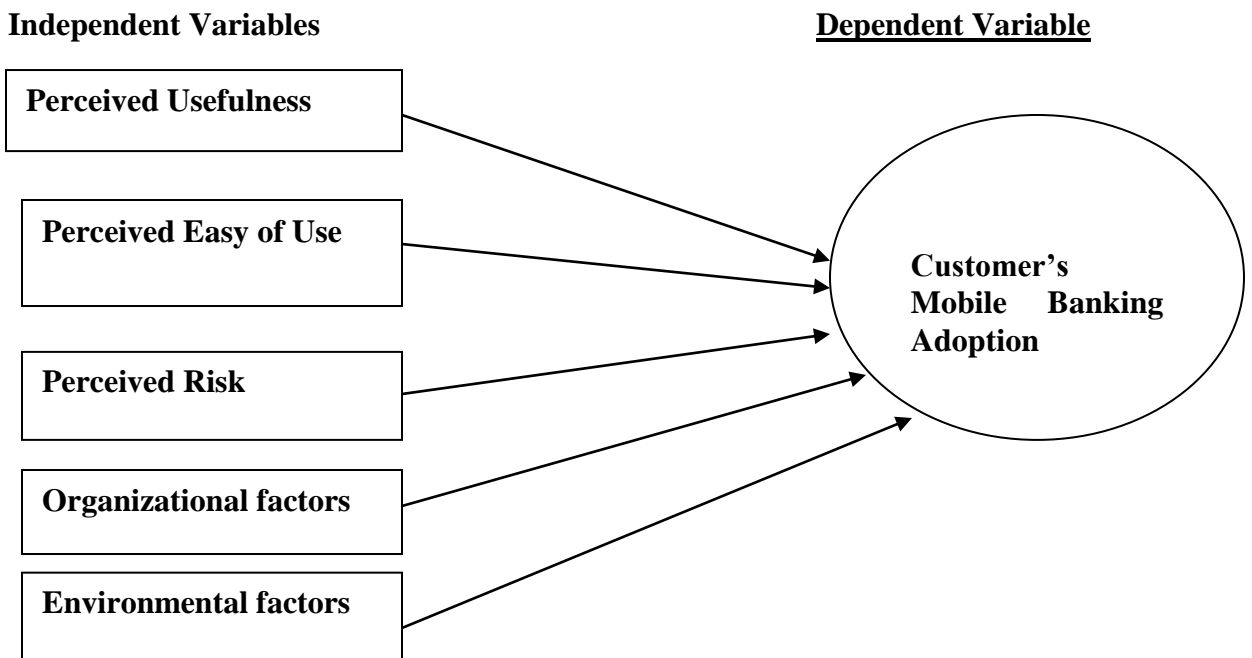
adoption behavior of mobile banking will help the commercial Bank of Ethiopia's Effort to increase the penetration and growth of mobile banking service.

Abebe (2016) this research conducted to investigate opportunities and challenges within the context of Dashen Bank's E-banking services. Based on the statistical analysis, perceived usefulness was found to have significant effect on adoption of E-banking services in Dashen Bank. Moreover, perceived risk and environmental factors were found to have significant influence in adoption of E-banking services

2.3. Conceptual Framework

To achieve the research objective, the study is applied a combination of both TOE and TAM framework with some modifications to benefit from both models and to have a more precise understanding on the determinant factors in the adoption of mobile banking service at Lion International Bank. The reason of using this framework is just to see the determinant factors from both the customer, technological, organizational and environmental side. Therefore, the conceptual framework is given as follows following the theoretical and empirical literature:

Figure 5: Research Conceptual Framework



CHAPTER THREE

RESEARCH METHODOLOGY

This chapter presents the methods of the study in details. It further describes the research design, the target population and sampling techniques, sources, tools of data collection, and method of data analysis.

3.1. Research Design

Kothari (2008) defined research design as a general blue-print for the collection, measurement and analysis of data, with the central goal of solving the research problem. The main objective of this study is to investigate the determinants mobile banking adoption in Lion International Bank. Therefore, this study is applied an explanatory research design because it attempts to examine the association between the determinant factors and mobile banking adoption. Creswell (2005) asserted that explanatory (cause and effect) research is useful for identifying the type of association, explaining complex relationships of multiple factors that explain an outcome, and predicting an outcome from one or more predictors.

In order to attain the objective the study is used quantitative and qualitative research approach. The rationale of using is this research is intended to examine the relationship between the Hello cash Mobile banking and determinates factors according to Creswell (2005) asserted that to investigate the cause and effect relationship between variables and seek to quantify an observable consequence through running statistical tools thereby getting results whether the hypothesized relationships hold or not quantitative research approach is relevant.

3.2. Population and Sampling Techniques

The target population of the research is Hello cash mobile banking customers, which is 74,000 Hello cash M-banking customers.

