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INFLUENCE OF ATTITUDE ON MOBILE BANKING ADOPTION: THE CASE OF DASHEN AND UNITED BANKS IN ADDIS ABABA

A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF MASTER OF ARTS DEGREE IN TOTAL QUALITY MANAGEMENT AND ORGANIZATIONAL EXCELLENCE

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Declaration

I, the undersigned, declare that this research project is my original work and has not been presented for a degree award in any other university.

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Date _____

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This research project has been submitted for examination with my confirmation as a supervisor to the candidate.

Signature _____

Date _____

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Dr Asres A. _____ **Dr. Wubishet B. _____**

Date _____ **Date _____**

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Abstract

The aim of this study was to assess the influence of attitude on mobile banking adoption in Ethiopia: the case of Dashen and United banks in Addis Ababa. In so doing, factors influencing attitude toward mobile banking and the influence of attitude and its corresponding strength on intention to adopt mobile banking were assessed. In addition to these primary objectives, assessing the significance of variations in socio-demographic variables on attitude and intention to adopt mobile technology was part of this study. Descriptive and causal research design was employed. Stratified sampling method was used to collect quantitative and qualitative data from individuals who subscribed for mobile banking service of Dashen Bank and United Bank i.e. Amole and Hibir respectively. Accordingly, 394 usable questionnaires were obtained and used for further analysis. SPSS version 21 was used to analyze the collected data. The collected data were analyzed using central tendency (median), measure of dispersion (standard deviation), independent sample T-test, ANOVA, correlation & regression analysis. Interviews were conducted with subscribers with different mobile banking usage frequency. To develop the models used for analysis, inputs from TAM, ToT, trust and the concept of attitude strength was used. The results of the analysis indicate that among the socio-demographic factors included in this study occupation, mobile banking usage status and usage frequency significantly influence both attitude and intention while monthly income and service provider significantly influence intention only. The regression outputs indicate that the factors that influence attitude toward mobile banking are perceived usefulness, perceived ease of use and trust. Similarly, attitude toward success, attitude toward process/learning and attitude strength significantly influence intention to adopt mobile banking while attitude toward failure had an insignificant influence on intention. Based on the findings, the researcher forwarded recommendations to enhance mobile banking adoption. These are improving reliability, awareness creation, emphasize on making mobile banking easier and trustworthy, and creating a situation which necessitates the need to use mobile banking.

Key words: Factors influencing attitude and intention, Perceived usefulness, Perceived ease of use, Trust, Attitude toward success, Attitude toward failure, Attitude toward process/learning, Attitude strength, TAM, ToT

Chapter One

1. Introduction

1.1. Background of the study

The novelty of internet, computers and subsequent innovations have had a profound impact in the world by making access to information and information processing cheaper and faster (Gorham & Singh, 2009). Similarly, the innovation of mobile internet in the 1990s transformed the purpose of mobile phones; mobile banking is among the outcomes of the innovations in the technology (Barnes & Corbitt 2003). Mobile banking is "a set of applications that enable people to use their mobile telephones to manipulate their bank accounts, store value in an account linked to their handsets, transfer funds, or even access credit or insurance products" (Donner & Tellez, 2008 p. 319). It can also be expressed as an approach to interact with consumers and offer financial services via mobile phones or other personal digital assistant devices that are linked to clients' account using information communication technology (ICT) (Barnes & Corbitt 2003; Anderson, 2010).

In general, ICT plays a fundamental role in enhancing competitiveness and has a considerable impact on efficiency of firms (Oliveira & Martins, 2011). Thus, business organizations, such as banks, invest a substantial amount on ICT. Empirical studies amplify the role technology exerts on consumer satisfaction and service quality improvement in Ethiopia (Shaikh, 2014; Worku, Tilahun, & Tafa, 2016). Dashen Bank S.C (Dashen Bank) and United Bank S.C (United Bank) are pioneering banks to invest on mobile banking technologies and introduce the corresponding service in Ethiopia. Dashen Bank was the first to acquire a license for conducting electronic commerce and mobile merchant transactions (Worku 2010); introduced Mobile Banking dubbed Modbirr in 2010. United Bank on the other hand pioneered in Telephone banking, Internet banking, and Text messaging (SMS) platforms (Worku 2010).

For African banks who managed to control the rules of engagement in the past, the future does not seem to preserve the existing circumstances for long, as consumers get further fragmented and have innovative alternatives (Ekekwe, 2016). Consequently, the rivalry will no longer be bounded within banks as long as entities like Financial Technology (Fintech) entrepreneurs and

telecom operators are threatening the banking business without necessarily having a banking license (Ekekwe, 2016). The impact of Kenya's M-Pesa and South Africa's Wizzit are progressively popular examples for this regard in Africa (Donner & Tellez, 2008; Mbiti & Weil, 2011). The latest report from Central Bank of Kenya, for the month of September 2018, reads around 146 million mobile payments amounting $3.2 billion USD were transacted; between 203,359 Agents and 44.3 million mobile banking accounts. In the same month around 18 million card payments were made through different forms of cards (Debit, Credit, Gift, Prepaid, ATM and POS).

Despite existing for nearly two decades electronic banking practices in Ethiopia are in an emergent stage (Addisfortune.net, 2017). Payment is enormously cash based as well, over 95%, which is shifting towards electronic payment lethargically (Addisfortune.net, 2017). Card payment is the most popular e-banking platform in Ethiopia, both in number of transactions and value, unlike mobile banking. For instance, Dashen Bank introduced card payment platform at a relatively similar period with mobile banking, end of 2009 and early 2010 respectively, but from the total of 1.86 million depositors 3.7% of them subscribed for lately introduced Amole[1] while 30% of depositors are card holders as of June 2018. In the month of August 2018, there had been 6,794 transactions amounting $0.46 million (12.7 million ETB) were transacted through Amole and 304,622 transactions amounting $11.5 million (319.7 million ETB) through card payment.

Similarly, during the last fiscal year ended in June 2018, card based payments at United Bank outperformed Online and Mobile banking transactions combined, both in number and value. Card payments had an average of 108,333.3 transactions per month and valued $3.8 million (107 million ETB) while a total of 50,917 transactions amounting $14.3 million (399.3 million ETB) recorded from Online and Mobile banking combined throughout the last fiscal year 2017/18; total number of Online and Mobile banking subscribers was 160,999; on average a single subscriber transacts 0.32 transactions per year.

Albeit end users' reluctant response for E-banking, particularly mobile banking, banks in Ethiopia seek to adopt electronic platforms for seizing a competitive advantage, utilizing the

[1] Amole is a combination of Internet and Mobile Banking services provided by Dashen Bank

potential in the industry, and complying with consumer expectations and technological progressions (Ethiopianbusinessreview.net, 2018).

1.2. Statement of the problem

Banking is a lucrative industry in Ethiopia, subsequently, majority of banks became complacent with the income they generate from traditional banking services and are deficient to aggressive innovation (Addisfortune.net, 2017). For majority of banks more than 80% of income is generated from the same services since inauguration (Addisfortune.net, 2017) and conventional branch expansion is still an influential factor (Adem 2015) regardless of the staggering increase in rental expenses. In the looming prospect, disintermediation by Fintech will make it harder for African banks to earn fees and conventional bank branches will have a limited influence (Ekekwe, 2016). The influence of Fintech is that it crafts a new ecosystem and disrupts the market which pushes incumbent banks to rethink their business model (African Banking Survey, 2016). A progressively popular example in this regard is the case of Kenya; M-Pesa is frightening incumbent banks and prominent money transfer platforms such as Western Union (Mbiti & Weil, 2011).

Additionally, e-commerce as well is forcing the global business environment to focus on using wireless web, mobile computing and mobile commerce because of advancements in mobile technologies and applications (Shaikh & Karjaluoto, 2015). These shifts in the business environment are mostly not possible to be satisfied in a traditional banking effectively (Sumanjeet, 2009). Thus, for banks around the world, aligning strategies with technology has become a necessity rather than a choice which affects traditional banking. As a result, banks have to avail adoptable alternative services and products whilst maintaining their legacy. In recent years commercial banks in Ethiopia started investing on advanced technologies to make banking accessible and electronic. But electronic banking in general, mobile banking in particular, does not seem to surpass the traditional banking practices (Ethiopianbusinessreview.net, 2018).

Investments in information technology can have a considerable impact when the technology is widely spread and used by many (Oliveira & Martins, 2011). In so doing prominent technology adoption models like Technology Acceptance Model (TAM) have been applied to assess the

rationale behind the factors influencing mobile banking adoption (Ha, Canedoli, Baur, & Bick, 2012, Shaikh & Karjaluoto, 2015). These prominent technology adoption models primarily associate prospects and challenges with perception of technology attributes, user characters, social influences, and environmental/situational factors (Chaouali et al., 2017).

Although there had been significant contributions from the above perspectives, there is a gap in exploring consumers' decision making process (Chaouali et al., 2017). For example according to Chaouali et al. (2017) individuals' attitude is a key factor in decision making processes for mobile banking adoption. This is because it is general and lasting as it pertains beyond momentary events (Solomon, Bamossy, Askegaard, & Hogg, 2006). Prior studies as well deemed attitude as an antecedence of behaviors and behavioral intentions to adopt new products and services, purchase decisions, and purchase intensions, but they lack comprehensive conception on the significance of attitude (Chaouali et al., 2017). Furthermore, these prominent models lack considerations that they fail to address possibility of people trying, but failing to succeed, the influence of past behavior and trying on future adoption, and they do not reflect on the learning activities and necessary outcomes initiating technology adoption (Bagozzi, Davis, & Warshaw, 1992; Bagozzi & Warshaw, 1990).

As a result, they fail to elucidate the specific role of attitude on technology adoption (Kim, Chun, & Song, 2009). Moreover, the strength of attitude determines its influence on behavior and mode of mediating role on behavioral intention (Kim et al. 2009). According to Kim et al. (2009) a user with strong favorable attitude toward a technology will persistently stand to its beliefs while weaker attitude may easily change the attitude when others point out shortcomings of the technology.

To the knowledge of the researcher assessing attitude of consumers toward trying new technology/service alternatives, mobile banking, is a new direction in the field of mobile banking adoption studies in Ethiopia. This study is presumed to indicate new direction towards factors affecting mobile banking adoption in Ethiopia. Moreover, the study will try to indicate how the degree of adoption can be enhanced and mobile banking attracts extra attention. Thus, the study investigates the impact of attitude on mobile banking adoption based on the theory of trying and the concept of attitude strength.

1.3. Research question

Based on the study gaps sated above, the following research questions are addressed. The main question is how significant is the attitude of consumers to enhance mobile banking adoption.

For a more comprehensive understanding of the phenomenon under study and to provide a sufficient justification, the following questions will be addressed. These are:

1. What are the factors that influence consumer attitude toward mobile banking?
2. Does consumers' attitude and its corresponding strength influence intention to adopt mobile banking?
3. Is there a significant relationship between demographic variables and, attitude as well as intention to adopt mobile banking?
4. Do variations in socio-demographic variables (e.g. level of educational attainment) have significant influence on attitude and intention to adopt mobile technology?

1.4. Objectives of the study

The aim of the study is to assess mobile banking adoption in Addis Ababa, Ethiopia the case of Dashen and United banks. The objectives are presented as follows:

Primary objectives

- To explore the factors that influence consumer attitude toward mobile banking
- To explore the role of attitude and its corresponding strength on intention to adopt mobile banking

Secondary objectives

- To assess the relationship between demographic variables and, attitude as well as intention to adopt mobile banking
- To analyze the significance of variations in socio-demographic variables (e.g. level of educational attainment) on attitude and intention to adopt mobile technology

1.5. Significance of the study

This study is undertaken to indicate a new direction for mobile banking adoption studies in Ethiopia. Subsequently, it is presumed to help decision makers engender informed decisions. Thus, the outcomes of this study will help individual consumers to elucidate where they stand on mobile banking adoption. Commercial bank executives as well may use findings and recommendations of this study to formulate and implement appropriate strategies so as to augment mobile banking practices in Ethiopia. Furthermore, governing bodies in the Ethiopian banking industry can use the outcomes of this study to modify existing regulations on mobile banking, because identifying key factors affecting mobile banking adoption will help utilize the potential in Ethiopia and optimize the limited resources accessible in the country. Future studies may also infer the findings of this study as a reference to investigate the topic under study.

1.6. Limitation of the study

This study was intended to assess the influence of attitude on mobile banking adoption in Ethiopia under the cases of Dashen Bank and United Bank in Addis Ababa. The study was undertaken by distributing questionnaires and conducting interviews. Considering the time and resources available, the study was limited to Northern and Southern parts of Addis Ababa. It could have been more productive if Western and Eastern parts of Addis were included. Furthermore, the inclusion of regional capital cities would have augmented the productivity of the study.

Chapter Two

2. Literature Review

This chapter reviews the literatures in the area of mobile banking and technology adoption focusing on the significance of consumer attitude on adoption and use of technology i.e. mobile banking.

Section 2.1 is an introduction to mobile banking; section 2.1.1 provides definition of mobile banking followed by review of mobile banking practices in Ethiopia in section 2.1.2. Section 2.1.3 lists the major advantages of mobile banking. Section 2.2 presents the theoretical literature review; theories and models on the factors influencing mobile banking adoption including the two primary frameworks used to guide this study. Empirical literature review is presented in section 2.3 while the conceptual framework is presented in section 2.4.

2.1. Introduction

2.1.1. Definition of mobile banking

Mobile banking may have several definitions which all aim to describe the same service. This section defines what mobile banking is and the types of mobile banking models/platforms applied in Sub-Saharan Africa. Mobile banking can be defined from two perspectives, the service provider and service consumers' perspective. From the service provider perspective mobile banking can be defined as an approach to interact with customers and offer financial services via mobile phones or other personal digital assistant devices that are linked to clients' account using information communication technology (ICT) (Barnes & Corbitt 2003; Anderson, 2010). From consumers perspective mobile banking is "a set of applications that enable people to use their mobile telephones to manipulate their bank accounts, store value in an account linked to their handsets, transfer funds, or even access credit or insurance products" (Donner & Tellez, 2008 p. 319). Some may refer mobile banking as mobile payment which comprises conducting financial transactions through mobile devices and accessing a broader range of banking service (Porteous, 2006). It is sometimes defined as the use of mobile terminals to access payment and banking services (Zhou, 2012). The governing body in the Ethiopian banking sector National Bank of Ethiopia (NBE) defined mobile banking as "performing banking activities which primarily consists of opening and maintaining mobile/regular accounts and accepting deposits;

furthermore, it includes performing fund transfer or cash in and cash out services using mobile devices".

Mobile banking is a subset of electronic banking (Porteous, 2006) and branchless banking supersets electronic banking (Deloitte, 2012). Electronic banking is the process of performing banking transactions electronically without visiting conventional bank branches (Keivani, Sameni, Jouzbarkand, Khodadadi, and Sourkouhi 2012) while branchless banking is a strategic shift in financial service distribution platforms seeking to expand the concept of traditional banking (Deloitte, 2012). Branchless banking can also be expressed as the delivery of financial products and services using agents and relying on ICT for transaction details so as to reduce the cost of building and maintaining service delivery channels (Ivatury and Mas 2008; CGAP 2010).

Branchless banking delivery models can be divided into three broad categories as Bank-Focused, Bank-Led and Nonbank Led (Andrew, 2009). According to Andrew (2009) Bank-focused is when a non-traditional channel is availed to existing bank customers intending to deliver a low-cost banking service; ATM, internet and mobile banking are good examples of this model. Bank-led model is aimed at using alternative service delivery channels such as retail agents instead of conventional bank branches; agent banking is a good example of this model. This model retains customer account with the bank. Non-bank led model is when a non-bank organization like Mobile Network Operators (MNO) perform all the functions and banks have no involvement.

Similarly, scholars describe the types of mobile banking provisions widely popular in the Sub Saharan Africa into two prominent models; the Additive model and Transformative model (Etim, 2014). The additive model is when banks provide a platform for their existing customers so as to access their existing account using mobile phones. The transformational model is an approach to reach out the unbanked and provide services beyond the existing banked groups and meet the needs of the unbanked (Porteous, 2006). Self-Service Technology is the core concept behind where consumers are transacting the service without involving service provider's personnel (Curran & Meuter, 2005). The novelty of internet, computers and subsequent innovations have had a profound impact in this regard by making access to information and information processing cheaper and faster (Gorham & Singh, 2009). Accordingly, electronic and self-services

provision is gaining more momentum in recent years as a combined result of technology advancements and reduction in the implementation cost (Curran & Meuter, 2005).

Therefore, Mobile banking can be defined as a type of branchless banking undertaken by financial and/or non-financial organizations to provide access to existing bank account or provide financial services to the unbanked.

2.1.2. Mobile banking practice in Ethiopia

Innovation of mobile internet in the 1990s transformed the purpose of mobile phones; mobile banking, e-mail, news feeds, travel information and shopping are among the outcomes of the innovations in the technology (Barnes & Corbitt 2003). For a customer oriented sector like banking this was a significant breakthrough to avail banking via mobile phones; some of the first commercial applications of the technology were mobile banking (Barnes & Corbitt 2003).