Since the total population of this research is finite (known) and according Kothari (2004) the formula to find out the sample size (n) is given as under:

$$n = \frac{Z^2 \cdot p \cdot q \cdot N}{e^2 (N-1) + Z^2 pq}$$

Where n= sample size
 N= Total Population
 z= the value of standard value at a given confidence level
 p= sample proportion
 q= 1-p
 e = acceptable error

So in this case, e= 0.05, z = 1.96 and $\hat{p} = 0.5$, and we get

$$n = \frac{(1.96)^2 (0.5) (0.5) 74,000}{(0.05)^2(74,000-1) + (1.96)^2 (0.5) (0.5)}$$

$$n = \frac{71,068.64}{185.9579}$$

$$n=382.18 \approx 382$$

As a result, based on the formula this study is needed a sample of 382 Hello cash mobile banking users and then it is distributed to the selected respondents. To achieve the study objective, non-probability (convenience Sampling) technique is employed in selecting a sample. This sampling technique is selected because it enables the researcher to draw representative data by selecting samples from the population who are conveniently available and volunteering to participate in study. Also, the researcher is used this technique in order to gather the data quickly. Even though there are some risks in adopting a convenience selection such as representativeness which question the credibility of the findings. In order to have a representative sample, the researcher is disseminated the administrated questionnaire to sampled respondents.

3.3. Sources of Data and Tools/Instruments of Data Collection

Primary sources were employed in this study. The quantitative data is collected through structured questionnaire and it constructed by Likert rating scale of 1 to 5 where; Strongly Agree (SA) = 5, Agree (A) = 4, Neutral (N) = 3, Disagree (D) = 2 and Strongly Disagree (SD) = 1. The use of Likert scale is to make easier for respondents to answer question in a

simple way. In addition, books, researches finding, journals, annual LIB reports and various materials were used to supplement the findings of this study.

3.4. Procedures of Data Collection

Before conducting the study permission has obtained from concerned Lion International Bank departments. The questionnaire has two sections: Background information and closed ended questions and questionnaire were commented by the Advisor so as to refine the questions. After this, the researcher was distributed the questionnaire to the sampled respondents. Finally, the data which is collected using the questionnaires were coded and processed using the Statistical Package for Social Sciences (SPSS) application.

3.5. Method of Data Analysis

As discussed in above, the study is designed to follow a quantitative method. As a part of inferential analysis the study is applied mean, standard deviations, Spearman correlation and binary regression analysis by using SPSS software application. Binary regression analysis allows the researcher to investigate the significant determinants of mobile banking adoption while correlation is used to identify the direction and strength of the dependent and explanatory variables.

3.6. Validity and Reliability

3.6.1. Validity and Reliability

The study is used a combination of both TOE and TAM framework to construct the questionnaire for with so the researcher was not engaged to check validity of the instruments. To ensure internal consistency among the items included in each of the scales, Cronbach' s coefficient alpha is applied and hence higher Alpha coefficients indicate higher scale reliability. Specifically, Zikmund et al. (2010) suggested that scales with 0.70 Alpha coefficients and above are considered acceptable.

3.7. Model Specifications of the Binary Logistic Regression Model

Binary Logistic regression is a statistical method for analyzing a data set in which there are one or more independent variables that determine an outcome. In Binary logistic regression, the dependent variable is binary or dichotomous, that is it only contains data

coded as 1, easy or simple, 0, otherwise. Yet, the independent variables are categorical. The goal of Binary logistic regression is to find the best fitting (yet reasonable) model to describe the relationship between the dichotomous characteristic of interest (dependent variable) and a set of explanatory variables. The logistic regressions model defined as follows a logit transformation of the probability of presence of the characteristic of interest:

$$\text{logit}(p) = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + \dots + b_kX_k$$

$$\text{odds} = \frac{p}{1-p} = \frac{\text{probability of presence of characteristic}}{\text{probability of absence of characteristic}}$$

and

$$\text{logit}(p) = \ln\left(\frac{p}{1-p}\right)$$

Where p: is the probability of presence of the characteristic of interest, the logit transformation is defined as the logged odds (odd ratio):

Dependent variable: is binary or dichotomous, that is easy (simplicity) of adopting Hello cash M-banking coded as 1, otherwise 0.

Independent variables: are Perceived Usefulness, Perceived Ease of Use, Perceived risk, Environmental factor and Organizational factor

β = is the coefficient on the 1st, 2nd, 3rd, 4th and 5th predictor variables

3.8. Ethical Considerations

Participation of respondents was selected strictly on voluntary basis. Participants were fully informed as to the purpose of the study and consent verbally. Measures have taken to ensure the respect, dignity and freedom of each individual participating in the study. In addition, participants were notified that the information they provide were kept confidential and not disclosed to anyone else.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSIONS

This chapter presents the results and discoveries of the study based on the research objectives. The study sought to establish the determinants of Hello cash mobile banking adoption in Lion international bank using regression analysis.

4.1. Response Rate

The study targeted a sample of 382 customers of Lion international bank. The researcher distributed 382 questionnaires and 339 were completed collected. This was interpreted as 88.7% response degree. According to Mugenda and Mugenda (2003), this rate was a good representative of the population as it was stipulated that a response rate of 70% or above is excellent.

Table 1: Response Rate

	Frequency	Percentage
Response	339	88.70%
Non response	43	11.3%
Total	382	100%

Source: Research Data, 2018

So, the analysis was made based on 339 successfully responded questionnaires and done in line with the research questions.

4.2. Reliability Analysis

Before analyzing the collected data the reliability of the main items of the questionnaire was tested by using Cronbach's alpha. The coefficient of reliability of measures ranges from 0 to 1 and as for Zikmundet al. (2010); a coefficient greater than or equal to 0.7 is considered an acceptable and a good indication of reliability construct. Thus, the reliability coefficient for all items is 93.2% and this implied that the items were reliable and understandable by the respondents.

4.3. Demographic Data Analysis

This research was enclosed the main demographic characteristics such as gender, age, education, marital status and occupation.

Table 2: Demographic Information

		Frequency	Percentage
Gender	Male	208	61.4%
	Female	131	38.6%
Total		339	100%
Age	18-29	154	45.43%
	30-39	128	37.76%
	40-49	34	10.03%
	50-59	18	5.31%
	>59	5	1.47%
Total			100%
Education	Diploma	70	20.65%
	First Degree	213	62.83%
	MSC/MA/PHD	56	16.52%
Total			100%
Occupation	Student	62	18.29%
	Employed	230	70.80%
	Unemployed	37	10.91%
Total			100%
Marital Status	Single	173	51.03%
	Married	143	42.18%
	Divorced	13	3.83%
	Windowed	10	2.95%
Total		339	100%

Source: Research Data, 2018

As indicated in the table above, it appears that male respondents had a high response of 208 which is 61.4% and female respondents are 131 which is 38.6%. This implies that the study comprised both male and female customers of Lion international bank.

Table 4.4 also revealed that the overall level of education of the respondents fall in the different groups, for Diploma level was 20.65%, Master/PHD degree level was 26.52%

and most of the respondents representing 62.83% holds First degree. It showed that the respondents have in a good position to understand and answer the research questions.

As indicated in the table 122, all the age groups in population were represented in the sample questionnaire. The majority group of respondents was 45.43% which fall into the 18 and 29 years age group, the second large group falls into the 30 and 39 years age group which was 37.76%. Also another group of respondents was the 10.07% that falls into the 40- 49 years of age group. Finally, representing 5.31% and 1.47% of the respondents fall into 50-59 and greater than 60 years of respectively. This asserted that majority of the respondents have young and adult implies that it is an opportunity for mobile banking adoption in the coming periods.

Looking at the Table 4.5 the majority of the respondents were employed 70.80% followed by students representing 10.91%. While the minority groups were unemployed people who were all the customers of LIB. This implies that is a good opportunity for Hello cash M-banking adoptions because those who are employed have time constraint since most of them are at work place when the bank branches are at operational.

Moreover, regarding the marital status 51.03% and 42.18% of the respondents were single and married respectively while the divorced group was 3.83%. The remaining of the respondents representing 2.95% was windowed. This proved that the analysis encompasses various societal classes.

Table 3: Mobile Phone Ownership and Usage of Respondents

Do you have mobile phone		
	Frequency	Percentage
Yes	311	91.74
No	28	8.26
Total	339	100%

Source: Research Data, 2018

With regard to mobile phone ownership and usage as shown above in table 8311(91.74%) of the sample respondents replied that they have mobile phone and use it. On the other hand 28(8.26%) percent of the respondents replied that they do not have mobile phone

personally. The implication of this finding is that mobile phone ownership is not bottleneck for Hello cash M-banking adoption since the majority of Lion international bank customers have mobile phone.

4.4. Descriptive Analysis

The prime objective of the study is to examine the determinants of adoption of mobile banking in Lion international bank. To meet this objective the respondents were asked to state the extent of agreement based on Likert five point of scale. Accordingly, the findings are presented using descriptive statistics included the mean for central tendency and standard deviation (SD) for variability.

4.4.1. Perceived Risk Dimension

The respondents were sought to disclose their level of agreement in related with risks associated with risk in adopting Hello cash mobile banking.

Table 4: Perceived Risk Dimension

Item	Mean	SD
Absence of confidence to use Hello cash mobile Banking because incorrect transaction lose my money.	3.06	1.354
Bothered to use Hello cash mobile banking because my account may access by others.	3.05	1.316
Prefer to go to bank branch instead of using Hello cash mobile banking due to lack of trust.	2.88	1.322
Average	3.00	

Source: SPSS Ver. 23 Output

From the findings, majority of the respondents were gave disagreement reply for the choosing bank branch due to lack trust with mean value of 2.88 and standard deviation of 1.322. Respondents were give a similar mean score value of 3.05 for incorrect transactions and possibilities circumstances that their account accessed by someone else.

The overall mean for perceived risk items is 3(60%) customers of the bank confirmed that implying that the perception of the risks regarding Hello cash mobile banking is expected to limit adoption in too slight extent.

4.4.2. Organizational Factor Dimension

The respondents were sought to disclose their level of agreement in related with organizational factors in adopting Hello cash mobile banking.

Table 5: Organizational Factor Dimension

Item	Mean	SD
Staff skills on Hello cash mobile banking affects me to accept Hello cash mobile banking.	2.86	1.157
Use of Hello cash mobile banking services increase additional cost to the bank.	2.98	1.143
Lack of availability of technological equipment for the Hello cash mobile banking influence me to accept the system.	3.01	1.225
Absence of an appropriate maintaining capacity upon failure affects me to adopt Hello cash mobile banking.	3.06	1.138
Relatively banking charges of Hello cash mobile banking is unreasonable than other banks.	2.47	1.254
My decision to adopt Hello cash mobile banking is influenced by media.	3.07	1.345
Average	2.91	

Source: SPSS Ver. 23 Output

As revealed in table 5 above regarding organizational factors, the respondents were asked to respond based on five point Likert scale: Staff skills (Mean=3.53, SD=1.071), increase additional cost to the bank (Mean=3.62, SD= 1.026), lack of availability of technological equipment (Mean=3.56, SD= 1.006), absence of an appropriate maintaining capacity upon failure (Mean=3.36, SD=1.048), unreasonable banking charges than other banks (Mean=3.46, SD=1.094) and media advertisement (Mean= 3.44, SD= 1.175).