Despite existing for nearly two decades electronic banking (including mobile banking) practices in Ethiopia are in an emergent stage in contrast with comparable economies (Addisfortune.net, 2017). For instance, electronic payment in Kenya is incredibly popular. The latest report from Central Bank of Kenya, for the month of September 2018, reads around 146 million mobile payments amounting $3.2 billion USD were transacted; between 203,359 Agents and 44.3 million mobile banking accounts. In the same month around 18 million card payments were made through different forms of cards (Debit, Credit, Gift, Prepaid, ATM and POS). On the other hand payment in Ethiopia is enormously cash based, over 95%, which is shifting towards electronic payment lethargically (Addisfortune.net, 2017).

Commercial Bank of Ethiopia was the first to introduce electronic banking platform in 2001, ATM, despite failing to succeed and surrendering the lead to the aggressive efforts from Dashen Bank (Worku 2010). Dashen Bank extended it leadership role in electronic banking by becoming the first Ethiopian bank to acquire the license to conduct electronic commerce and mobile merchant transactions (Worku 2010). According to Worku (2010) United Bank is the pioneer (2008) to commence telephone and internet banking which included SMS notification, but it was deficient to transactional features. Therefore, it can be concluded that Dashen Bank and United bank are pioneering banks with regard to mobile banking service. Currently, all commercial

banks except the youngest private bank, Enat bank, have a mobile banking platform or in pursuit of mobile banking platform.

Table 1 List of commercial banks in Ethiopia; establishment and mobile banking availability

No	Name of Bank	Establishment Year	Mobile Banking provision status
1	Commercial Bank of Ethiopia	1942	Available
2	Awash Bank	1994	Available
3	Dashen Bank	1995	Available
4	Abyssinia Bank	1996	Available
5	Wegagen Bank	1997	Available
6	United Bank	1998	Available
7	Nib International Bank	1999	Available
8	Cooperative Bank of Oromia	2004	Available
9	Lion International Bank	2006	Pending
10	Oromia International Bank	2008	Available
11	Zemen Bank	2008	Available
12	Bunna International Bank	2009	Pending
13	Birhan Bank	2009	Pending
14	Abay Bank	2010	Available
15	Addis International Bank	2011	Available
16	Debub Global bank	2012	Pending
17	Enat Bank	2012	Not Available

Source: NBE website 2019

2.1.3. Legal framework of mobile banking in Ethiopia

To encourage innovative service delivery channels supported by the latest technology available NBE allowed mobile and agent banking services under “Regulation of Mobile and Agent Banking Services Directives No. FIS /01/2012” and came to effect on January 01, 2013.The directive applies to all financial institutions who conduct mobile and agent banking services. According to the directive;

- Only banks and microfinance institutions are allowed to engage in mobile banking after obtaining the license to do so.
- Services should be bounded to the geographical boundaries of Ethiopia and using Ethiopian Birr.
- Financial institutions are allowed to use agents as specified by the directive.
    - The financial institution shall be fully responsible and liable for all actions and omissions of its agent and this responsibility shall extend to actions of the agent
    - All transactions involving deposit, withdrawal, payment or transfer of cash from or to an account shall be made on real time basis and financial institutions shall ensure that agents are able to carry out real time transactions
    - Agents shall not under any circumstance accept funds from customers that exceed their prepaid balance with financial institutions**;**
    - Financial institutions shall automatically debit or credit the account of the agent or customer upon conduct of any transaction that necessitates reduction or increase of the account balance of the agent or customer;
    - A financial institution shall have a mechanism to uniquely identify each of its agents.

As argued by Ekekwe (2016) banks in Africa who managed to control the rules of engagement will struggle in the near future as customers get further more fragmented and have innovative alternatives. Thus, competitors like Financial Technology (Fintech) entrepreneurs and Mobile Network Operators (MNO) threaten the banking business without necessarily having a banking license by providing financial services (Ekekwe 2016). Subsequently, Fintech companies like Hello-Cash and M-Birr are actively providing mobile banking services by cooperating with microfinance institutions in Ethiopia, but Ethiopia's sole MNO Ethio-telecom is prohibited from engaging in mobile banking (Fox, 2018)

Services rendered by mobile banking platforms of Dashen Bank and United Bank are available via Mobile Banking Applications and Unstructured Supplementary Service Data (USSD). "Amole Wallet Dashen Bank" (Amole) is the mobile application availed by Dashen Bank and

“Hibir Mobile Banking” (Hibir Mobile) is for United Bank. The USSD for Dashen Bank’s mobile banking service is available at *996# and dialing *811# is for United Bank’s mobile banking platform. The services available from these platforms are relatively similar to the remaining service providers. The services available from the platforms are:

For Amole:

- Fund transfer within own Bank account & wallet account
- Fund transfer through mobile phone for those who registered for mobile service.
- Fund transfer to others who have only mobile phone number/ for those who unregistered for mobile service.
- Mini Statement and checking of account history of wallet account
- Balance Enquiry on bank account and Wallet account
- PIN change
- Fund transfer from Bank account to Bank account for those who registered for mobile service.
- Merchant payment
- Bill payment and other services

For Hibir Mobile:

- Check your account balances and transfer money from your account
- Request for Check Book
- Verify the status of the check you issued and give stop payment order
- Obtain information concerning the outstanding balance of your loan
- Request for information on the outstanding balance of your loan and get a reminder for loan repayment date
- Get a mini statement concerning your account transaction
- Request for information on current exchange rate of major currencies
- Recharge your mobile account
- Pay your utility bills such as electricity & telephone (pending until an agreement is reached with the concerned government offices)
- Book online for your travel from Ethiopian airlines and other services

2.1.4. Major benefits of mobile banking

According to Ha, Canedoli, Baur, & Bick (2012) the major benefits of mobile banking compared to other platforms are;

1. **Ubiquity**: users can access the service anywhere in different situations
2. **Immediacy**: users can access the service anytime and get updates
3. **Localization**: services can be offered and communicated to specific users' based on their location
4. **Instant connectivity**: users can access services without much effort to connect to network
5. **Proactive functionality**: users can access tailored information without considerable effort

Investments in information technology and their corresponding benefits can have a considerable impact when the technology is widely spread and used by many (Oliveira & Martins, 2011). Therefore, several models and theories have been applied to explore the rationale behind fractional mobile banking practices and factors influencing technology adoption in the developing world. Majority of these studies rely on models like Technology Acceptance Model (TAM: Davis 1986, Davis 1989, Davis et al. 1989), Theory of Reasoned Action (TRA: Fishbein & Ajzen, 1975), Theory of Planned Behavior (TPB: Ajzen 1985, Ajzen 1991), Unified Theory of Acceptance and Use of Technology (UTAUT: Venkatesh et al. 2003), Diffusion of Innovation (DOI: Rogers 1995), Technology, Organization, and Environment (TOE) framework (Tornatzky and Fleischer 1990), Theory of Perceived Risk (TPR: Featherman & Pavlou, 2003) and Theory of Resistance to Innovation (TRI: Ram and Sheth, 1989) (Oliveira & Martins, 2011; Baptista & Oliveira, 2015; Chaoualia, Souidenb, & Ladharib, 2017); from which TAM is the most widely used model in mobile banking adoption studies worldwide (Ha, Canedoli, Baur, & Bick, 2012; Shaikh & Karjaluoto, 2015). Likewise, it is the most frequently applied adoption model in Ethiopia. Among the prominent models mentioned above, TRA, TPB, and TAM will be discussed in the subsequent section of this study. Moreover, the theory of trying (ToT) and the concept of attitude strength will be discussed to indicate their importance to narrow the study gaps mentioned above.

2.2. Theoretical review

There are several models that can guide assessment of factors affecting mobile banking adoption; TRA, TPB and TAM are the most widely used models (Lai, 2017). ToT adds broader conceptualization of attitude on these prominent adoption models and better explains new technology adoption in developing economies (Chaouali et al., 2017) while the concept of attitude strength appraises the degree of mediating role of attitude on behavioral intention and judgment (Petty, Wegener, & Fabrigar, 1997). This study is undertaken based on these theories, concepts and models emphasizing on the impact of attitude on mobile banking adoption. A brief description is presented below.

Theory of Reasoned Action (TRA) states that attitude and subjective norms influence behavioral intension which results in actual behavior (Fishbein & Ajzen, 1975). According to Fishbein & Ajzen (1975) attitude is a favorable or adverse evaluation of performing a specific behavior while subjective norms are the perceived pressure from the society to perform or not to perform a specific behavior. Fishbein & Ajzen (1975 p. 288) defined behavioral intention as "a person's subjective probability that he will perform some behavior". Behaviour is "observable acts that are studied in their own right" (Fishbein & Ajzen 1975 p. 335). From the decition makers perspective a behavior is considered to be under partial volitional control and non-problematic (Bagozzi et al., 1992).

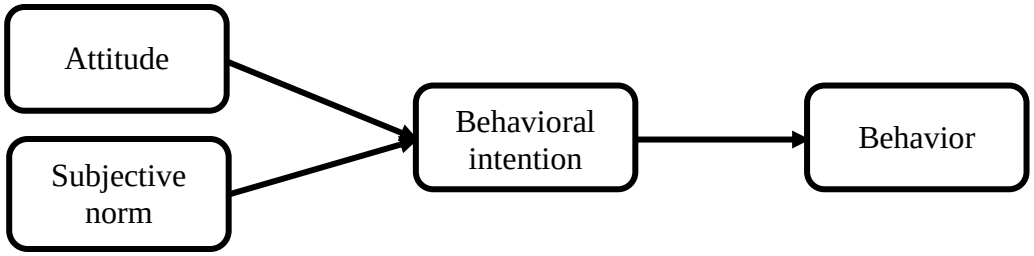


Figure 2.1 Theory of Reasoned Action (Fishbein & Ajzen 1975)

Theory of Planned Behavior (TPB) on the other hand is a theory derived from the limitations of TRA regarding peoples' behavior under incomplete volitional control (Ajzen, 1991). Similar to TRA intention is the central factor that influences individual's to engage in a behavior (Ajzen, 1991). The major distinction lies on the notion that the behavior in question should be under complete volitional control, i.e. an individual chooses to perform or not to perform at his/her own will and what they perceive as an impediment (Ajzen, 1991). According to Ajzen (1991)

intention and behavioral control jointly influence behavioral achievements while attitude toward the behavior and subjective norm influence intention. Perceived behavioral control influences behavior over and above behavioral intention (Ajzen, 1991).

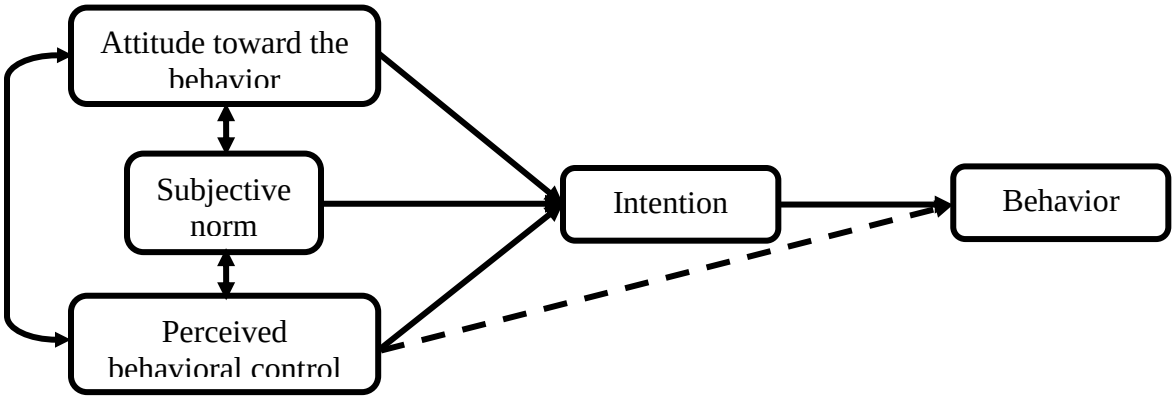


Figure 2.2 Theory of Planned Behavior (Ajzen 1991)

Technology Acceptance Model (TAM) is a model developed to provide a general explanation on determinants that influence computer acceptance (Davis, Bagozzi, & Warshaw, 1989). TAM as well is a tailored version of the Theory of Reasoned Action (TRA) which focuses on computer usage behavior (Davis et al. 1989). Similar to TRA, TAM assumes a behavior to be under partial volitional control and non-problematic from decision makers viewpoint (Bagozzi et al., 1992). As acknowledged by Fishbein & Ajzen (1975 p. 306) about the difficulty to clearly distinguish personal normative beliefs from behavioral intensions TAM left out SN from its model as a determinant of behavioral intension (Davis et al. 1989). Therefore, it is considered to be narrow in its scope and less general than TRA, but it is suitable for modeling computer acceptance (Davis et al. 1989). Consequently, it is the most widely used model in mobile banking adoption studies worldwide (Kim et al. 2009; Ha et al., 2012, Shaikh & Karjaluoto, 2015).

TAM postulates two primary inputs, sometimes referred as Perceived Convenience, for computer acceptance behaviors, Perceived Usefulness and Perceived Ease of Use; Perceived Usefulness (PU) is the subjective probability of a specific system to increasing performance while Perceived Ease of Use (PEOU) is users' expectation of a specific system to be effort free (Davis et al. 1989). According to Davis et al. (1989) Actual System Use is determined by behavioral intention which is jointly determined by attitude toward using a system and PU. PEOU influences attitude

and PU while PU influences behavioral intention over and above attitude, but both primary inputs, PU and PEOU, are subject to external variables (Davis et al. 1989).

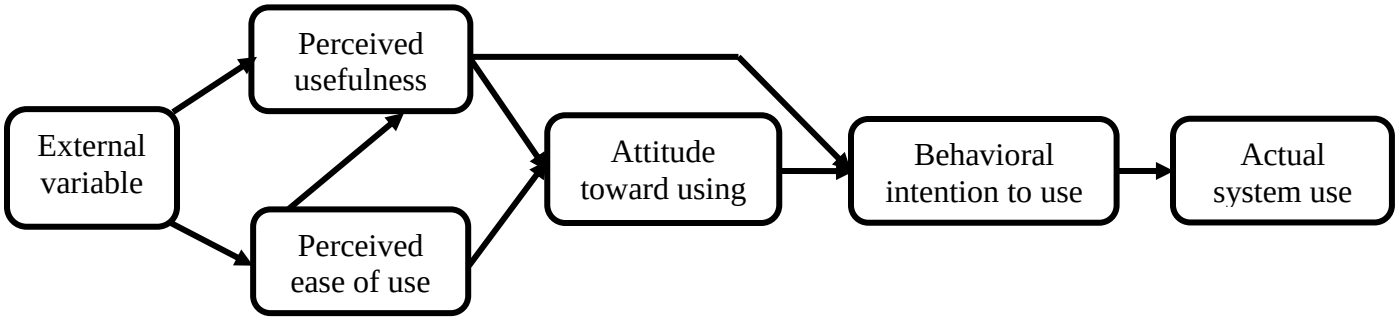


Figure 2.3 Technology Acceptance Model (Davis et al. 1989)

According to Bagozzi (2007) the frugality of TAM is its major strength that PU and PEOU determine the intension to use a technology. But it would be irrational to expect that a model as simple as TAM would fully explain a wide range of adoption situations considering variation in decision makers and type of decisions (Bagozzi, 2007).

The shortcomings, to be addressed in this study, from TAM, TRA and TPB are; first, they have a limitation in a way that they fail to address possibility of people trying, but fail (Bagozzi, Davis, & Warshaw, 1992). When the consequence of failing is salient for an individual it affects his/her intention to try (Bagozzi et al., 1992). According to Bagozzi & Warshaw (1990), Xie et al., 2008 and Bagozzi et al. (1992), this can emanate from inability to perform a behavior, when a behavior is considered problematic, or expectancy of contingency. Inability to perform a behavior may originate from lack of confidence, lack of knowledge, deficient will power, or unconscious fear, habit or prejudice. An individual may perceive a behavior as problematic because of personal reasons or irrepressible situational interferences that could affect performance at a particular instance. The possibilities of occurrence for a behavior to be performed in the future affect individual decision as well.

Secondly, the influence of past behavior and trying on future adoption is disregarded, even if it can manipulate the predictive-ness of attitude and social norm on behavioral intention (Bagozzi & Warshaw, 1990). Thirdly, they do not reflect on the learning activities and necessary outcomes initiating technology adoption (Bagozzi et al., 1992). According to Bagozzi et al. (1992) the

complexity and uncertainty involved in adopting a new system makes the learning process an impediment to adopt new technology and perform a given action. Finally, attitude, a focal point of this study, is considered as a one-dimension concept; traditionally and under TRA, TPB and TAM (Chaouali et al. 2017). According to Chaouali et al. (2017) individuals' attitude is a key factor in decision making processes for mobile banking adoption. Attitude is specifically essential for decisions under uncertainty (Yager, 1999) because people do not hesitate to form attitude towards products they have never personally experienced (Solomon et al., 2006). There are two steps involved in decision making; first, perception and appraisal of the situation followed by generation, evaluation and selection of choice options (Sanbonmatsu, Vanous, and Posavac 2005). According to Sanbonmatsu et al. (2005) attitude guides both the assessment and appraisal through stored evaluation or feeling.

Attitude is an internal state or tendency which biases individuals' evaluative response to some degree of favorability and unfavorability (Eagly, 1992). Attitude can also be expressed as a "general evaluations people hold in regard to themselves, other people, objects, and issues" (Petty & Cacioppo 1986, p. 127). Moreover, attitude creates specific motives to act towards an object/behavior (Bagozzi et al., 1992) and its strength determines the mediating role it plays on behavioral intention (Petty, Wegener, & Fabrigar, 1997).

One-dimensional conceptualization of attitude is more appropriate for determining behaviors which are non-problematic with high level of volitional control, actions that are likely to succeed, and to evaluate favorability or unfavorability toward usage/adoption in general (Taylor, Bagozzi, & Gaither, 2001; Xie, Bagozzi, & Troye, 2008). Therefore, while studying mobile banking acceptance, cognizant to the sensitivity of using a new payment system, a multidimensional approach to attitude is suitable because outcomes are vulnerable to failure, links in part are beyond personal control and for a comprehensive conception of attitude (Bagozzi & Warshaw 1990; Xie et al., 2008; Chaoualia et al., 2017) because people adopt technology to benefit the outcomes than the features per se (Bagozzi et al., 1992).

The Theory of Trying (ToT) conceptualizes attitude as a multidimensional concept and better explains adoption of new technology in developing economies (Bagozzi & Warshaw 1990; Xie et al., 2008; Chaouali et al., 2017). ToT states that targeted users' intention to try and trying are

outcomes of attitude toward success (expectation of trying and succeeding), attitude toward failure (expectation of trying but failing) and attitude toward process/learning to use new technology (Bagozzi & Warshaw 1990). Attitude toward trying and succeeding refers to anticipated expectation of success and consequence of achieving and attitude toward trying but failing is expectation of failure and an anticipated consequence of not achieving while attitude toward process addresses the opinion toward efforts to achieve the goal/adopt a behavior (Bagozzi & Warshaw 1990).

Besides to its multidimensional approach to explain attitude, ToT tries to elucidate the influence of past actions; Frequency of Past Trying and Recency of Past Trying (Bagozzi & Warshaw, 1990). Petty & Cacioppo (1986) also support the argument that past experience to a focal act is a better predictor to a behavior than passive exposure because it is based on self-generated information. According to Bagozzi & Warshaw (1990) frequency of past trying explains the frequency of experience with the focal act and the assessment of expectations while recency is likely to induce expectation bias and to recall past experience which in turn affects future trying.

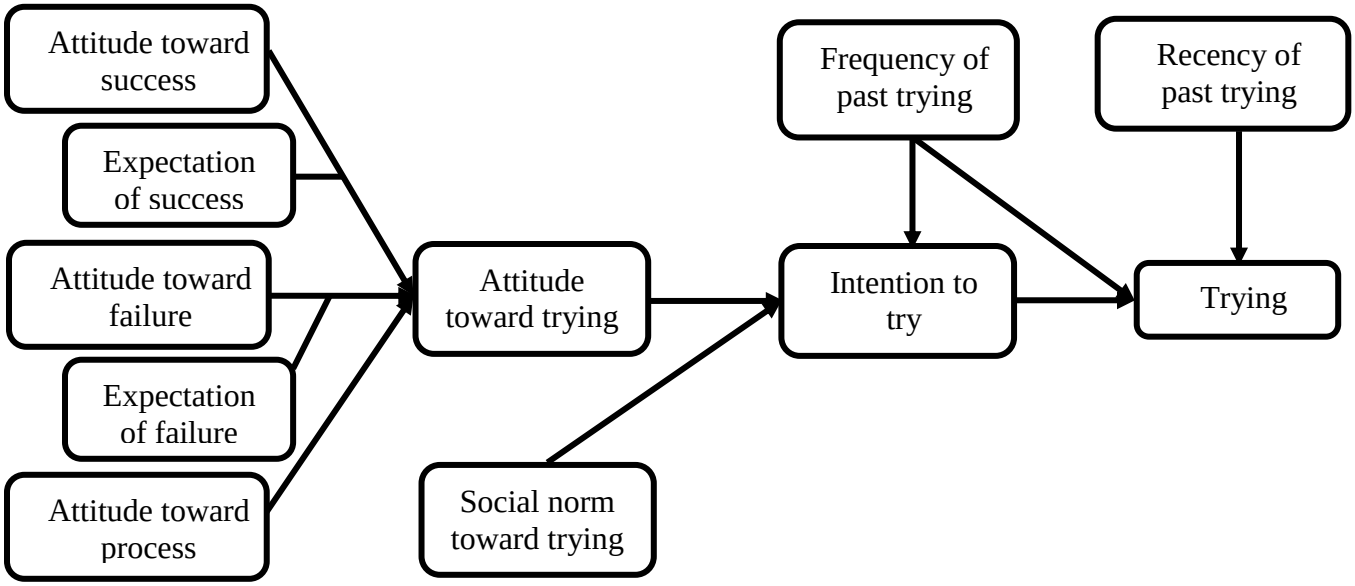


Figure 2.4 Theory of Trying (Bagozzi & Warshaw, 1990)

According to Bagozzi & Warshaw (1990) trying can replace behavior in TRA because of its poor justification to study outcome goals by arguing that behaving corresponds with trying. Therefore, "trying to achieve a goal is determined by intention to try, which in turn is determined by attitude and social norm toward trying" (Bagozzi & Warshaw, 1990 p. 4).

The concept of attitude strength provides a broader conception of attitude and its mediating role on behavioral intention and judgment (Petty, Wegener, & Fabrigar, 1997). Attitude strength implies the degree at which an individual's attitude can resist couterpursuation, persist over time and predict a behavior (Petty and Cacioppo, 1986). Attitude strength makes decision making easy and better in quality when related to preferences (Petty et al. 1997). According to Kim et al. (2009) a user with strong favorable attitude toward a technology will persistently stand to its beliefs while weaker attitude may easily change the attitude when others point out shortcomings of the technology. Attitude strength postulates the link between attitude and behavior in two ways (Kim et al. 2009). First, it may moderate the influence of attitude on behavioral intention. Second, it justifies the mode of mediation (i.e. full, partial or no mediation).

Major attributes considered as components of attitude strength are attitude certainty (one's conviction about an attitude toward a behavior), attitude accessibility (the ease of access to attitude when performing a behavior), and attitude extremity (how further does an attitude extend regardless of valence) (Wegener, Downing, Krosnick, & Petty, 1995). Individual and contextual variables influence components of attitude strength (Krosnick & Petty, 1995). The influences of attitude strength are studied in terms of resistance to counterpersuation, temporal persistency, ability to guide behavior and ability to influence information processing (Krosnick & Petty, 1995; Petty et al. 1997). Resistance to counterpersuation and temporal persistence correspond with durability while the ability to guide behavior and influence information processing correspond with impactfulness property (Krosnick & Petty, 1995; Petty et al. 1997).

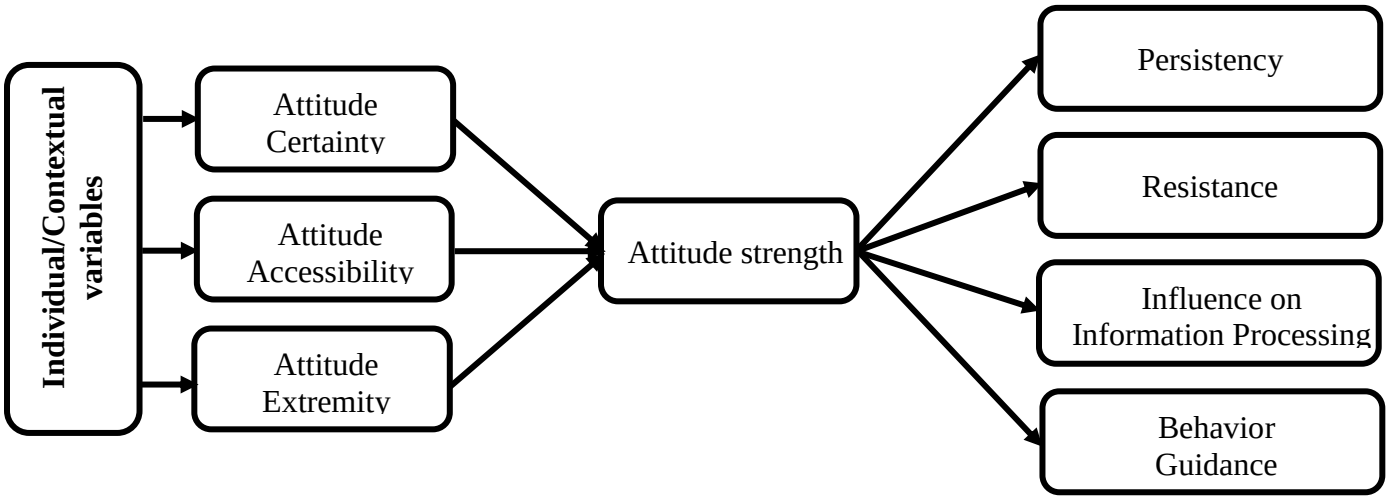


Figure 2.5 Attributes of attitude, attitude strength, and its manifestation (Kim et al.,

2.3. Empirical Review

As discussed earlier, several studies attempted to identify the rationale behind fractional adoption of mobile banking. Researchers presented factors which they perceive as drivers of mobile banking adoption mostly by relying on TAM. Based on the limitations of this prominent model of technology adoption (see Bagozzi & Warshaw, 1990; Bagozzi et al., 1992; Bagozzi, 2007; Xie et al., 2008; Kim et al., 2009; Chaouali et al. 2017) researchers tried to narrow the research gap by adding factors presumed to influence technology adoption. Here below are empirical findings of studies previously undertaken to assess drivers of mobile banking adoption.

After analyzing findings from mobile banking adoption studies undertaken between 2008 and 2011, Ha et al. (2012) found that TAM is the most widely used adoption model and the 17 variables assumed to drive mobile banking adoption. According to the finding, perceived usefulness (PU), perceived risk, perceived compatibility, perceived cost, perceived ease of use (PEOU), trust, social norm, social influence, relative advantage, experience, self-efficacy, perceived behavioral control, convenience, security, perceived image, perceived value, and need for interaction were previously assumed as drivers of mobile banking adoption. The first four were found to be more consistently articulated as drivers of adoption than the rest and PEOU is the next on the scale (Ha et al., 2012). Ha et al. (2012) noted that PEOU is usually considered as closely linked to PU and not convincingly regarded as a separate domain.

Similar to studies around the world recent mobile adoption studies in Ethiopia rely on TAM to identify drivers of mobile banking adoption (see Alemayehu, 2017; Yusuf, 2017; Mulualem 2015; Matiwos, 2018; Gezahegn, 2016; Nesibu, 2017). Despite applying TAM as a major input, findings of these studies signify inconsistent outcome on the influence of PU and PEOU (additional variables were part of the studies, such as Diffusion of Innovation, but they are skipped for simplicity purpose). Alemayehu (2017), Mulualem (2015), Matiwos (2018), and Nesibu (2017) found that both variables have significant and positively influence mobile banking adoption while Gezahegn (2016) and Yusuf (2017) found that only one of the two has significant influence, PU and PEOU respectively.

Gu, Lee, & Suh (2009) studied the determinants of users' intention to mobile banking in South Korea by excluding attitude (using modified TAM). The finding of the study conducted by Gu et

al. (2009) confirms the significance of PU and PEOU on behavioral intention. Additional determinant, Trust, which is the willingness to increase vulnerability to other party in pursuit of potential benefit where the actions of the party are not under control (Zand, 1997) is added in the study which is found to be a more powerful determinant than PEOU. Shen, Huang, Chu, & Hsu (2010) as well suggest that financial risks involved in adopting Fintech products should be considered since other high-tech online transactions do not necessarily involve personal data or identity theft (Shen et al., 2010). The study further explores variables that determine the three determinants; PU is determined by PEOU, social influence, trust, and system quality while PEOU is determined by self-efficacy, facilitating conditions, familiarity with bank, and situational normality. The additional determinant, trust, is influenced by PEOU, familiarity with bank, situational normality, structural assurances and calculative-based trust.

All the link proposed by Gu et al. (2009) were found to be significant except influence of familiarity with the bank on PEOU and on trust, social influence on PU and finally the influence of PEOU on trust. The study indicates the importance of PEOU on PU, structural assurance on trust and self-efficacy on PEOU.

Chaouali et al. (2017) tried to study mobile banking adoption in Tunisia focusing on the role of attitude on consumers decision making process, an argument supported by Sanbonmatsu et al. (2005), based on the theory of trying. Chaouali et al. (2017) argued that PU and PEOU have weaker and insignificant influence on attitude or intention when applied in developing countries than with developed countries. The findings of Chaouali et al. (2017) depict the significance of attitude toward mobile banking on mobile banking adoption. According to Chaouali et al. (2017) attitude toward success, attitude toward failure and attitude toward the process of adopting mobile banking influence attitude toward mobile banking. General self confidence and cynicism are other rudiments influencing attitude (Chaouali et al., 2017). For simplicity purpose general self confidence and cynicism are not considered in this study.

Kim et al. (2009) as well argued that TAM has shown inconsistency on the role of attitude as a link between salient beliefs and user acceptance. As a result, Kim et al. (2009) assessed the mediating role of attitude to predict technology adoption behavior in South Korea using the concept of attitude strength on technology acceptance model (Davis et al., 1989). The finding of

the study postulates that in the case of strong attitude, attitude fully explains valence in behavioral intention. The mediation influence of PU and PEOU is also fully exerted on behavioral intention. But the direct mediating role of PU on behavioral intention is not indicated under strong attitude. In the case of weaker attitude, attitude has a partial mediating role on behavioral intentions. The same is true for the influence of PU and PEOU on behavioral intention. Conversely, the direct mediating influence of PU on behavioral intention has a better influence than attitude. Therefore, TAM has arguably been the most suitable model to assess mobile banking adoption. Considering the limitations of TAM applying the theory of trying and the concept of attitude strength is coherent for a comprehensive assessment of mobile banking acceptance.

2.4. Conceptual Framework

As stated at the beginning of this study the number of subscribers who are actively using Amole and Hibir (Online and Mobile) is alarmingly low. In order to assess the reasons for subscribers' reluctant use of Amole and Hibir the decision making process (decision to adopt alternative banking) is found to be essential. As argued by Chaouali et al. (2017) attitude is a key factor in decision making particularly under uncertainty (Yager, 1999). Therefore, assessing the factors influencing attitude and the role of attitude on intention to adopt mobile banking is the main focus of this study.

Inferring from the arguments and explanations under the theoretical and empirical reviews stated above this study is undertaken based on a conceptual framework composed of TAM, ToT, Trust and attitude strength. As expressed above, despite its limitations TAM is presumed to be the most comprehensive model of adoption for technology and computer adoption behavior. Thus, Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) are adopted from TAM as determinants of Attitude in this study. From empirical reviews PU, PEOU and Trust are the most frequent and significant factors positively influencing intention to adopt mobile banking. Thus, in addition to antecedents from TAM, Trust (T) is added as an additional antecedence of attitude toward mobile banking. Therefore, in this study, PU, PEOU and T are considered as antecedents of attitude toward mobile banking adoption (see Figure 2.6) since they significantly influence attitude toward mobile banking and intention to adopt mobile banking collectively (Davis et al. 1989; Gu et al., 2009).

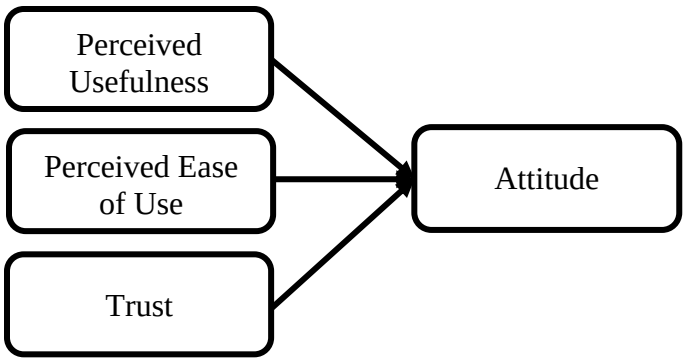


Figure 2.6 Factors Influencing Attitude toward Mobile Banking; adopted from TAM (Davis et al. 1989) and Trust as an additional factor

TAM considers the influence of attitude on behavioral intention as a one-dimensional concept. ToT on the other hand comprehend attitude as a multidimensional concept and better explain adoption of mobile banking (Chaouali et al., 2017). Therefore, intention to adopt is an outcome of attitude toward success, attitude toward failure and attitude toward the process/learning (Bagozzi & Warshaw 1990). The strength of these attitude dimensions determines the influence of attitude on intention to use (Kim et al. 2009) (see Figure 2.7). This is because strong attitude persists on its beliefs while weaker attitudes may easily change its stand on beliefs (Kim et al. 2009). Furthermore, attitude strength justifies attitude's mode of mediation on intention to use mobile banking and help measure its durability and impactfulness.