Thus, the mean values for each items falls under agreed values (Mean=2.47-3.07) for organizational factors. Besides, the result of the aggregate mean value of organizational factor items is 2.9(58%). This inferred that the respondents disagreed with that organizational factor items.

4.4.3. Environmental Factor Dimension

The respondents were sought to disclose their level of agreement in related with environmental factors in adopting Hello cash mobile banking.

Table 6: Environmental Factor Dimensions

Item	Mean	SD
Lack of sufficient government support affected my willingness to accept Hello cash mobile banking.	2.83	1.200
Lack of sufficient legal frameworks on Hello cash mobile banking influence to use the system.	3.09	1.200
Lack of competition among local bank and foreign banks.	3.28	1.309
None of my friends and or families is using mobile phone for banking transaction using Hello cash mobile banking system.	3.02	1.325
Lack of sufficient public awareness considered as a factor to adopt Hello cash mobile banking at LIB.	3.47	1.262
Hello cash mobile banking services may not perform well because of network Problems.	3.45	1.187
Average	3.19	

Source: SPSS Ver. 23 Output

Table-6 showed the perceptions and level of agreement concerning environmental factors. Subsequently, mean score of 3.47observed for public awareness item indicates that the customers of the Lion international bank moderately agreed. And network problems as specified by mean score of 3.45 also the second environmental factors which limit the adoption of Hello cash mobile banking. Further, respondents were justified that

another cause to accept Hello cash mobile banking services was lack of competition among commercial banks with mean and standard deviation value of 3.28 and 1.31.

On the other hand, approximate neutral feedbacks was registered for legal framework issues ((Mean=3.09, SD= 1.200) while use of Hello cash M-banking by families or relatives scored a mean value of 3.02. Correspondingly, the lowest disagreement is observed for the statement “Lack of sufficient government support affected my willingness to accept Hello cash mobile banking” with mean score of 2.83 and Standard deviation of 1.200.

The overall average for the environmental factor is 3.19(63%) indicated that as the whole the respondents were very slightly agreed on the environmental factor items. Equally important, lack public awareness, network problem and lack of competition among banks considered as the foremost environmental factors which would limit the adoption of Hello cash M- banking in Lion international bank in the ascending order.

4.4.4. Perceived Easy to Use

The respondents were sought to disclose their level of agreement in related with perceived easy to use in adopting Hello cash mobile banking.

Table 7: Perceived Easy to Use Dimension

Item	Mean	SD
Simplifying to do banking activities.	3.50	1.340
Providing guidelines for Hello cash mobile banking facility.	3.18	1.199
Giving training programs to the staffs regarding Hello cash mobile banking services.	3.35	1.078
Offering adequate demonstration to the customer on how to use Hello cash mobile banking services.	3.37	1.201
Average	3.35	

Source: SPSS Ver. 23 Output

As captured in the table-7 the respondents were agreed for three of items related with namely: easiness of banking activities, support of practical demonstration and staff

training with mean value of 3.50, 3.37 and 3.35 respectively. Subsequently, the respondents were given for the bank deliver user guidelines on the use of Hello cash M-banking with mean value of 3.18 and standard deviation of 1.199.

The overall mean for this dimension is 3.35(67) indicated that customers Lion international bank showed an agreement perception. It implies that customers of the bank perceive mobile banking to have ease of use; the more ease of use the more likely to be used by customers.

4.4.5. Perceived Usefulness Dimension

Perceived usefulness in this study refers the extent to which the individual believes that Hello cash mobile banking is more advantageous when compared to traditional ways of conducting banking transactions. These benefits include allowing users to conduct banking activities anytime, anywhere at a lower cost, speedy and in efficient manner.

Table 8: Perceived Usefulness Dimension

Item	Mean	SD
I believe that using Hello cash mobile banking would enable me to complete banking activities more quickly and easily.	3.51	1.353
I find that Hello cash mobile banking service is convenient in terms of time saving.	3.69	1.250
I believe that Hello cash mobile banking service is reduced the transaction cost incurred in visiting a bank.	3.59	1.122
I effect payment using Hello cash mobile banking services at a lower price, or at no cost.	3.35	1.064
I believe that Hello cash mobile banking service improve customer service.	3.62	1.093
I believe that Hello cash mobile banking service creates better relationship with LIB.	3.56	1.140
I agreed the payment and fund transfer limit in Hello cash mobile banking service.	3.40	1.179
Hello cash mobile banking service used as better information control tools.	3.45	1.191
Average	3.52	

Source: SPSS Ver. 23 Output

As can be observed from table-8 above, almost a similar mean score observed for Hell cash M- banking fund transfer limit an information control (Mean= 4.40-4.45, SD=1.179-1.199). The respondents have somehow agreed that on the Hell cash M-banking service

charges (Mean= 3.35, SD=1.064), reduced transaction cost against visiting parent branch (Mean= 3.59, SD=1.122), improve customer service (Mean= 3.62, SD=1.093), creates better relationship with bank (Mean=3.51SD=1.353) and assist to complete banking activities more quickly (Mean=3.56 SD=1.140). The respondents also were giving the highest agreement for the statement 'I find that Hello cash mobile banking service is convenient in terms of time saving.