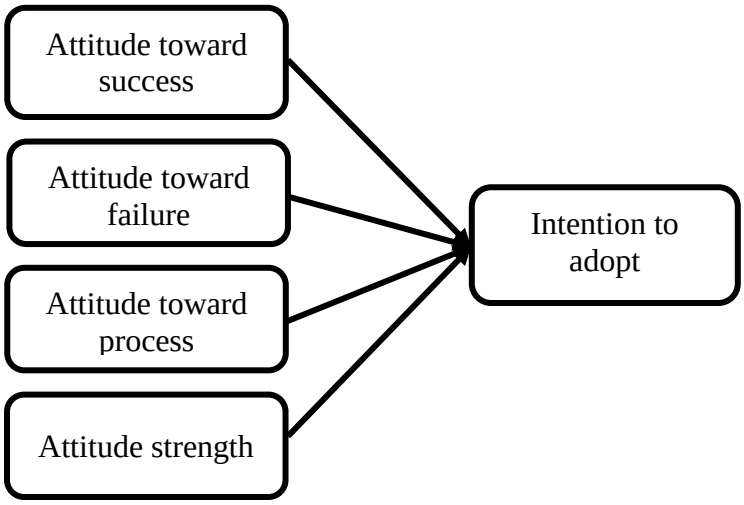


Figure 2.7 Influence of Attitude on intention to Adopt; adopted from ToT (Bagozzi & Warshaw, 1990) and Attitude Strength (Kim et al., 2009)

Therefore, this study is conducted based on the above two frameworks to assess mobile banking adoption in Ethiopia.

Chapter Three

3. Methodology

This study is conducted in Ethiopia where around 40 million mobile subscribers are residing. All commercial banks except one are providing mobile banking or preparing to launch the service. This chapter details the methodologies used to design the research, collect data and analyze the data gathered.

3.1. Research Design

This study is a descriptive study intended to attaining relevant information necessary to answer aforementioned research questions. It seeks to comprehend factors influencing attitude toward mobile banking and the influence of attitude and its corresponding strength on intention to adopt mobile banking. Furthermore, the relationship of demographic factors with attitude and intention to adopt mobile banking was explored.

Descriptive study seeks to portray and measure the state of affairs as it exists without necessarily having control over the variables (Kothari, 2004). The methods that utilize a descriptive study are survey methods (Kothari, 2004); thus, sampling survey was used in this study. Both quantitative and qualitative data were gathered through purposively sampled population; from consumers who subscribed for the service. Inferring from the sample population the study analyzed the characteristics of the total population using Statistical Package for Social Science (SPSS) software.

3.2. Research Approach

Attitude measures tend to be single response measures consisst of three aspects; the concept, the judgement and the format (Fishbein & Ajzen, 1975). This implies that respondents make judgement about a concept (i.e. object, institution, person, attribute, a behavior, etc) using a response format. The format dectates the data type, sources of data, and the methods of collection (Fishbein & Ajzen, 1975). Quinlan (2011) suggest that the methodology which suits studies as such is attitude research methodology. Thus, the methodology adopted in this study was Attitude research methodology since it can help measure attitude toward anything (Quinlan, 2011). Attitude research is a methodology used to measure attitude of people toward products,

services, campaigns, a company, spending, saving, etc and it is suitable for both qualitative and quantitative approaches (Quinlan, 2011).

Thus, quantitative and qualitative approaches were used (mixed approach) to assess the opinion and attitude of consumers. In so doing, the study triangulated the approaches used to assess this study. Triangulation is a concept that calls for studying a phenomenon under study using more than one approach to answer research question (Quinlan, 2011).

3.3. Data Type, Source of Data and Methods of Collection

Primary data were used as an input for this study. Primary sources are "direct sources of evidence that the researcher creates and/or gathers themselves" (Quinlan, 2011 p. 244). Questionnaires were distributed to collect quantitative data and interviews were conducted for qualitative perspective.

3.3.1. Target population

Risk and security concerns, absence of adequate basic infrastructural strategies, low level of internet penetration, inadequate telecom infrastructure, absence of national ICT strategies, socio-economic and cultural issues, lack of suitable legal and regulatory framework, shortage of skilled human resource and key technologies, absence of financial networks that link different banks and high internet cost (Lawrence & Tar, 2010; Ayalew, Lessa & Yigzaw 2010; Kinfe 2016) are supplementary reasons for low E-banking practices in developing countries besides to banks flaw. From all the impediments to enhance mobile banking adoption in Ethiopia, Addis Ababa is the least affected city. As a result, from the total number of bank branches in Ethiopia, 4,986, around 35% are located in Addis Ababa (NBE, 2019). Therefore, the data were analyzed based on information collected in Addis Ababa; since significant portion of branch networks are located in Addis Ababa.

For a relatively new platform like mobile banking, where the penetration rate is low, it would be hard to assess experiential qualities such as PEOU (Shen et al., 2010). Thus, empirical researches shall collect data from consumers who are subject to the artifact effect (Shen et al., 2010). Moreover, the key to responding attitude questions is availability and activation of relevant information (Tourangeau, 1987). This is because respondents rely on images, beliefs, and feelings that occur while considering a response to a question (Tourangeau, 1987). Thus, usage

experience was a necessary ingredient for this study. Consequently, consumers who subscribed for mobile banking were the respondents of the questionnaires and interviews.

As expressed earlier, to include the influence of past experience and previous service provision attempts which failed to prevail, the two pioneering banks in mobile banking, Dashen Bank and United Bank were the banks where the sample was taken (two purposively sampled private commercial banks in Ethiopia). This provided a possibility to include past experience from the service providers' perspective as well. As a result, quantitative and qualitative data were gathered from a sample of individuals who subscribed for Amole or Hibir. Consequently, consumers subscribed for Amole or Hibir were the target population.

Sample of branches where data collection was undertaken were selected based on the following criteria. Dashen Bank branches are structured under twelve districts where four of which are in Addis Ababa; North, South, East and West Addis Ababa. United Bank, on the other hand, does not have a structure as such to manage branches. Therefore, Dashen Bank branches under North Addis Ababa district were considered for conducting a random sample of branches from Dashen Bank. United Bank branches found under the scope of Dashen Bank's south Addis Ababa district were considered for a random sampling of branches from United Bank.

Core banking technology implemented by Dashen Bank and United Bank networks all respective branches of the banks. This allows consumers to conduct banking transactions at any branch of their convenience which increased the study's probability to get responses from a wide variety of respondents.

3.3.2. Data collection

The data was collected through structured questionnaires and semi-structured interviews. The questionnaire was mainly designed in Yes/No and Lickert scale format. Lickert scale is the most widely used format to measure the direction and forces of attitude in attitude research methodologies (Quinlan, 2011). The questionnaire had four sections; general information, perception about mobile banking, attitude toward mobile banking and intention to adopt mobile banking. The interview also had a similar structure like the questionnaire, but flexible for respondents to include perspectives which were not included the study. To avoid bias from respondents; the purpose of research, assurance on the confidentiality of information gathered,

and the anonymity of respondents' identity were explained which were presented at the beginning of the questionnaire and before the start of interviews.

3.3.3. The questionnaire

In pursuit of obtaining quantitative data, a structured questionnaire composed of questions regarding respondents' demography and related general information, factors influencing attitude, and the influence of attitude and its corresponding strength on intention was prepared. Firstly, a draft questionnaire was prepared from literature and translated into Amharic, official language of Ethiopia. Parts of the questions were slightly modified to put it into context. It was also presented in English as an alternative beside to their corresponding Amharic translation.

Secondly, the drafted questionnaire was pretested on mobile banking subscribers (n=30) to detect whether problems exist with the measure of response or expression. After collecting the questionnaires distributed for pretest, modifications were made so that the final respondents' response rate would be higher. After cross checking with literature 49 items were selected to measure 10 variables that were finally found important.

The first section of the questionnaire (General information) consists; Gender (male or female), Education attainment (categorized in five groups), Age (categorized in four groups), Occultation status (categorized in five groups), Monthly income in ETB (categorized in four groups, based on the Ethiopian income tax bracket), Service provider (categorized as Dashen Bank and United Bank) and consumers' acquaintance with mobile technology i.e. in terms of mobile internet usage experience per year and average time spent on mobile internet (per day) (each categorized in five groups). Furthermore, respondents' mobile banking usage status and their general perception on alternative banking platforms was asked.

In the second section, adopted from Kim et al. (2009) and Gu et al. (2009), perceived usefulness, perceived ease of use and trust were measured with five-point Lickert scale ranging from strongly disagree (1) to strongly agree (5). In the third section, attitude toward mobile banking was measured using Lickert scale ranging from strongly disagree (1) to strongly agree (5) which was adopted from Kim et al., (2009), Taylor et al., (2001) and Bay & Daniel (2003). Adopted from Taylor et al. (2001) and Bay & Daniel (2003), attitude toward mobile banking, once more, was measured with attitude toward success, failure and process/learning by five-point Lickert

scale ranging from strongly disagree (1) to strongly agree (5). In the final section of the questionnaire, adopted from Kim et al. (2009); Gu et al. (2009) and Chemingui and Ben Lallouna, (2013), attitude strength and intention to adopt mobile banking were measured with five-point Lickert scale ranging from strongly disagree (1) to strongly agree (5).

Attitude strength can be measured on a single-item scale measure which is attitude certainty (Kim et al., 2009). Attitude certainty gauges an overall rating of attitude strength and using multiple attributes to measure attitude strength is irrelevant, especially in the context of self reporting survey (Kim et al., 2009). Thus, attitude strength had one single attribute while intention to adopt had seven attributes. The interview was similar to the structured questionnaire, but it had flexibility for respondents to answer the questions stated in the last three sections of the questionnaire. Respondents for interview were selected based on their frequency of usage. This enabled the study to interview and incorporate all aspects of consumer experience.

The major advantages of using the structured questionnaire are to reach a wider geographic area, it is free of interviewer bias, it provides adequate time to rethink responses, it is convenient when large sample is used which will make conclusions more reliable. To the contrary it has low rate of response, it relies on respondents understanding and cooperation, it is inflexible and difficult to amend once distributed, it is exposed to omissions which makes it difficult to interpret the answers, and has a slow response rate. Interview on the other hand provides greater depth in information collected, easier to clarify complex contents, greater flexibility depending on the respondent, sampling and respondent can be controlled, no difficulty of missing returns and non-responses are very low, and less misinterpretation. The amount of money needed, level of supervision and control of respondents, access to right respondents, and its time consuming feature are the demerits of conducting an interview (Kothari, 2004).

3.3.4. Sample size

The sample size for this study was determined by a formula presented below which was adopted from Yamane (1967). As the most recent data available about the total population was as of June 30, 2018, the target population considered for this study was that of June 30, 2018; the number of cumulative subscribers as of June 2018 was 213,150 (144,154 subscribers for United Bank and 68,996 subscribers for Dashen Bank).

Thus, the formula to determine sample size of this study was

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

Where n = sample size

N = target population

e = margin of error $\pm$5%

Therefore, according to the above mentioned formula, adopted from Yamane (1967), the sample size for this study is 399.25 ≈ 400 respondents; N = 213,150 and e = ±5%. Considering the possibility of non-usable responses 440 questionnaires were distributed.

The data analysis was conducted using Statistical Package for Social Science (SPSS) software version 21. After coding each respondent's response descriptive statistical tools of frequency distribution central tendency (median) and measure of dispersion (standard deviation) were used to summarize and describe responses. Median is the positional average of a given value and most suitable for measuring the central tendency of ordinal data sets (Kothari, 2004). Standard deviation measures dispersion of data about the mean (Quinlan, 2011). Since sampling fluctuations can not siginificantly affect standard deviation it is widely adopted to measure dispersion (Kothari, 2004).

Sample T-test and ANOVA were used to measure variables independence. To understand the relationship between predictor variables and predicted variables, correlation analysis was undertaken using Pearson's correlation coefficient. Similarly, the cause and effect relaton between the predictor and predicted variables was assessed using multiple linear regressions.

3.3.5. Model specification

The relationship between predictor and predicted variables is presented below as a linear model. In so doing, the two conceptual frameworks presented above are expressed as a linear combination of independent variables and an error term. These models were used to analyze and interpret the relationship between predictor variables of attitude and intention which is the main

objective of this study. Inputs from TAM, ToT, the concept of attitude strength and trust were used which are presented below.

1. The relationship between attitude toward mobile banking and its three predictor variables and an error term.

$$\boldsymbol{Attitude = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon}$$

Where: Attitude = Attitude toward mobile banking

α = Constant term

X_1 = Perceived Usefulness

X_2 = Perceived Ease of Use

X_3 = Trust

ε = error term

2. Intention to adopt mobile banking and its four predictor variables are expressed as a linear combination of predictor variables and an error term.

$$\boldsymbol{Intention = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_4 X_4 + \varepsilon}$$

Where: Intention = Intention to adopt mobile banking

α = Constant term

X_1 = Attitude toward success

X_2 = Attitude toward failure

X_3 = Attitude toward process

X_4 = Attitude strength

ε = error term

The βs are coefficients of predictor variables, Xs are vectors of the predictor while $\boldsymbol{\varepsilon}$ is a vector of errors of prediction.

Chapter four

4. Data Analysis, Interpretation and Discussion

4.1. Introduction

This chapter details the findings of the study focusing on the factors that influence consumer attitude toward mobile banking and the role of attitude and its corresponding strength on intention to adopt mobile banking. In so doing, a total of 440 questionnaires were distributed to consumers of Dashen Bank and United Bank who subscribed for mobile banking. 89.5% of the total questionnaires distributed (394) were usable which 98.5% of the sample size. The data collected from the questionnaire and interviews are presented, analyzed, and interpreted using SPSS.

4.2. Demographic Background of Respondents

General information about respondents which includes demographic profile of respondents who participated in this study is presented in table 4.1. Gender, Education attainment, Age, Occupation status, Monthly income, and Service provider are included in this description.

As it can be observed from the table below (see Table 4.1), Among the 394 usable questionnaires 191 questionnaires were responded by subscribers of Dashen Bank's mobile banking service while the remaining 203 are from United Bank. Percentagewise 48.5% of the total usable responses are taken from Dashen Bank while 51.5% of the total usable responses are from United Bank.

The number of male respondents was around five percent bigger than female respondents. More than half of the respondents (65.2%) were undergraduate degree holders followed by postgraduate degree and diploma holders (16% and 15% respectively). Insignificant number of respondents completed high school (2.8%) and 1% of the respondents were PhD holders. This implies that most subscribers have acquired a minimum of diploma level education (97.2%). This signifies the importance of some degree of formal education to subscribe for mobile banking and benefit from the service. This can also be the result of the increase in literacy rate in Ethiopia (Central Statistical Agency (CSA) and ICF, 2016).

Table 4.1 General Information on Respondents Background

Question	Background	Distribution	Frequency	Percentage
1.	**Gender**	**Male**	217	55.1
		Female	177	44.9
		Total	**394**	**100.0**
2.	**Education attainment**	**High school**	11	2.8
		Diploma	59	15.0
		Undergraduate degree	257	65.2
		Postgraduate degree	63	16.0
		PhD	4	1.0
		Total	**394**	**100.0**
3.	**Age**	**18-25**	87	22.1
		26-35	227	57.6
		36-50	74	18.8
		50+	6	1.5
		Total	**394**	**100.0**
4.	**Occupation**	**Personal business**	59	15.0
		Employed	312	79.2
		Unemployed	7	1.8
		Student	9	2.3
		Other	7	1.8
		Total	**394**	**100.0**
5.	**Monthly income in ETB**	**Less than 1,650**	12	3.0
		Between 1,650 - 5,250	75	19.0
		Between 5,250 - 10,900	154	39.1
		Above 10,900	153	38.8
		Total	**394**	**100.0**
6.	**Service provider**	**Dashen Bank**	191	48.5
		United Bank	203	51.5
		Total	**394**	**100.0**

Source: own survey 2019

Majority of the subscribers were under the millennial age group (79.7%) followed by those who were between the age of 36-50 and 50+ (18.8% and 1.5% respectively). Out of ten respondents around eight of them (79.2%) had an occupation status of employed while 15% of the respondents run their own personal business.

Insignificant number of unemployed, student and other occupational statuses were replied to the question asking for occupational status i.e. 1.8%, 2.3% and 1.8% respectively. This can be the result of almost all companies adopting the use bank accounts to pay salary. Furthermore, the need for mobile banking platform to check the account status and/or whether salary is credited has contributed for the high number of employed respondents.

This can also be an indication for high number of subscribers but low number of mobile banking transaction. The 2016's CSA report also indicates that, inferring from the responses of their sample respondents, there is an increase in the employment rate nationwide (women in urban areas and men in rural areas have a higher increase in employment). More than 3/4 of the respondents (77.9%) have a monthly income above 5,250 ETB per month where 38.8% of them are earning above 10,900. This can be the result of increase in the rate of literacy.

As part of the general information section of the questionnaire, respondents' acquaintance with mobile technology, general perception on alternative banking platforms, and mobile banking usage status were included (see Table 4.2). To answer the questions stated above, respondents were asked to indicate their mobile Internet usage experience (per year), average time spent on mobile internet (per day), their perception on the necessity of having alternative service platforms, mobile banking usage status and frequency of mobile banking usage.

To understand respondents' acquaintance with mobile technology, mobile internet usage experience (per year) and average usage frequency (per day) were asked. The finding of the study depicts that 29.2% of the respondents had mobile internet usage experience for a time that ranges between 2 and 5 years. 28.4% of the respondents had a mobile internet usage experience ranging between 1 and 2 years. Respondents who had less than one year usage experience on mobile internet and those who had more than 5 year mobile internet usage experience were 18.8% and 15.2% respectively. Insignificant number of respondents never had a mobile internet usage experience (see Table 4.2).

Table 4.2 Respondents acquaintance, usage and perception of mobile technology

Question	Background	Distribution	Frequency	Percentage
7.	Mobile Internet usage experience (per year)	Less than 1 year	74	18.8
		Between 1 and 2 years	112	28.4
		Between 2 and 5 years	115	29.2
		More than 5 years	60	15.2
		Never	33	8.4
		Total	**394**	**100.0**
8.	Average time spent on mobile internet (per day)	Less than 1 hour	217	55.1
		Between 1 and 2 hour	94	23.9
		Between 2 and 5 hour	22	5.6
		More than 5 hour	12	3.0
		Never	49	12.4
		Total	**394**	**100.0**
9.	Is alternative banking platform necessary?	Yes	366	92.9
		No	5	1.3
		Maybe	23	5.8
		Total	**394**	**100.0**
11.	Are you using the mobile banking?	Yes	331	84.0
		No	45	11.4
		Maybe	18	4.6
		Total	**394**	**100.0**
12.	Mobile banking usage frequency	Regularly	127	32.2
		Sometimes	154	39.1
		Rarely	58	14.7
		Never	55	14.0
		Total	**394**	**100.0**

Source: own survey 2019

The result of respondents' average mobile internet usage frequency (per day) implies that more than half of the respondents (55.1%) had less than one hour average usage frequency per day.

Nearly a quarter of respondents (23.9%) had a mobile internet usage frequency between 1 and 2 hours. 12% of the respondents had never used mobile internet while respondents who had an average daily usage frequency between 2 and 5 hours and more than 5 hours are 5.6% and 3% respectively (see Table 4.2).

The finding of the study indicates that 92.9% of the respondents agreed on the necessity to have an alternative service platform besides to convectional banking services. Insignificant number of respondents did not find it necessary to have alternative service platforms (1.3%). The remaining 5.8% of the respondents were not certain on the necessity to have alternative service platforms besides to conventional service platforms (see Table 4.2).

To understand respondents' mobile banking usage status, through their frequency of mobile banking usage, respondents were asked to answer if they are using mobile banking and how often they are using mobile banking. The results indicate that 84% of the respondents were using mobile banking. 11.4% of the respondents were not using mobile banking while 4.6% of the respondents were not certain if they used mobile banking or not (see Table 4.2).

Mobile banking usage frequency among respondents was dominated by those who sometimes use mobile banking followed by those who regularly use mobile banking i.e. 39.1% and 32.2% respectively. Respondents who used mobile banking rarely and who never used mobile banking were relatively similar in number 14.7% and 14% respectively (see Table 4.2).

4.3. Descriptive Statistics of predictor and predicted variables

In this study, descriptive statistics is used to describe respondents' response based on median and standard deviation of the predictor (perceived usefulness (PU), perceived ease of use (PEOU), trust (T), attitude toward success (AS), attitude toward failure (AF), attitude toward process/learning (AP) and attitude strength (ASt)) and predicted variables (attitude toward mobile banking (attitude) and intention to adopt mobile banking (intention)).

4.3.1. Descriptive statistics of the predictor variables

In this study, based on the data collected from sample respondents, measurement of central tendency relied on median scores and their corresponding standard deviations of the predictor and predicted variables.

This is based on the argument that using mean as a measure of central tendency for ordinal measurements such as Likert scale would only be possible to inference about their mean but not to inference their differences (Norman, 2010). Although Likert scale is ordinal it is not possible to theoretically guaranty that the true distance between 1 = "Strongly Agree" and 2 = "Disagree" is equal to the distance between 4 = "Agree" and 5 = "Strongly Agree" (Norman, 2010; Kothari, 2004). Therefore, median is a more appropriate measure of central tendency (Kothari, 2004).

4.3.1.1. Central tendency and dispersion of Attitude and its predictor variables

As expressed above the predictor variables for attitude toward mobile banking (attitude) are perceived usefulness, perceived ease of use and trust. The table below (Table 4.3) illustrates the measures of central tendency and standard deviation for predictor and predicted variables.

Table 4.3 Descriptive statistics of attitude and its predictor variables

		Perceived usefulness	Perceived ease of use	Trust	Attitude
N	Valid	394	394	394	394
	Missing	0	0	0	0
Median		4.0	4.0	4.0	4.0
Std. Deviation		.615	.751	.667	.697

Source: own survey 2019

As it can be observed from Table 4.3 the median for all the predictors and predicted variable is 4. This implies that the respondents tend to agree on the usefulness, easiness and trustworthiness of mobile banking and have an optimistic attitude toward mobile banking. They also seem to have a relatively similar standard deviation. The standard deviation for perceived usefulness = .615, perceived ease of use = .751, trust = .667, and attitude = .697.

4.3.1.2. Central tendency and dispersion of intention and its predictor variables

As expressed above the predictor variables for intention to adopt mobile banking (intention) are attitude toward success, attitude toward failure, attitude toward process/learning and attitude strength. The table below (Table 4.4) illustrates the measures of central tendency and standard deviation for intention and its predictor variables.

As the table below (Table 4.4) indicates, the median for intention, attitude toward success, attitude toward process/learning and attitude strength is 4 while the median for attitude toward failure is 3. This indicates that respondents had a tendency to have a positive attitude toward trying and succeeding as well as the process/learning involved in adopting mobile banking. It also indicates that respondents were certain about how they feel regarding mobile banking. Respondents had a neutral stand regarding their attitude toward trying but failing to succeed on adopting mobile banking.

Table 4.4 Descriptive statistics of intention and its predictor variables

		Attitude toward success	Attitude toward failure	Attitude toward process/learning	Attitude strength	Intention
N	Valid	394	394	394	394	394
	Missing	0	0	0	0	0
Median		4.0	3.0	4.0	4.0	4.00
Std. Deviation		.771	1.055	.790	.834	.601

Source: own survey 2019

Unlike the standard deviations of the predictor variables of attitude, predictor variables for intention had variation with a range of 0.454. Intention has a relatively smaller standard deviation score of .601. Attitude toward success, attitude toward process/learning and attitude strength had a relatively high standard deviations .771, .790, and .834 respectively. Attitude toward failure scored the highest standard deviation among all variables 1.055 which makes is the most dispersed variable amongst all predictor and predicted variables.

4.4. Relationship between demographic background, perception, and usage status of mobile technology with attitude and intention

To describe the relationship between demographic factors (gender, education attainment, age, occupation status and monthly income) and attitude as well as intention, independent sample T-test and ANOVA were used. T-test helps judge the difference between the means of two samples and its significance (Kothari, 2004). ANOVA on the other hand helps understand the variance in means of groups; One Way ANOVA tests whether means of two or more groups have significance difference or appear common (Quinlan, 2011). When the difference in the means of groups was found statistically significant, those variables that showed significant difference are reported in this study.

4.4.1. Independent samples test: Gender

An independent sample t-test was conducted to check if gender had a significant influence on respondents' attitude and intention at $p < 0.05$. The result of the test implies that the variation among male and female respondents did not have a statistically significant influence on attitude ($t = .690$, $p = 0.490$) as well as on intention ($t = .351$, $p = 0.726$) since the 2-tailed significance levels are above 0.05 ($p > 0.05$). In other words, variation among male and female had a statistically insignificant influence on intention than attitude of respondents (see Table 4.5).

Table 4.5 Result of independent samples test: Gender

Independent Samples Test: Gender										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Attitude	Equal variances assumed	.906	.342	.690	392	.490	.04876	.07064	-.09012	.18764
	Equal variances not assumed			.687	369.305	.492	.04876	.07096	-.09077	.18829
Intention	Equal variances assumed	3.148	.077	.351	392	.726	.02138	.06094	-.09843	.14119
	Equal variances not assumed			.348	360.627	.728	.02138	.06151	-.09959	.14234

Source: own survey 2019

4.4.2. ANOVA: Education attainment

To investigate whether variations in education attainment had a significant influence on respondents' attitude and intention, a One Way ANOVA was conducted at $p < 0.05$. Educational attainment of respondents was grouped into four, high school, diploma, undergraduate degree, postgraduate degree, and PhD. The result of the test indicates that the variations in educational attainment had a statistically insignificant influence on respondents attitude ($F(4, 389) = 1.844$, $p = 0.120$) as well as intention ($F(4, 389) = 1.605$, $p = 0.172$) (see Table 4.6).

Table 4.6 Result of independent samples test: Education attainment

ANOVA: Education attainment						
		Sum of Squares	df	Mean Square	F	Sig.
Attitude	Between Groups	3.553	4	.888	1.844	.120
	Within Groups	187.371	389	.482		
	Total	190.923	393			
Intention	Between Groups	2.305	4	.576	1.605	.172
	Within Groups	139.652	389	.359		
	Total	141.957	393			

Source: own survey 2019

4.4.3. ANOVA: Age

To investigate whether variations in age had a significant influence on respondents' attitude and intention a One Way ANOVA was conducted at $p < 0.05$. Age of respondents was grouped into four, between 18 and 25, between 26 and 35, between 36 and 50, and above 50. The result of the test is similar to that of educational attainment. Variations in age did not have a statistically significant influence on respondents attitude ($F(3, 390) = 1.325$, $p = 0.266$) as well as intention ($F(3, 390) = .769$, $p = 0.512$) (see Table 4.7).

4.4.1. ANOVA: Occupation

To investigate whether variations in occupation had a significant influence on respondents' attitude and intention a One Way ANOVA was conducted at $p < 0.05$. Occupation was grouped into five, personal business, employed, unemployed, student, and other. The result of the test indicates that the variation in occupation had a statistically significant influence on attitude and intention of consumers with a p value less than 0.05 i.e. $F(4, 389) = 3.796$, $p = 0.005$ for attitude while intention had $F(4, 389) = 2.558$, $p = 0.038$ (see table 4.8).

To understand where the differences are a Post-hoc test of comparison was undertaken using the Tukey HSD test. Inferring from the Post-hoc test result, in the case of attitude, respondents with unemployed status had a statistically significant difference from those with occupational status of employed, student and other. In the case of intention, respondents with unemployment status, once again, had a statistically significant difference with those who replied other.

Table 4.7 ANOVA: Age

ANOVA: Age						
		Sum of Squares	df	Mean Square	F	Sig.
Attitude	Between Groups	1.926	3	.642	1.325	.266
	Within Groups	188.998	390	.485		
	Total	190.923	393			
Intention	Between Groups	.835	3	.278	.769	.512
	Within Groups	141.122	390	.362		
	Total	141.957	393			

Source: own survey 2019

Table 4.8 ANOVA: Occupation

ANOVA: Occupation						
		Sum of Squares	df	Mean Square	F	Sig.
Attitude	Between Groups	7.173	4	1.793	3.796	.005
	Within Groups	183.751	389	.472		
	Total	190.923	393			
Intention	Between Groups	3.639	4	.910	2.558	.038
	Within Groups	138.319	389	.356		
	Total	141.957	393			

Source: own survey 2019

4.4.2. ANOVA: Monthly income

To investigate whether variations in monthly income had a significant influence on respondents' attitude and intention a One Way ANOVA was conducted at $p < 0.05$. Monthly income was grouped into four, less than 1,650 ETB, between 1,650 and 5,250 ETB, between 5,250 and 10,900 ETB, and above 10,900 ETB; based on the Ethiopian income tax bracket. The result of the test indicates that the variations in monthly income had a statistically insignificant influence on attitude i.e. F (3, 390) = 2.292, $p = 0.078$ (see table 4.9). To the contrary, variations in monthly income had a statistically significant influence on intention, F (3, 390) = 4.466 and $p = 0.004$ (see Table 4.9).

To understand where the differences lay a Post-hoc test of comparison was undertaken using the Tukey HSD test. Inferring from the Post-hoc test result, respondents with monthly income less than 1,650 ETB showed a statistically significant difference from those who earn between 1,650 and 5,250 ETB and those who earn above 10,900 ETB.

Table 4.9 ANOVA: Monthly income

ANOVA: Monthly income						
		Sum of Squares	df	Mean Square	F	Sig.
Attitude	Between Groups	3.308	3	1.103	2.292	.078
	Within Groups	187.616	390	.481		
	Total	190.923	393			
Intention	Between Groups	4.715	3	1.572	4.466	.004
	Within Groups	137.242	390	.352		
	Total	141.957	393			

Source: own survey 2019

4.4.3. Independent sample test: Service provider

An independent sample t-test was conducted to check if service provider has a significant influence on respondents' attitude and intention at $p < 0.05$. The result of the test implies that attitude was insignificantly influenced by service providers while intention was significantly

influenced by the respondents' current service provider as the 2-tailed significance level are below 0.05 (see Table 4.10).

Table 4.10 Independent Samples Test: Service provider

Independent Samples Test: Service provider										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Attitude	Equal variances assumed	.010	.921	-1.779	392	.076	-.12464	.07007	-.26240	.01311
	Equal variances not assumed			-1.777	387.843	.076	-.12464	.07016	-.26258	.01330
Intention	Equal variances assumed	.040	.842	-3.045	392	.002	-.18259	.05996	-.30046	-.06471
	Equal variances not assumed			-3.034	378.726	.003	-.18259	.06019	-.30093	-.06424

Source: own survey 2019

4.4.4. ANOVA: Mobile internet usage experience (per year)

To investigate whether variations in mobile internet usage experience had a significant influence on respondents' attitude and intention a One Way ANOVA was conducted at $p < 0.05$. Mobile internet usage experience of respondents was grouped into five less than 1 year, between 1 and 2 years, between 2 and 5 years, more than 5 years and never. The result of the test indicates that the variations in mobile internet usage experience had a statistically insignificant influence on Attitude as well as intention i.e. $F(4, 389) = .802$, $p = 0.524$ and $F(4, 389) = .952$, $p = 0.434$ respectively (see Table 4.11).

4.4.1. ANOVA: Average time spent on mobile internet (per day)

To investigate if attitude and intention vary across the amount of average time spent on mobile internet (per day) One Way ANOVA was conducted. Average time spent on mobile internet was grouped into five; less than 1 hour, between 1 and 2 hours, between 2 and 5 hours, more than 5 hours and never. The result of the test indicates that the variations in average time spent on mobile internet (per day) had a statistically insignificant influence on attitude and intention, $F(4, 389) = 1.072$, $p = 0.370$ and $F(4, 389) = .337$, $p = 0.853$ (see Table 4 12).

Table 4.11 ANOVA: Mobile Internet usage experience

ANOVA: Mobile Internet usage experience						
		Sum of Squares	df	Mean Square	F	Sig.
Attitude	Between Groups	1.562	4	.390	.802	.524
	Within Groups	189.362	389	.487		
	Total	190.923	393			
Intention	Between Groups	1.376	4	.344	.952	.434
	Within Groups	140.581	389	.361		
	Total	141.957	393			

Source: own survey 2019

Table 4 12 ANOVA: Average time spent on mobile internet

ANOVA: Average time spent on mobile internet						
		Sum of Squares	df	Mean Square	F	Sig.
Attitude	Between Groups	2.082	4	.520	1.072	.370
	Within Groups	188.842	389	.485		
	Total	190.923	393			
Intention	Between Groups	.490	4	.122	.337	.853
	Within Groups	141.467	389	.364		
	Total	141.957	393			

Source: own survey 2019

4.4.2. ANOVA: Perception on necessity of alternative banking

To investigate if attitude and intention vary across respondents' perception on the necessity of alternative banking One Way ANOVA was conducted. Perception on the necessity of alternative banking was grouped into three; yes, no and maybe. The result of the test indicates that the variations in respondents' perception regarding the necessity of alternative banking had a statistically insignificant influence on attitude and intention, F (2, 391) = .217, p = 0.805 and F (2, 391) = .661, p = 0.517 (see Table 4.13).

4.4.1. ANOVA: Mobile banking usage status

To investigate if attitude and intention vary across respondents' mobile banking usage status One Way ANOVA was conducted. Mobile banking usage status was grouped into three; yes, no and maybe. The result of the test indicates that the variations in mobile banking usage status had a

statistically significant influence on attitude and intention, F (2, 391) = 10.789, p = 0.000 and F (2, 391) = 10.115, p = 0.000 (see Table 4.14).

Table 4.13 ANOVA: Perception on necessity of alternative banking

ANOVA: Perception on necessity of alternative banking						
		Sum of Squares	df	Mean Square	F	Sig.
Attitude	Between Groups	.212	2	.106	.217	.805
	Within Groups	190.712	391	.488		
	Total	190.923	393			
Intention	Between Groups	.478	2	.239	.661	.517
	Within Groups	141.479	391	.362		
	Total	141.957	393			

Source: own survey 2019

To understand where the differences lay a Post-hoc test of comparison was undertaken using the Tukey HSD test. Inferring from the Post-hoc test result, in the case of attitude, respondents who responded yes had a statistically significant difference from those who responded no. In the case of intention, similar to attitude, respondents who responded yes had a statistically significant difference from those who responded no.

Table 4.14 ANOVA: Mobile banking usage status

ANOVA: Mobile banking usage status						
		Sum of Squares	df	Mean Square	F	Sig.
Attitude	Between Groups	9.986	2	4.993	10.789	.000
	Within Groups	180.938	391	.463		
	Total	190.923	393			
Intention	Between Groups	6.983	2	3.492	10.115	.000
	Within Groups	134.974	391	.345		
	Total	141.957	393			

Source: own survey 2019

4.4.2. ANOVA: Mobile banking usage frequency

Investigation whether attitude and intention vary across respondents' mobile banking usage frequency One Way ANOVA was conducted. Mobile banking usage frequency was grouped into

four; regularly, sometimes, rarely and never. The result of the test indicates that the variations in mobile banking usage frequency had a statistically significant influence on attitude and intention, F (3, 390) = 12.303, p = 0.000 and F (3, 390) = 14.041, p = 0.000 (see table 4.15).