Therefore, the overall mean for perceived usefulness is 3.52(70.4%) revealed that if mobile banking is to be accepted by users, they perceived that it as a useful and quicker way of doing banking transactions compared with the traditional banking system.

4.5. Important Assumptions of Binary Regression Model

Before directly dealing with the regression model the researcher check some important assumptions in relating to the Binary regression model. If the assumptions are violated and hence interpreting results from running binomial regression become spurious.

First, in binary regression, the dependent variable should be measured in dichotomous scale. In this study, the outcome variable (adoption of Hello cash M-banking) is measured with a dichotomous variable in which there are only two possible outcomes, 1 satisfied and 0 otherwise. Secondly, the regression model has to contain one or more independent variables, which can be either continuous or categorical. The third assumption is an independence of observations.

The last 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. The output of VIF showed in the appendix that a value of less than 10 for all the independent variables. Thus, knowing that there is no serious multicollinearity problem among the variables, they can be considered in the model estimation.

4.6. Correlation Analysis

Bivariate correlations measure the degree of association between two variables. The correlation coefficient, which ranges from +1 to -1, is both a measure of the strength of the relationship and the direction of the relationship. A correlation coefficient of +1 describes a perfect positive relationship in which every change of +1 in one variable is associated with a change of +1 in the other variable. A correlation of -1 describes a perfect negative relationship in which every change of -1 in one variable is associated with a change of -1 in the other variable. A correlation of 0 describes a situation in which a change in one variable is not associated with any particular change in the other variable Gujarati (2004).

Hence, in this research Spearman's correlation was computed to check whether adoption of Hello cash mobile banking has any association with the independent variables.

Table 9: Correlation between Dependent variable and Independent variables

Variable	Adoption of Hello M-banking	Sig (2-tailed)	N	Types of Correlation
Perceived Risk	-0.690**	0.026	339	Spearman Correlation
Organizational Factor	0.309**	0.000	339	Spearman Correlation
Environmental Factor	0.372**	0.000	339	Spearman Correlation
Perceived Ease to Use	0.461**	0.000	339	Spearman Correlation
Perceived Usefulness	0.611**	0.000	339	Spearman Correlation

Source: SPSS ver.23 output**Correlation is significant at 0.05 levels (2-tailed)

The result presented in table-9 revealed a correlation between dependent variable and independent variables. According to the result adoption of Hello cash mobile banking has strong negatively correlation with perceived risk with the coefficient value of -0.690 and the linear relationship between them is statistically significant at the acceptable level of significant $P < 0.05$. Also, adoption of Hello cash mobile banking has moderate strong

positive relationship with organizational factor with coefficient value of 0.309 at 5% significant level.

Moreover, the correlation coefficient for environmental factor equals to 0.372. The observed relationship is positive, which means if the environmental factor activities improves then adoption of Hello cash mobile banking will increase. This relationship is found to be statistically significant at 5% level of significance. Similarly, both perceived easy to use ($r=.461$) and perceived usefulness ($r=.611$) variables have a direct and statistically significant relationship with usage of Hello cash mobile banking at 5% critical value. Grossly, the correlation analysis results indicated that all the independent variables have moderate strong positively relationship with Hello cash mobile banking at 5% significant level.

4.7. Binary Regression Analysis

In order to examine the relationship between explanatory variables and intention to adopt mobile banking, binary regression analysis is used. For this research model, binary logistic regression is an appropriate model because the nature of the dependent variable response is dichotomy scale (1-easy and 0-not ease).

Table 10: Binary Regression Results

Dependent Variable: Adoption of Mobile banking				
Method: Binary Regression				
Sampled Respondents: 339				
		Nagelkerke R Square: 0.660		
χ^2 test=211.79	Variable	S.E.	Sig.	Exp(B)
	MPR	.413	.010	-2.903
	MOF	.379	.001	3.626
	MEF	.376	.000	4.873
	MPEU	.388	.000	9.772
	MPU	.449	.000	29.032
	Constant	.636	.000	.007

Sources: SPSS Ver. 23 Output

The empirical result in table 10 showed that the regression model summary which presents how much of the variance in mobile banking adoption is explained by the

underlying factors. The Nagelkerke R Square shows that independent variables explained approximately 66% of the variation in mobile banking adoption. This gives the regression a good fit while the remaining 34% of the total variation in the LIB mobile banking adoption is accounted for by the factors included in the error term.

Omnibus test is applied to check the overall significance of the independent variables in the model as result the model chi square 211.799 which means statistically significant at 5% the level of significance. Hence, the result implied that perceived risk, organizational factor, environmental factor, perceived ease to use and perceived usefulness are jointly can predict the outcome variable, mobile banking adoption.