To understand where the differences lay a Post-hoc test of comparison was undertaken using the Tukey HSD test. Inferring from the Post-hoc test result, in the case of attitude, respondents who responded sometimes had a statistically significant difference from those who responded rarely. In the case of intention, similar to attitude, respondents who responded sometimes had a statistically significant difference from those who responded rarely.

Table 4.15 ANOVA: Mobile banking usage frequency

ANOVA: Mobile banking usage frequency						
		Sum of Squares	df	Mean Square	F	Sig.
Attitude	Between Groups	16.506	3	5.502	12.303	.000
	Within Groups	174.417	390	.447		
	Total	190.923	393			
Intention	Between Groups	13.838	3	4.613	14.041	.000
	Within Groups	128.119	390	.329		
	Total	141.957	393			

Source: own survey 2019

4.5. Correlation and regression analysis

Kothari (2004) suggests that there are two methods to determine the relation between variables; namely correlation and regression. Correlation answers whether two or more variables have any relationship and to what degree are they related (Kothari, 2004). Regression, multiple regression in this case, answers the cause and effect relation between two or more variables and to what degree (Kothari, 2004). Prior to conducting correlation and regression analysis the reliability of the data was conducted to establish validity for the inferences.

4.5.1. Reliability test: with Cronbach's alpha

Validity and reliability are key concern in social science studies; validity measures how valid, logical, truthful, robust, sound, reasonable, meaningful and useful a study is while reliability measures the degree of repeatability and consistency of results (Quinlan, 2011). Even though validity is more valuable than reliability it is not easy to measure (Kothari, 2004). Therefore, if

reliability has a satisfying level of credence, a data can be considered less affected by meddling of transient and situational factors (Kothari, 2004). For this purpose coefficient of reliability is used, usually Cronbach's alpha, which ranges from 0.0 to 1.00 (Fraenkel, Wallen, & Hyun, 2012).

The coefficient of reliability is a general measure of trustworthiness (Nunnally, 1975). Unless it falls miserably below .70 it can be concluded that the instrument is reliable (Nunnally, 1975) an argument supported by many scholars such as Field (2009) and Fraenkel et al., (2012). Since the item used to measure attitude strength is a single item conducting a reliability test was not possible. But the coefficient of reliability for all the questions (n = 49) was .922 which is a strong reliability score.

The table below presents the Crombach's alpha score for predictor variables of attitude and intention. To put remarks on the magnitude of reliability the study used a list of alpha values and their corresponding remark presented by Taber (2018). According to Taber (2018), alpha values of a variable can be presented as;

- Excellent = (0.93 – 0.94), Strong = (0.91 – 0.93), Reliable = (0.84 – 0.90)
- Robust = (0.81), fairly high = (0.76 – 0.95), high = (0.73 – 0.95)
- Good = (0.71 = 0.91), Relatively High = (0.70 – 0.77) and Slightly Low = (0.68)
- Reasonable = (0.67 – 0.87), Adequate = (0.64 – 0.85) and Moderate (0.61 - 0.65)
- Satisfactory = (0.58 - 0.97), Acceptable = (0.45 - 0.98) and Sufficient = (0.45 – 0.96)
- Not Satisfactory = (0.4–0.55) and Low = (0.11).

Table 4.16 Crombach's alpha score for predictor and predicted variables of the 1st model (attitude)

No.	Predictor variables of the Study	No. of items	Source	Alpha value	Remark
1.	**Perceived usefulness**	5	Kim et al. (2009); Gu et al. (2009)	.863	Reliable
2.	**Perceived ease of use**	5	Kim et al. (2009); Gu et al. (2009)	.818	Robust
3.	**Trust**	5	Gu et al. (2009)	.741	High
4.	**Attitude**	5	Kim et al., (2009); Taylor et al., (2001); Bay & Daniel, (2003)	.888	Reliable

Source: own survey 2019

Therefore, it can be concluded that the reliability on the variables under study to assess factors that influence attitude are reliable since the least reliability score was .741 which is a high reliability score.

Inferring from the table presented below, it can be concluded that the reliability on the variables under study to assess the influence of attitude on intention are reliable since the least reliability score was .849 which is a reliable reliability score.

Table 4.17 Crombach's alpha score for predictor and predicted variables of the 2nd model (intention)

No.	Predictor variables of the Study	No. of items	Source	Alpha value	Remark
1.	**Attitude toward success**	3	Kim et al., (2009); Taylor et al., (2001); Bay & Daniel, (2003)	.902	Reliable
2.	**Attitude toward failure**	3	Taylor et al., (2001); Bay & Daniel, (2003)	.849	Reliable
3.	**Attitude toward process/learning**	3	Taylor et al., (2001); Bay & Daniel, (2003)	.918	Strong
4.	**Attitude strength**	1	Kim et al., (2009)	N.A	N.A
5.	**Intention**	7	Kim et al. (2009); Gu et al. (2009); Chemingui & Ben Lallouna, (2013)	.906	Strong

Source: own survey 2019

As it can be observed from Table 4.17 reliability score for attitude strength is not presented. To include the reliability score of attitude strength a technique used by Kim et al. (2009) was adopted. To assess the reliability of attitude strength Kim et al. (2009) divided the sample into two groups instead of incorporating a moderator variable. They divided the sample as strong attitude group (n=46) and weak attitude group (n=55) based on the median score. This was executed under the assumption that attitude strength signifies cognitive attitude formation and its process. By adopting this assumption the sample was divided into two; strong attitude group (n = 272) and weak attitude group (n = 122) based on the median score (median = 4, mean = 3.90 and SD = 0.834). Therefore, inferring from the table below (see Table 4.18) it can be concluded that the model is highly reliable.

Table 4.18 Crombach's alpha score for predictor and predicted variables 2nd model (intention) by incorporating attitude strength

No.	Strong Attitude	Alpha value	Remark		No.	Weak Attitude	Alpha value	Remark
1.	**Attitude toward success**	.889	Reliable		**1.**	**Attitude toward success**	.881	Reliable
2.	**Attitude toward failure**	.869	Reliable		**2.**	**Attitude toward failure**	.768	Fairly high
3.	**Attitude toward process/learning**	.912	Strong		**3.**	**Attitude toward process/learning**	.897	Reliable
4.	**Intention**	.852	Reliable		**4.**	**Intention**	.903	Reliable

Source: own survey 2019

4.5.2. Correlation analysis

To understand the relationship between predictor variables and predicted variables a correlation analysis was conducted. Karl Pearson's coefficient of correlation (r) was used to measure the strength and direction of relations among linear variables. Pearson's correlation coefficient is the most widely used technique to measure correlation under the following assumption (Kothari, 2004 p. 139):

1. "there is linear relationship between the two variables";
2. "the two variables are casually related which means that one of the variables is independent and the other one is dependent"; and
3. "large number of independent causes are operating in both variables so as to produce a normal distribution".

To understand and gauge the strength and direction of relationships among variables, the guide set by Cohen (1988) was used. According to Cohen (1988), *r* value of .10 has a small effect size, .30 has a medium effect size and .50 has a large effect size. Inferring from the tables below and Cohen's (1988) analysis guide, the relationship between attitude and its corresponding predictor variables as well as the relationship between intention and its corresponding predictor variables is presented below.

Table 4.19 Correlation between attitude and its predictor variables

Correlations					
		Attitude	**Perceived usefulness**	**Perceived ease of use**	**Trust**
Attitude	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	394			
Perceived usefulness	Pearson Correlation	.513**	1		
	Sig. (2-tailed)	.000			
	N	394	394		
Perceived ease of use	Pearson Correlation	.529**	.535**	1	
	Sig. (2-tailed)	.000	.000		
	N	394	394	394	
Trust	Pearson Correlation	.525**	.425**	.561**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	394	394	394	394
**. Correlation is significant at the 0.01 level (2-tailed).					

Source: own survey 2019

4.5.2.1. Correlation between attitude and perceived usefulness

Inferring from the table presented above (Table 4.19), attitude and perceived usefulness had a positive relationship. In other words, when consumers' perception on the usefulness of mobile banking improves, their attitude toward mobile banking also improves. The magnitude or strength of this relationship, referring to Cohen's (1988) guide, was strong i.e. r_{pu} = .51 (| r | > .50). Furthermore, attitude and perceived usefulness had a statistically significant correlation at 0.01 level ($p < 0.01$); meaning, a change in perceived usefulness (increase/decrease) significantly influence attitude.

4.5.2.2. Correlation between attitude and perceived ease of use

Inferring from the table presented above (Table 4.19), similar to attitude and perceived usefulness, attitude and perceived ease of use had a positive relationship. In other words, when consumers' perception on the effortlessness of mobile banking improves, their attitude toward mobile banking improves as well. The magnitude or strength of this relationship, referring to Cohen's (1988) guide, was strong i.e. r_{peou} = .53 (| r | > .50). Compared to the relationship between attitude and perceived usefulness, attitude had a stronger relationship with perceived ease of use than perceived usefulness. Furthermore, attitude and perceived ease of use had a

statistically significant correlation at 0.01 level ($p < 0.01$); meaning, a change in perceived ease of use (increase/decrease) significantly influence attitude, similar to perceived usefulness.

4.5.2.3. Correlation between attitude and trust

Inferring from the table presented above (Table 4.19), similar to perceived usefulness and perceived ease of use, attitude has a positive relationship with trust. In other words, when consumers' perception on the trustworthiness of mobile banking improves, their attitude toward mobile banking improves as well. The magnitude or strength of this relationship, referring to Cohen's (1988) guide, was strong i.e. $r_t = .53$ ($| r | > .50$). In comparison to the relationship between attitude and other variables, attitude had a stronger relationship with trust than perceived usefulness and relatively similar with that of perceived ease of use. Furthermore, like perceived usefulness and perceived ease of use, attitude and trust had a statistically significant correlation at 0.01 level ($p < 0.01$), meaning, a change in trust (increase/decrease) significantly influence attitude.

Table 4.20 Correlation between intention and its predictor variables

Correlations: Intention and its predictors						
		Intention	**Attitude toward success**	**Attitude toward failure**	**Attitude toward process/ learning**	**Attitude strength**
Intention	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	394				
Attitude toward success	Pearson Correlation	.567**	1			
	Sig. (2-tailed)	.000				
	N	394	394			
Attitude toward failure	Pearson Correlation	.205**	.303**	1		
	Sig. (2-tailed)	.000	.000			
	N	394	394	394		
Attitude toward process/ learning	Pearson Correlation	.606**	.693**	.243**	1**	
	Sig. (2-tailed)	.000	.000	.000		
	N	394	394	394	394	
Attitude strength	Pearson Correlation	.598**	.490**	.267**	.480**	1**
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	394	394	394	394	394
**. Correlation is significant at the 0.01 level (2-tailed).						

Source: own survey 2019

4.5.2.4. Correlation between intention and attitude toward success

Inferring from the table above (see Table 4.20), intention and attitude toward success had a positive relationship. This is an indication that consumer expectation of success is directly proportional to intention. This means, when consumers become more optimistic about their attitude toward trying and succeeding at adopting mobile banking their intention augments. The magnitude or strength of this relation, referring to Cohen's (1988) guide, was strong i.e. r_{as} = .57 (| r | > .50). Furthermore, intention and attitude toward success had a statistically significant correlation at 0.01 level (p < 0.01), meaning, a change in attitude toward success (increase/decrease) significantly influence intention.

4.5.2.5. Correlation between intention and attitude toward failure

Inferring from the table above (see Table 4.20), intention and attitude toward failure had a negative relationship. Although the coefficient is positive the questionnaire was designed to measure negative relation i.e. expectation of failure. This indicates that when consumers expect less failure they tend to have a higher intention. This means, when consumers become less complacent with trying but failing to adopt mobile banking their intention enhances. In other words, when consumers start to feel bad about not being able to adopt mobile banking their intention to adopt mobile banking will improve. Regarding the magnitude or strength of their relation, referring to Cohen's (1988) guide, intention and attitude toward failure had weak relation i.e. r_{af} = .21 (.10 < | r | < .30). Moreover, intention and attitude toward failure had a statistically significant relation at 0.01 level (p < 0.01), meaning, a change in attitude toward failure (increase/decrease) significantly influence intention.

4.5.2.6. Correlation between intention and attitude toward process/learning

Inferring from the table presented above (see Table 4.20), similar to attitude toward success, intention had a positive relationship with attitude toward process/learning. This means, when consumers' attitude toward processes involved to adopt mobile banking improves or enthusiasm to learning how to use mobile banking improves, their intention to adopt mobile banking also improves. Referring from Cohen's (1988) guide, it can be confirmed that the relationship between intention and attitude toward process/learning had the strongest magnitude among the variables in the model r_{ap} = .61 (| r | > .50). Additionally, similar to attitude toward success and failure, attitude toward process/learning had a statistically significant correlation with intention at

0.01 level ($p < 0.01$), meaning, a change in attitude toward process/learning (increase/decrease) significantly influence intention.

4.5.2.7. Correlation between intention and attitude strength

Inferring from the table presented above (see Table 4.20), similar to attitude toward success and process/learning, intention had a positive relationship with attitude strength. This means, when consumers' attitude gets stronger their intention gets stronger as well. Regarding the magnitude or strength of this relation, by referring from Cohen's (1988) guide, it can be concluded that intention and attitude strength had a strong relation $r_{ast} = .60$ ($| r | > .50$). Furthermore, attitude strength had a statistically significant correlation with intention like the rest of the variables i.e. attitude toward success, failure, and process/learning at 0.01 level ($p < 0.01$), indicating that a change in attitude strength (increase/decrease) significantly influence intention.

To summarize the correlation analysis;

- All correlation combinations, within model one and two, except the correlation between intention and attitude toward failure had a positive relationship
- All the correlations, within model one and two, except the correlation between intention and attitude toward failure had strong correlation coefficients and
- All correlations, within model one and two, are statistically significant at 0.01 level ($p < 0.01$)

4.5.3. Regression analysis

Regression analysis is "a way of predicting an outcome variable from one predictor variable (simple regression) or several predictor variables (multiple regression)" (Field, 2009 p. 198). Similar to correlation, linear regression determines the extent at which a dependent variable is predicted by a dependent variable (Quinlan, 2011). But regression answers the cause and effect relation between two or more variables and to what degree (Kothari, 2004).

The findings of the regression analysis are presented after the results of classical linear regression model (CLRM) assumption tests; linearity, homoscedasticity, autocorrelation, multicollinearity and normality results are presented. Findings of a regression model can be generalized when underlying Classical Linear Regression Model (CLRM) assumptions are met and cross-validation is undertaken (Field, 2009). The five CLRM assumptions are;

1. E(u_t) = 0 (the errors have zero mean)
2. Var(u_t) = $\sigma^2 < \infty$ (the variance of the errors is constant and finite over all values of x_t)
3. Cov(u_i ,u_j) = 0 (the errors are linearly independent of one another)
4. Cov(u_t ,x_t) = 0 (there is no relationship between the error and corresponding x variate)
5. $ut \sim N(0, \sigma^2)$ (error terms ε in the population is normally distributed)

4.5.3.1. Linearity

Linearity assumption states that "the mean values of the outcome variable for each increment of the predictor(s) lie along a straight line" (Field, 2009 p. 221). In other words, the relationship in the model is linear. According to Brooks (2014), as long as a constant term is included in a regression equation the assumption of linearity will never be violated. Inferring from the two models proposed above there exist an intercept in the models 0.807 for attitude and 1.734 for intention. Therefore, it can be concluded that assumption of linearity was not violated.

4.5.3.2. Homoscedasticity

The assumption of homoscedasticity assumes that the variance of the errors is constant (Brooks, 2014). When this assumption is violated i.e. the variances are very unequal or inconsistent variance of error exists, it is called heteroscedasticity (Field, 2009). The presence of heteroscedasticity can be checked by graphical observations. Inferring from the graph presented below, an output from the regression tests, it can be concluded that the models were free from significant level of variation in errors i.e. the model can be considered free of significant heteroscedasticity.

Figure 4.8 Scatterplot: attitude

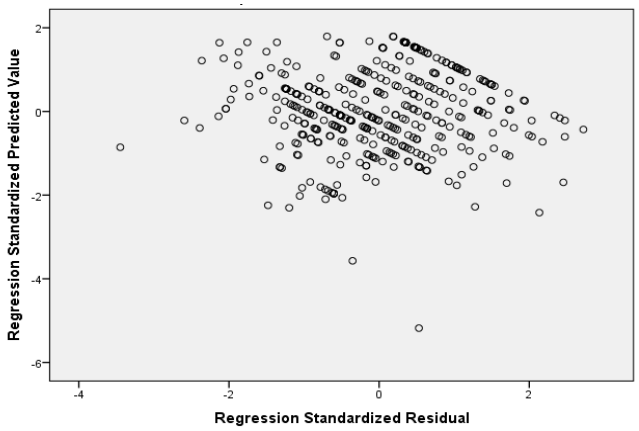
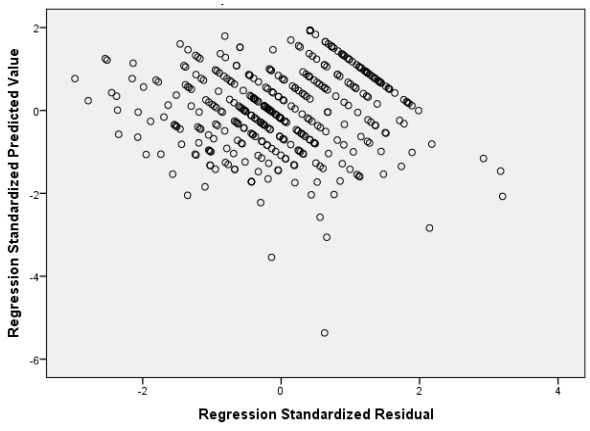


Figure 4.9 Scatterplot: intention



4.5.3.3. Autocorrelation

Autocorrelation is an indication that the assumption of independence is violated (Seddighi, 2012). The assumption of independence assumes that "the covariance between the error terms over time (or cross-sectionally, for that type of data) is zero" (Brooks, 2014 p. 188). The assessment of autocorrelation was tested using Durbin-Watson (DW) (1951) test. DW ratio ranges between 0 and 4 where 0 is perfect positive autocorrelation and 4 is a perfect negative autocorrelation (Seddighi, 2012). Therefore, a DW ratio near 2 indicates no significant autocorrelation (Seddighi, 2012).

Table 4.21 Autocorrelation: attitude

Model Summary [b]										
Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	Change Statistics			Change Statistics		**Durbin-Watson**
					R^2 Change	F Change	df1	df2	Sig. F Change	
1	.638[a]	.407	.403	.53858	.407	89.400	3	390[a]	.000	**1.988**

a. Predictors: (Constant), Perceived usefulness, Perceived ease of use, Trust
b. Dependent Variable: Attitude

Source: own survey 2019

Table 4.22 Autocorrelation: intention

Model Summary [b]										
Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	Change Statistics			Change Statistics		**Durbin-Watson**
					R^2 Change	F Change	df1	df2	Sig. F Change	
1	.710[a]	.505	.500	.42513	.505	99.112	4	389[a]	.000	**1.817**

a. Predictors: (Constant), Attitude toward success, Attitude toward failure, Attitude toward process/learning, Attitude strength
b. Dependent Variable: Intention

Source: own survey 2019

4.5.3.4. Multicollinearity

Multicollinearity is the presence of high correlation among independent variables which means that adding or removing an independent variable from a regression equation would result in change of coefficients on the other variables (Brooks, 2014). Coefficients table of a regression test on SPSS provides a table to assess the presence or absence of multicollinearity. Variance inflation factor (VIF) in SPSS indicates whether predictor variables have strong relationship among them and VIF of 10 or above indicates the presence of multicollinearity (Field, 2009). The reciprocal of VIF, Tolerance statistic, can also be referred to assess multicollinearity where a value below 0.1 indicates the presence of multicollinearity (Field, 2009).

Table 4.23 Multicollinearity: attitude and intention

Coefficients [b]			
Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Perceived usefulness	.691	1.447
	Perceived ease of use	.578	1.729
	Trust	.663	1.507
b. Dependent Variable: Attitude			

Source: own survey 2019

Coefficients [b]			
Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Attitude toward success	.476	2.103
	Attitude toward failure	.890	1.124
	Attitude toward process/ learning	.494	2.025
	Attitude strength	.709	1.411
b. Dependent Variable: Intention			

Source: own survey 2019

Inferring from the Coefficients tables above, both VIF and Tolerance were under the preferred range, for both attitude and intention. Therefore, the correlation among independent variables in the models was not significantly high, meaning the models were free from multicollinearity.

4.5.3.5. Normality

Normality assumption state that a model is considered normal when "the population error u is independent of the explanatory variables $x_1, x_2, \dots, x_k$ and is normally distributed with zero mean and variance σ^2: $u \sim$ Normal $(0, \sigma^2)$" (Wooldridge, 2013 p. 118). Normality is measured using Bera-Jarque (BJ) test which tracks violation of normality through skewness and kurtosis of the residuals (Seddighi, 2012).

Skewness measures the degree of asymmetry and manner of cluster around the average while kurtosis measures humpedness of the curve and nature of items at equidistant of a series (Kothari, 2004). The acceptable range of skewness and kurtosis depends on the sample size. Field (2009) suggested that for a small sample a range between +1.96 and -1.96 is preferred and when the sample gets larger it should increase to between +2.58 and -2.58.

Moreover, Field (2009) suggested that when the sample is >200 the shape of the distribution is more important than calculating the significance. This is because when a sample is large a small deviation from normality can result in significant value raise (Field, 2009). Thus, the range of skewness and kurtosis for this study was ±2.58. Inferring from the tables below the skewness and

kurtosis are under the proposed range i.e. ±2.58. Therefore, the models used in this study were normally distributed and assumption of normality was not violated.

Table 4.24 Normality Statistics: attitude

Normality Statistics: Attitude					
		Attitude	**Perceived usefulness**	**Perceived ease of use**	**Trust**
N	Valid	394	394	394	394
	Missing	0	0	0	0
Skewness		**-.522**	**-1.044**	**-.411**	**-.240**
Std. Error of Skewness		.123	.123	.123	.123
Kurtosis		**.380**	**2.106**	**.232**	**.256**
Std. Error of Kurtosis		.245	.245	.245	.245

Source: own survey 2019

Table 4.25 Normality Statistics: intention

Normality Statistics: Intention						
		Intention	**Attitude toward success**	**Attitude toward failure**	**Attitude toward process/ learning**	**Attitude strength**
N	Valid	394	394	394	394	394
	Missing	0	0	0	0	0
Skewness		**-.887**	**-.483**	**.062**	**-.475**	**-.369**
Std. Error of Skewness		.123	.123	.123	.123	.123
Kurtosis		**2.121**	**.401**	**-.669**	**.102**	**-.200**
Std. Error of Kurtosis		.245	.245	.245	.245	.245

Source: own survey 2019

4.5.4. Multiple regression analysis

The findings of the multiple regression analysis are presented by splitting results into two, for attitude and for intention respectively.

4.5.4.1. Multiple regression analysis: attitude

To recall the model designed to assess the relationship between attitude toward mobile banking and its three predictor variables and an error term;

$$\boldsymbol{Attitude = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon}$$

Where: Attitude = Attitude toward mobile banking
α = Constant term
X_1 = Perceived Usefulness
X_2 = Perceived Ease of Use
X_3 = Trust
ε = error term

Table 4.26 Multiple regression analysis: model summery for attitude, 1st model

Model Summary [b]									
Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	Change Statistics			Change Statistics	
					R^2 Change	F Change	df1	df2	Sig. F Change
1	**.638[a]**	**.407**	.403	.53858	.407	89.400	3	390[a]	.000

a. Predictors: (Constant), Perceived usefulness, Perceived ease of use, Trust
b. Dependent Variable: Attitude

Source: own survey 2019

R, coefficient of multiple correlations, represents the strength of relationship between predicted variable and multiple predictor variables (Field, 2009). Since R is 0.638, it signifies a statistically significant positive relationship between attitude and its predictor variables (perceived usefulness, perceived ease of use, and trust). Nonetheless, R provides a guide on how the variables are related and it would not explain the degree of casualty (Field, 2009). Therefore, the coefficient of determination, R^2, measures of the degree of variability in the predicted variation that is shared/explained by its predictor variables (Field, 2009). Meaning, how much sample variation in the predicted variable was explained by predictor variables. Inferring from the above table $R^2 = 0.407$; it can be expressed in percentage terms as 40.7%.

To put it into context and more understandable, the coefficient 0.407 indicates that 40.7% of variation in consumers attitude was explained by perceived usefulness, perceived ease of use, and trust while the remaining 59.3% of variations accounted for other factors. To put it in a more contextual way, if someone wants to understand why some consumers have a positive attitude than others, the model suggests that among many factors that explain the variations perceived usefulness, perceived ease of use, and trust explain 40.7% of it while other factors explain the remaining 59.3%.

The ANOVA output explains regression model's statistical significance at predicting the outcome instead of using the mean value (Field, 2009). Meaning, the ANOVA from the regression test, particularly F-ratio and significance value, explains whether the variations among sample means is significant or it is a result of sampling; the higher the F-ratio the more certain a conclusion can be (Kothari, 2004). In other words, it explains how fit the regression equation is with its corresponding data. Therefore, inferring from the ANOVA table below (see Table 4.27), $F(3, 390) = 89.400$ at $p < .001$, it can be concluded that the regression model had an overall

statistical significance for predicting the outcome variable (i.e. the model was statistically fit for the data). To put it into context, perceived usefulness, perceived ease of use, and trust significantly predicted Attitude.

Table 4.27 ANOVA: model 1 (attitude)

ANOVA [a]						
Model		Sum of Squares	df	Mean Square	**F**	**Sig.**
1	Regression	77.797	3	25.932	**89.400**	**.000** [b]
	Residual	113.127	390	.290		
	Total	190.923	393			

a. Dependent Variable: Attitude
b. Predictors: (Constant), Perceived usefulness, Perceived ease of use, Trust

Source: own survey 2019

Although ANOVA signifies how significantly a model foresees a predicted variable, it does not indicate contributions from a single predictor variable (Field, 2009). To understand individual contributions from predictor variables, SPSS regression outcome table "coefficients" was used. It is an input to determine the regression equation which can be used to mathematically calculate the attitude of consumers based on perceived usefulness, perceived ease of use, trust.

Table 4.28 Model coefficients: model 1 (attitude)

Coefficients [a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	**Std. Error**	Beta		
1	(Constant)	**.807**	**.209**		3.868	.000
	Perceived usefulness	**.309**	**.053**	.273	5.813	.000
	Perceived ease of use	**.209**	**.048**	.225	4.396	.000
	Trust	**.296**	**.050**	.283	5.906	.000

a. Dependent Variable: Attitude

Source: own survey 2019

The coefficients used to determine the regression equation are found under "**B**" column of the table, sub-column of un-standardized coefficients. Y-intercept (constant) = 0.807, perceived usefulness = 0.309, perceived ease of use = 0.209, and trust = 0.296 are the coefficients to be used in the equation; the equation and its explanations are presented below (section 4.8 interpretation).

Thus, regression equation for attitude will be;

$$Attitude = 0.807 + 0.309(PU) + 0.209(PEOU) + 0.296(T)$$

Therefore, the regression model was statistically fit for the data and it indicated that perceived usefulness, perceived ease of use, trust significantly influenced attitude.

4.5.4.2. Multiple regression analysis: intention

To recall the model designed to assess the relationship between intention to adopt mobile banking and its four predictor variables was expressed as a linear combination of predictor variables and an error term.

$$Intention = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_4 X_4 + \varepsilon$$

Where: Intention = Intention to adopt mobile banking
α = Constant term
X_1 = Attitude toward success
X_2 = Attitude toward failure
X_3 = Attitude toward process
X_4 = Attitude strength
ε = error term

Table 4.29 Multiple regression analysis: model summery for intention, 2nd model

Model Summary [b]									
Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	Change Statistics			Change Statistics	
					R^2 Change	F Change	df1	df2	Sig. F Change
1	**.710[a]**	**.505**	.500	.42513	.505	**99.112**	4	389[a]	**.000**

a. Predictors: (Constant), Attitude toward success, Attitude toward failure, Attitude toward process/learning, Attitude strength
b. Dependent Variable: Intention

Source: own survey 2019

R, coefficient of multiple correlations, represents the strength of relationship between predicted variable and multiple predictor variables (Field, 2009). Since R is 0.710 it signifies a statistically significant positive relationship between intention and its predictor variables (attitude toward success, attitude toward failure, attitude toward process/learning, and attitude strength).

However, R provides a guide on how the variables are related and it would not explain the degree of casualty (Field, 2009). Therefore, the coefficient of determination, R^2, measures of the

degree of variability in the predicted variation that is shared/explained by its predictor variables (Field, 2009). Meaning, how much sample variation in the predicted variable was explained by predictor variables. Inferring from the above table $R^2 = 0.505$; it can be expressed in percentage terms as 50.5%.

To put it into context and more understandable, the coefficient 0.505 indicates that 50.5% of variations in consumers intention was explained by attitude toward success, attitude toward failure, attitude toward process/learning, and attitude strength while the remaining 49.5% of variations account for other factors. To put it in a more contextual way, if someone wants to understand why some consumers have an affirmative intention than others, the model suggests that among the many factors that explain the variations attitude toward success, failure, process/learning, and attitude strength explain 50.5% of it while other factors explain the remaining 49.5%.

The ANOVA output explains regression model's statistical significance at predicting the outcome instead of using the mean value (Field, 2009). Meaning, the ANOVA from the regression test, particularly F-ratio and significance value, explains whether the variations among sample means is significant or it is a result of sampling; the higher the F-ratio the more certain a conclusion can be (Kothari, 2004). In other words, it explains how fit the regression equation is with its corresponding data. Therefore, inferring from the ANOVA table below, F (4, 389) = 99.112 at $p < .001$, it can be concluded that the regression model had an overall statistical significance for predicting the outcome variable (i.e. the model was statistically fit for the data). To put it into context, attitude toward success, failure, process/learning, and attitude strength significantly predicted Intention.

Table 4.30 ANOVA: Intention

ANOVA [a]						
Model		Sum of Squares	df	Mean Square	**F**	**Sig.**
1	Regression	71.652	4	17.913	**99.112**	**.000[b]**
	Residual	70.306	389	.181		
	Total	141.957	393			

a. Dependent Variable: Intention

b. Predictors: (Constant), Attitude toward success, Attitude toward failure, Attitude toward process/learning, Attitude strength

Source: own survey 2019

Although ANOVA signifies how significantly a model foresees a predicted variable, it does not indicate contributions from a single predictor variable (Field, 2009). To understand individual contributions from predictor variables, SPSS regression outcome table "coefficients" was used. It is an input to determine the regression equation which can be used to mathematically calculate the Intention of consumers based on attitude toward success, failure, process/learning, and attitude strength.

The coefficients used to determine the regression equation are found under "**B**" column of the table, sub-column of un-standardized coefficients. Y-intercept (constant) = 1.734, attitude toward success = 0.138, attitude toward failure = -0.013, attitude toward process/learning = 0.237 and attitude strength = 0.265 are the coefficients to be used in the equation; the equation and its explanations are presented below (section 4.8 Interpretation). Thus, the regression equation for intention will be;

$$\textit{Intention} = 1.734 + 0.138(AS) - 0.013(AF) + 0.237(AP) + 0.265(ASt)$$

Table 4.31 Model coefficients: Intention

Coefficients [a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	**Std. Error**	Beta		
1	(Constant)	**1.734**	**.129**		13.460	.000
	Attitude toward success	**.138**	**.040**	.177	3.429	.001
	Attitude toward failure	**-.013**	**.022**	-.022	-.585	.559
	Attitude toward process/learning	**.237**	**.039**	.312	6.143	.000
	Attitude strength	**.265**	**.031**	.367	8.668	.000
a. Dependent Variable: Intention						

Source: own survey 2019

Therefore, the regression model was statistically fit for the data and it indicated that attitude toward success, attitude toward process/learning, and attitude strength significantly influenced intention while attitude toward failure had an insignificant influence.

4.6. Key points from the interviews

To provide a qualitative input and add issues which were not covered by the questionnaires, interviews were conducted with subscribers who had different mobile banking usage frequency. Although the respondents agreed on the importance of mobile banking, they raised concerns in

relation to mobile banking which need extra attention. These issues addressed for due attention as well as key prospects are presented below.

Interview findings indicated that consumers believe in the efficacy of mobile banking to make banking transactions easier. The availability of mobile airtime purchase, fund transfers, balance enquiries, and the prospect of paying utility and other payments through mobile banking was expressed as advantageous in comparison to conventional banking. Although consumers perceive mobile banking as essential, the majority of the respondents use it for airtime purchase while a limited number of respondents transfer funds through mobile banking platforms. The overall attitude of interviewees was positive. Although they had a positive attitude, failure to adopt mobile banking was not an issue of concern.

Some replied that it can ease the lead time to get banking services at bank counters, if larger consumer base uses the service frequently. Consequently, it would partially contribute for the economy by helping consumers use their time effectively and reducing cost. Some firmly believed that mobile banking has the capacity to change the banking industry and how societies conduct transactions since mobile phones are widely popular in Ethiopia. In particular, the availability of mobile banking platforms through USSD format makes it more accessible in remote locations or situations where online access is not possible since one of the hampers of mobile banking adoption is online access. As a result, majority of interviewees had the intention to adopt mobile banking in the future.

According to some interviewees, the inconsistency in mobile internet access created inconsistent service platform performance which affected the reliability on mobile banking. The consequence of this inconsistency degraded consumer trust. In addition to the inconsistency in internet access, some respondents did not find mobile banking easy for use. This emanated from the complex steps and unnecessary displays complicating the process of completing a transaction. Respondents suggested that it should display limited features in a display to minimize the complexity and ease the steps involved to complete a transaction. A user should not go through steps to get to what they want; main features should be presented in the first window and the details as sub features.

Another issue of concern for respondents was the risk of losing money. This was because mobile banking lacks a proper mechanism to reverse fund transfers conducted by mistake. Respondents suggested that steps involved to reverse a once performed transaction have to get the appropriate attention since consumers need some time to learn and practice how to conduct transactions. Lack of proper security features and risk of being hacked were other key points raised in the interviews.