Accordingly, after checking the important test the researcher runs binary regression model using a statistical package of SPSS version 23. The contributions of each individual variable to explain adoption of Hello cash M- Banking detected Binary logit regression analysis result summary table-10. As indicted each of the independent variables:perceived risk, organizational factor, environmental factor, perceived ease to use and perceived usefulnesswere found to be statistically significant at 5% level of significant.

In light of the above summarized model results the possible explanations for each significant independent variable are given consecutively as follows;

Perceived Risk (MPR): adoption of mobile banking is negatively and significantly affected by perceived risk at 5% critical level. The value of the odds ratio; other things at constant one can assumed that when perceived risk dimension has increased by one percent then the adoption of mobile banking shrink by -2.903 percentage. That means if the customer's confidence on Hello cash down up, trust on Hello cash lessen and perceptions on accounts accessed by others increased then probability of adoption of mobile banking in Lion international banking will be low.

Organizational factor (MOF): the P-value is 0.001 this entails that the organizational factor dimension is statistically significant and positively related with adoption of mobile banking. Moreover the finding showed that the value of the odds ratio; other things at constant one can inferred that the organizational dimension items (managerial/staff skill on Hell cash, availability of technological equipment, maintenance capacity, charging

reasonable service charges and media coverage) improved by one percent then the option of mobile banking in Lion international bank will be improved by 3.626 percent.

Environmental factor (MEF): it is positively and significantly affects adoption of mobile banking in Lion international bank at 5% critical value. A one percentage raises in environmental factordimensions like sufficient government support established, good legal frameworks, competition among local bank increased, public awareness improved and network problems minimized then adoption of Hello cash mobile banking in Lion international bank increased by 4.873 percentage.

Perceived easy to use (MPEU): The regression result displayed that perceived easy to use has a statistical significant and positive relationship with adoption Hello cash mobile banking in Lion international bank at P-value 0000. Furthermore, the finding showed that the value of the odds ratio; other things at constant if the perceived easy to use dimensions improved by one percent (i.e. easiness of the system, providing users guidelines, training of staffs, and practical demonstration for users) then adoption of Hello cash mobile banking in Lion international bank will positively change by 9.772 percentage.

Perceived Usefulness (MPU): As it was expected that the coefficient of the perceived usefulness is positive and statistically significant at $p < 0.05$ level. The coefficient of the items suggested that one percent increase in perceived usefulness aspects such as improving the promptness of Hello cash mobile banking system, time saving options developed, reduction transaction cost, lower banking services charges, customer service on Hello cash improved, and upgrading the information control system then it enhance the willingness to adopt Hello cash mobile banking in Lion international by 29.032 percent.

According as indicated in the analysis part, p-values of perceived risk, organizational factor, environmental factor, perceived ease to use and perceived usefulness were lower than the value 0.05, hence the null hypotheses were rejected and alternative hypotheses were accepted.

CHAPTER FIVE

5. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter consists of three sections which include summary of the findings, conclusion and recommendations.

5.1. Summary of Research Findings

The study investigates the determinants of Hello cash mobile banking with special reference to the selected customers of Lion international bank, Ethiopia. As a result of the analysis and interpretation, the following are the summary of the findings.

- As per the response of the sampled participants, the average value of perceived risk was 3(60%) indicated that respondents were indifferent whether the customers do not trust the technology provided by the banks or not.
- From the finding one can deduced that the overall mean value for organizational factor dimensions under disagreed point (Mean=2.90). This inferred that organizational factors were not as such motive to use Hello cash mobile banking services in Lion International Bank S.C.
- A very slightly agreement scored observed for environmental factor dimension with mean value of 3.19(63%). The findings confirm respondents' strong agreements given for network problems and public awareness creation considered as to confines to accept Hello cash mobile banking in Lion international bank.
- The overall mean of perceived easy to use is 3.35(67%) indicated that customers Lion international bank showed a somewhat agreement result. Implies that system perceived to be easier to use will facilitate more system use and is more likely to be accepted by users. Moreover, easies to do the highest agreement was given for Hell cash mobile banking system simplifying banking activity

- The aggregate mean values of perceived usefulness dimensions is 3.52(70.40%) which indicated that the customers of Lion International bank agreed with those dimensions. The highest agreement were given for using Hello cash mobile banking no time limit to access bank account information and improves customer services.
- Perceived risk is statistically significant and negative relationship with the adoption of Hello cash mobile banking.
- Positive significant relationship between organizational factor and adoption of Hello cash mobile banking is established at 5% significant level.
- The study also indicates that environmental factor has a significant positive effect on adoption of Hello cash mobile banking is established at 5% significant level.
- There is positive and significant relationship between perceived easy to use and on adoption of Hello cash mobile banking.
- Perceived usefulness is statistically significant and positive relationship with the on adoption of Hello cash mobile banking.

5.2. Conclusion

Advancement in technology provides fast innovative changes in people's routine life. The most significant recent technical advancement that drastically transformed the entire situation of providing services is the use of mobile banking facility in service delivery. Even though the benefits of mobile banking is determined by the extent of the public willingness to accept bank used mobile banking to easy accessibility to its customer's and cut the throat competitive environment. This study concerned with an investigation of determinants of mobile banking adoption on Lion international bank. To achieve the proposed objective TOE and TAM framework with some modifications were used. Based on the summary result of empirical analysis; organizational factor, environmental factor, perceived easy to use and perceived usefulness have positive significant determinant of mobile banking adoption at 5% critical value while perceived risk is negatively and significantly determinant of adoption of mobile banking . Correspondingly, the regression result indicated that perceived usefulness and perceived easy to use found to be the first and second determinant considered as for the adoption of Hello cash mobile banking in Lion international bank. The study additionally insights that simplicity, network problems, public awareness, unlimited time to access bank and improved customer services Hello cash mobile banking service are traced as the most important reasons for customers on their adoption and usage of the Hello cash mobile banking service.

5.3. Recommendations

Some major recommendations for policy can be drawn from the analysis above. These include;

- ❖ Ethio telecom as mobile network service provider shall give special attention to mobile banking technology from its side to provide reliable network to commercial banks. Along with, the managements of Lion international bank negotiate to the service providers and Ethio telecom to give special attention to curb the network problems as the customers perceive that the mobile network problem bound to adopt Hello cash mobile banking.
- ❖ In order to create public awareness LIB management shall exert its effort in preparing brochures flyers, booklets, electronic means such as website which comprises clear guidelines to make use of mobile banking easier for existing and potential customers to use of Hello cash mobile banking and the banking system to exploit the prevailing benefits.
- ❖ Lion international bank in particular shall invest in campaigns and arrange information sessions using various promotional tools appropriate to the target market so that it can increase the awareness and perception of potential customers about the technology's usefulness, ease of use as well as its risk.
- ❖ The Information technology department of LIB shall to engage in developing value adding characteristics of Hello cash mobile banking to allow users to have more alternatives and get more values from mobile banking services thereby the bank can improve perceived usefulness.
- ❖ The finding indicates that perceived risk is a significantly determine adoption of Hello cash mobile banking. Thus, the service providers and LIB managements has

to work together to ensure security measures are put in place to safeguard customers using this technology. this can be achieved by continuously innovate and offer better security reliable applications, designing structured advertisement and staff interaction so as to change the customer's perception with regards to risk and trust issues banks.

- ❖ Ethiopian government in general the National bank of Ethiopia should establish a clear set of legal frame work on the use of technology in banking industry, support banking industry by investing on ICT infrastructure to ease the adoption of the Hello cash mobile banking system.

In short, the top management of Lion international bank must look at a wider range of issues than those highlighted here. Nevertheless, the importance of this benchmark analyses should not be minimized. It provides useful way to focus on policy work by indicating the determining factors to Adopt Hello cash mobile banking. Moreover, it is useful for the domestic survey who may be interested to undertake the research on this issue. Finally, although these factors explain the adoption of Hello cash mobile banking technology in Lion international bank, none of them explains the whole. Therefore, it is recommended that more research be carried out on determinants of adoption of mobile banking technology especially comparing the private and government commercial banks.

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Appendix

ST. MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDIES



Research Questionnaire

Dear respondents:

I am currently attending a Master's degree in Marketing Management at St. Mary's Graduate Study. I am conducting a thesis on the *Determinant of Mobile Banking Adoption in LIB*. This questionnaire is designed to collect data on factors affecting for the adoption of Hello cash mobile banking. I kindly ask you to give me few minutes of your time to answer the questions. Your answers will be handled strictly confidential and will exclusively be used for the purpose of this research.

If you would like further information about this study, or have problem in completing this questionnaire please contact me via +251-966-935-807

Thank in advance for your cooperation!

Instruction: Please mark your answer with a tick mark (✓) in the space provided.

PART 1: General information of Respondents'

1. Gender Male Female

2. Age 18-29 30- 39 40 - 49
 50-59 > 59

3. Your education background

< 12th Grade 12 Grade completes Diploma

Bachelors Degree Masters Degree PHD

Others specify please-----

4. Occupational status

Student Employed Unemployed Other

5. Marital Status

Single Married

Divorce Windowed

6. Do you have mobile phone?

Yes No

PART Two: To what extent you agree or disagree with the following statements.

1= strongly disagree 2 = Disagree 3 = Neutral

4 = Agree 5= `strongly agree

Please use tick (√) mark in the table under the options given the number you selected to reflect your rating

	I. Perceived risk	1	2	3	4	5
1	I have no confidence to use Hello cash mobile Banking because If I made incorrect transaction I will lose my money.					
2	I am worried about using Hello cash mobile banking because other people may be able to access my account.					
3	I prefer to go to bank branch instead of using Hello cash mobile banking services of LIB due to lack of trust.					
	II. Organizational factors					
4	I think that the technical and managerial/staff skills on Hello cash mobile banking affects me to accept the system.					
5	Use of Hello cash mobile banking services increase additional cost to the bank.					
6	I think that lack of availability of technological equipment's for the Hello cash mobile banking influence me to accept the system.					
7	I think that absence of an appropriate maintaining capacity upon failure affects me to adopt Hello cash mobile banking.					
8	I feel that relatively banking charges of Hello cash mobile banking is reasonable than other banks.					
9	My decision to adopt Hello cash mobile banking is influenced by media.					
	III. Environmental factors					
10	I believe that lack of sufficient government support affected my willingness to accept Hello cash mobile banking.					
11	I believe that lack of sufficient legal frameworks on Hello cash mobile banking influence to use the system.					
12	Lack of competition among local bank and foreign banks.					
13	None of my friends and or families is using mobile phone for banking transaction using Hello cash mobile banking system.					
14	I feel that lack of sufficient public awareness considered as a factor to					

	adopt Hello cash mobile banking at LIB.					
15	I believe that Hello cash mobile banking services may not perform well because of network Problems.					
	IV. Perceived Ease of Use					
16	Hello cash mobile banking makes it easier to do banking activities.					
17	LIB provides guidelines on the use of Hello cash mobile banking facility.					
18	I believe that the management of the LIB provides training courses for its staff when introducing Hello cash mobile banking services to the level expected.					
19	I believe adequate demonstration is provided to the customer on how to use Hello cash mobile banking services.					
	V. Perceived Usefulness					
20	I believe that using Hello cash mobile banking would enable me to complete banking activities more quickly and easily.					
21	I find that Hello cash mobile banking service is convenient in terms of time saving (7 days and 24 hour services, to access bank account).					
22	I believe that Hello cash mobile banking service is reduced the transaction cost incurred in visiting a bank.					
23	I effect payment using Hello cash mobile banking services at a lower price, or at no cost.					
24	I believe that Hello cash mobile banking service improve customer service.					
25	I believe that Hello cash mobile banking service creates better relationship with LIB.					
26	I agreed the payment and fund transfer limit in Hello cash mobile banking service.					
27	Hello cash mobile banking service used as better information control tools.					

Mobile banking Adoption	Yes	No
28. Do you think that Using Hello cash mobile banking is simple or ease		

Spearman Correlations								
			adoption	MPR	MOF	MEF	MPEU	MPU
Spearman's rho	adoption	Correlation Coefficient	1.000	-.069	.309**	.372**	.461**	.611**
		Sig. (2-tailed)	.	.206	.000	.000	.000	.000
		N	339	339	339	339	339	339
	MPR	Correlation Coefficient	-.069	1.000	.154**	.104	-.036	-.148**
		Sig. (2-tailed)	.206	.	.004	.057	.509	.006
		N	339	339	339	339	339	339
	MOF	Correlation Coefficient	.309**	.154**	1.000	.038	.129*	.226**
		Sig. (2-tailed)	.000	.004	.	.482	.018	.000
		N	339	339	339	339	339	339
	MEF	Correlation Coefficient	.372**	.104	.038	1.000	.179**	.251**
		Sig. (2-tailed)	.000	.057	.482	.	.001	.000
		N	339	339	339	339	339	339
	MPEU	Correlation Coefficient	.461**	-.036	.129*	.179**	1.000	.277**
		Sig. (2-tailed)	.000	.509	.018	.001	.	.000
		N	339	339	339	339	339	339
	MPU	Correlation Coefficient	.611**	-.148**	.226**	.251**	.277**	1.000
		Sig. (2-tailed)	.000	.006	.000	.000	.000	.
		N	339	339	339	339	339	339
**. Correlation is significant at the 0.01 level (2-tailed).								
*. Correlation is significant at the 0.05 level (2-tailed).								

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1a	MPR	-1.066	.413	6.662	1	.010	-2.903
	MOF	1.288	.379	11.575	1	.001	3.626
	MEF	1.584	.376	17.754	1	.000	4.873
	MPEU	2.280	.388	34.553	1	.000	9.772
	MPU	3.368	.449	56.191	1	.000	29.032
	Constant	-4.906	.636	59.509	1	.000	.007

a. Variable(s) entered on step 1: MPR, MOF, MEF, MPEU, MPU.

Omnibus Tests of Model Coefficients				
		Chi-square	df	Sig.
Step 1	Step	211.979	5	.000
	Block	211.979	5	.000
	Model	211.979	5	.000

Coefficients			
Model		Collinearity Statistics	
		Tolerance	VIF
1	MOF	.943	1.060
	MEF	.923	1.083
	MPEU	.906	1.104
	MPU	.846	1.183
	MPR	.961	1.041

a. Dependent Variable: MPR

Reliability Statistics	
Cronbach's Alpha	N of Items
.849	27

Descriptive Statistics			
	N	Mean	Std. Deviation
pr1	339	3.0619	1.35404
pr2	339	3.0472	1.31586
pr3	339	2.8850	1.32177
of1	339	2.8614	1.15703
of2	339	2.9823	1.14341
of3	339	3.0088	1.22471
of4	339	3.0560	1.13827
of5	339	3.0354	1.25408
of6	339	3.0737	1.34468
ef1	339	2.8348	1.20004
ef2	339	3.0944	1.19538
ef3	339	3.2832	1.30861
ef4	339	3.0236	1.32546
ef5	339	3.4690	1.26213
ef6	339	3.4513	1.18665
peu1	339	3.5015	1.33982
peu2	339	3.1799	1.19914
peu3	339	3.3451	1.07777
peu4	339	3.3717	1.20055
pu1	339	3.5074	1.35298
pu2	339	3.6903	1.25042
pu3	339	3.5929	1.12242
pu4	339	3.3451	1.06396
pu5	339	3.6195	1.09316
pu6	339	3.5605	1.14032
pu7	339	3.4012	1.17851
pu8	339	3.4484	1.19150
Valid N (listwise)	339		