According to other interviewees, regardless of materials which guide mobile banking use, consumers have limited clue on mobile banking and its features. The interviewees suggested that banks shall work on awareness creation which should start with training their employees on how to use and market mobile banking. Some respondents were concerned that employees were not able to answer their questions about the platform and were not much of help to solve problems. According to some interviewees, this may force a consumer to think twice before adopting mobile banking.

Other issues of concern raised from the interviews were, banks should adopt the most appropriate mobile banking application which fits the Ethiopian way of life, promote mobile banking in all media outlets, add security features, and most importantly network inconsistency needs special attention.

Therefore, the major concerns addressed by interviewees were:

- Frequent system failure
- Frequent use mobile banking mainly for airtime purchase where the cheapest severity in the platform is present (perceived risk).
- Complexity to use, network issues, inconsistent system performance, and lack of proper security features.
- Lack of awareness creation and promotion.
- Lack of training to employees and equipping the knowledge to explain features and steps to use mobile banking.

The major prospects addressed by interviewees were:

- It increases banking convenience
- It reduces the lead time to get banking services at conventional branches

- It has the capacity to change the banking industry and how societies conduct transactions
- It can significantly contribute to financial inclusion efforts

4.7. Interpretation of the findings of the analysis

The coefficients in the equation represent the influence of variation in the mean values of the variables under study since the analysis was undertaken based on the mean value of items used to measure variables. The interpretations of the coefficients are presented below.

4.7.1. Interpretation of the finding from the first model: Attitude

This section interprets the findings from the equation presented below which is an output of the regression analysis on Attitude;

$$Attitude = 0.807 + 0.309(PU) + 0.209(PEOU) + 0.296(T)$$

The equation presented above indicates that when consumers have zero mean perception about the usefulness, ease of use and trustworthiness of mobile banking, the average mean value of their Attitude would be the Y-intercept which is 0.807; it could range between 0.807 ± 0.209 (Standard Error of 0.209). This means, if neither of the predictor variables, perceived usefulness, perceived ease of use, and trust, have a mean value different from zero (0) there would still be an average mean attitude value of 0.807 which is the result of the 59.3% variations unexplained by the model. Individual influences or interpretations of coefficients of the predictor variables are presented below.

Perceived usefulness: A unit change in the mean value of perceived usefulness would lead to, on average, a 0.309 mean value change on attitude; holding other predictor variables in the model constant; the mean value could range between 0.309 ± 0.053 (Standard Error of 0.053). In other words, a unit change in the mean value of consumer perception on usefulness of mobile banking, on average, would result a 0.309 average mean value change on attitude; holding other predictor variables in the model constant. Inferring from the model above the influence of perceived usefulness on attitude is positive and statistically significant; when mean value of perceived usefulness increases mean value of attitude will also increase and vice versa.

Perceived ease of use: A unit change in the mean value of perceived ease of use would lead to, on average, a 0.209 mean value change on attitude; holding other predictor variables in the

model constant: the mean value could range between 0.209 ± 0.048 (Standard Error of 0.048). In other words, a unit change in the mean value of consumer perception on effortlessness of mobile banking, on average, would result in a 0.209 average mean value change on attitude; holding other predictor variables in the model constant. Inferring from the model above the influence of perceived ease of use on attitude is positive and statistically significant; when mean value of perceived ease of use increases mean value of Attitude will also increase and vice versa.

Trust: A unit change in the mean value of trust would lead to, on average, a 0.296 mean value change on attitude; holding other predictor variables in the model constant: the mean value could range between 0.209 ± 0.050 (standard error of 0.050). In other words, a unit change in the mean value of consumer perception on trustworthiness of mobile banking would lead to, on average, a 0.296 mean value change in attitude; holding other predictor variables in the model constant. Inferring from the model above the influence of trust on attitude is positive and statistically significant; when mean value of trust increases mean value of attitude will increase as well and vice versa.

4.7.2. Interpretation of the finding from the second model: intention

This section interprets the findings from the equation presented below which is an output of the regression analysis on Intention;

$$\textit{Intention} = 1.734 + 0.138(AS) - 0.013(AF) + 0.237(AP) + 0.265(ASt)$$

The equation presented above indicates that when consumers' attitude strength and attitude toward success, failure, and process/learning have a mean value of zero (0), their mean intention value would be the value of the Y-intercept which is 1.734: the mean value could range between 1.734 ± 0.129 (standard error of 0.129). This means, if either of the predictor variables attitude toward success, failure, process/learning, and attitude strength do not have a mean value different from zero (0) the mean value of their intention would be 1.734 which emanates from the 49.5% variations unexplained by the model. Individual influences or interpretations of predictor variables coefficients are presented below.

Attitude toward success: A unit change in the mean value of attitude toward success would lead to, on average, a 0.138 mean value change on intention; holding other predictor variables in the model constant: the mean value could range between 0.138 ± 0.040 (standard error of 0.050). In

other words, a unit change in the mean value of consumers' expectation of success would lead to, on average, a 0.138 average mean value change on intention; holding other predictor variables in the model constant. Inferring from the model above the influence of attitude toward success on intention is positive and statistically significant; when mean value of attitude toward success increases mean value of intention will increase as well and vice versa.

Attitude toward failure: A unit change in the mean value of attitude toward failure would lead to, on average, a -0.013 mean value change on intention; holding other predictor variables in the model constant: the mean value could range between -0.013 ± 0.022 (standard error of 0.022). In other words, a unit change in the mean value of consumers' expectation of failure would lead to, on average, a -0.013 average mean value change on intention; holding other predictor variables in the model constant. Inferring from the model above the influence of attitude toward failure on intention is negative and statistically insignificant; when mean value of attitude toward failure increases mean value of intention will decrease and vice versa.

Attitude toward process/learning: A unit change in the mean value of attitude toward process/learning would lead to, on average, a 0.237 mean value change on intention; holding other predictor variables in the model constant: the mean value could range between 0.237 ± 0.039 (standard error of 0.039). In other words, a unit change in the mean value of consumers' attitude toward process/learning would lead to, on average, a 0.237 average mean value change on intention; holding other predictor variables in the model constant. Inferring from the model above the influence of attitude toward process/learning on intention is positive and statistically significant; when mean value of attitude toward process/learning increases mean value of intention will increase as well and vice versa.

Attitude strength: A unit change in the mean value of attitude strength would lead to, on average, a 0.265 mean value change on intention; holding other predictor variables in the model constant: the mean value could range between 0.265 ± 0.031 (standard error of 0.031). In other words, a unit change in the mean value of consumers' attitude strength would lead to, on average, a 0.265 average mean value change on intention; holding other predictor variables in the model constant. Inferring from the model above the influence of attitude strength on intention is

positive and statistically significant; when mean value of attitude strength increases mean value of intention will also increase and vice versa.

4.8. Findings of quantitative and qualitative analysis

This study was undertaken using quantitative and qualitative data as an input. Questionnaires and interviews were used as an instrument to collect the data. As stated earlier the data was collected from consumers who subscribed for the service; from branches of two private banks located in Addis Ababa, Dashen Bank and United Bank.

This study attempted to assess the influence of attitude on mobile banking adoption in Ethiopia. To understand the influences, factors influencing attitude of consumers toward mobile banking and its corresponding roles on intention to adopt mobile banking are explored. In so doing, Technology Acceptance Model (TAM), trust, Theory of Trying (ToT) and the concept of attitude strength had been used as an input. The results of these data analysis are presented below.

The findings from the questionnaire implies that consumer attitude toward mobile banking is influenced by perceived usefulness, perceived ease of use and trust. Consumer intention to adopt mobile banking on the other hand is influenced by attitude toward success, attitude toward failure, attitude toward process/learning to adopt mobile banking and attitude strength.

Demographic factors that influence attitude and intention significantly are occupation, mobile banking usage status and usage frequency; they influence both attitude and intention while monthly income and service provider significantly influence intention only. Furthermore, attitude is positively correlated with all of its predictor variables i.e. perceived usefulness, perceived ease of use, and trust. Similarly, intention is positively correlated with attitude toward success, attitude toward process/learning, and attitude strength, but has an inverse correlation with expectation of failure.

Attitude and intention have a statistically significant strong relationship with their corresponding model. Predictor variables in the first model, attitude, explain 40.7% of variations in the predicted variable while the second model, intention, explain 50.5% of variations in the outcome variable, moreover, the two models are statistically fit for the collected data.

The findings from the interviews point toward other factors affecting both attitude and intention of consumers besides to the variables stated in the models. These are system failures, risk involved, effortlessness, network strength, security features, awareness, and employee capacity. The interviews also reveal that most of the transactions conducted through mobile banking are airtime purchases. Furthermore, consumers have an optimistic view on mobile banking and are willing to adopt mobile banking in the future.

To summarize, attitude is influenced by consumers' perception on usefulness, effortlessness and trustworthiness of mobile banking and demographic factors. All the predictor variables of attitude have a statistically significant influence at $p < 0.05$ and positively correlated. Intention on the other hand, is influenced by expectation of success, failure, process involved, and the strength of their attitude beside demographic factors. The influence from expectation of success, process involved, and attitude strength is statistically significant at $p < 0.05$ and positively correlated. Expectation of failure on the other hand has a statistically insignificant influence on intention at $p < 0.05$ and they are negatively correlated.

Chapter five

5. Summary, Conclusion and Recommendation

5.1. Summary of the findings

This study attempted to assess the influences of attitude on mobile banking adoption in Ethiopia. To understand the influences, factors influencing attitude of consumers toward mobile banking and its corresponding influence on intention to adopt mobile banking are explored. In so doing, Technology Acceptance Model (TAM), Trust, Theory of Trying (ToT) and the concept of attitude strength had been used as an input. The findings demonstrate that respondents agree on the usefulness, easiness and trustworthiness of mobile banking and have an optimistic attitude toward mobile banking. Similarly, their attitude toward success and process is positive and strong, but their attitude toward failure is neutral i.e. neither positive nor negative. Their intention toward adopting mobile banking is positive.

Attitude and intention are significantly influenced by occupation, mobile banking usage status and usage frequency while monthly income and service provider significantly influence attitude only. Furthermore, attitude is positively correlated with all of its predictor variables. Similarly, intention is positively correlated with all of its predictor variables, but has an inverse correlation with expectation of failure. Attitude and intention have a statistically significant strong relationship with their corresponding models as well. Predictor variables in the models are statistically fit for the collected data and explain significant portion of variations in the predicted variables i.e. 40.7% for attitude and 50.5% for intention.

Figure 5.8 Model's path coefficients: attitude

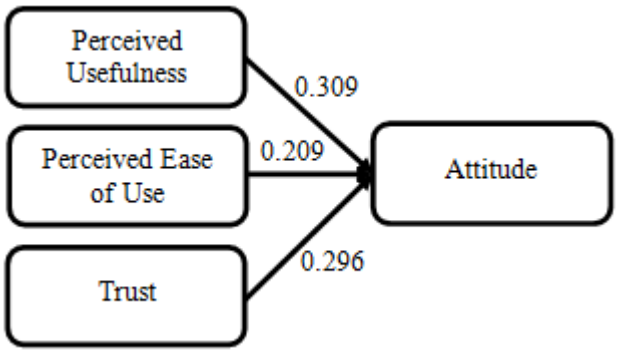
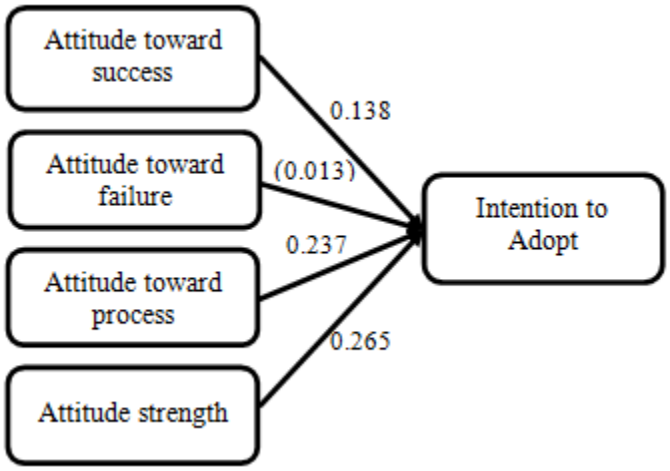


Figure 5.9 Model's path coefficients: intention



Similar to the finding of Gu et al. (2009) trust is a more powerful determinant than perceived ease of use. The finding also confirmed that major drivers of adoption including perceived usefulness and perceived ease of use significantly influence mobile banking as indicated by Ha et al. (2012). But the argument by Ha et al. (2012) that perceived ease of use is usually regarded as perceived usefulness does not seem to hold true in this study.

The finding of this study support findings by Alemayehu (2017), Mulualem (2015), Matiwos (2018), and Nesibu (2017) that both perceived usefulness and perceived ease of use influence mobile banking adoption. Furthermore, the study support the argument that consumers attitude toward mobile banking influences intention. Chaouali et al., (2017) found that intention to adopt is the outcome of attitude toward success, failure, and process which supports the findings of this study. But attitude toward failure is statistically insignificant to affect intention. Kim et al. (2009) found that attitude strength determines the role of attitude on intention to adopt mobile banking, an argument significantly supported by the finding of this study.

5.2. Conclusion

The findings of the study indicate that usefulness and effortlessness of mobile banking in combination with trust are major determinants of consumer attitude to adopt mobile banking. Attitude toward success and process in addition to their corresponding attitude strength determines intention to adopt mobile banking. Attitude toward failure or expectation of failure to adopt mobile banking influences mobile banking as well, but it does not have statistical

significance. Therefore, intention to adopt mobile banking is influenced by attitude toward success, attitude toward process and attitude strength.

Demographic factors such as occupation, mobile banking usage status and usage frequency significantly influence attitude and Intention. In addition to demographic factors, perceived reliability, perceived risk, effortlessness, consistency and convenience of platforms, network quality, security features, consumer and employee awareness, employee competency and customer support platforms determine attitude and Intention.

The study also confirms that the key inputs in this study, TAM and ToT, combined with trust and attitude strength, significantly explain variations in mobile banking adoption. This is an indication that TAM is still an essential and key theoretical input to study mobile banking adoption.

To conclude, the factors that influence attitude toward mobile banking are perceived usefulness, perceived ease of use and trust. Similarly, attitude toward success, attitude toward process and attitude strength significantly influence intention to adopt mobile banking. Demographic factors as well have their own contribution in determining the attitude and intention of consumers.

5.3. Recommendations

Based on the findings of this study, the following recommendations are forwarded to the management body of the two banks.

Firstly, to improve mobile banking adoption in Ethiopia the banks have to improve the reliability of their platforms. Awareness creation in particular needs special attention. Fishbein & Ajzen (1975) argued that although people prefer similar behaviors than dissimilar they tend to chose dissimilar normal than similar but disturbed. Therefore, reliability is a key feature for a sustainable adoptoin of mobile banking. Moreover, majority of transactions performed by mobile banking are airtime purchases because the percieved severity of failure to conduct transactions properly is lower than other transactioins. Thus, banks should focus on the risk of conducting transactions using mobile banking as well.

Secondly, among the major impediments to mobile banking adoption in Ethiopia some of the factors are under the control of the banks while others are beyond the control of commercial

banks. Thus, banks should focus on those which are under their scope of control than wasting resources on those that have an effect at macro level. As a result, since the correlation between perceived usefulness and attitude had the least Pearson's correlation compared to other variables, banks should emphasize on making mobile banking easier and trust worthy through simplified displays and eliminating idle steps rather than promoting the usefulness of mobile banking.

Thirdly, future modifications and awareness creations should consider consumers' occupation, mobile banking usage status and frequency of usage. They should separately consider these groups because consumers who need time to adopt mobile banking and those who already using mobile banking have different familiarity and expectation.

Fourth, promotions need to focus on creating a situation which necessitates the need to use mobile banking. This is because respondents are willing to adopt mobile banking in the future. By doing this the banks can incorporate those who are complacent with the way conventional branches are providing services, but have a positive attitude toward mobile banking and intend to learn how to use the platform.

Finally, as indicated in the previous section socio-demographic factors have a considerable influence on attitude and intention toward mobile banking. Thus, future studies may infer the findings of this study as a reference and incorporate socio-demographic factors as control variable; particularly occupation, mobile banking usage status and usage frequency.

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Survey instruments

Appendix A: Amharic and English questionnaires

Amharic questionnaire

መጠይቅ

የጥናቱ ርእሰ፡ ሰዎች ስለ ሞባይል ባንኪንግ ያላቸው አመለካከት በሞባይል ባንኪንግ ቅቡልነት ላይ ያለው ተጽእኖ (The effect of attitude on mobile banking adoption in Ethiopia)

ጥናቱን የሚያከናውነው፡ አበራ በቀለ ቀጀላ፤ እጩ ምሩቅ በMA in International Business, ከ Hochschule Mainz, Germany እና MSc in Quality Management and Organizational Excellence, ከ Addis Ababa University, Ethiopia

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ውድ ተሳታፊዎች

በዚኅ መጠይቅ ላይ በመሳተፍ ተጠቃሚዎች ስለ ሞባይል ባንኪንግ ያላቸው አመለካከት በሞባይል ባንኪንግ ቅቡልነት ላይ ያለው ተጽእኖ ለማጥናት የሚደርገው ጥረት ላይ የበኩልዎን አስተዋጽኦ እንዲያደርጉ በከብር ተጋብዘዋል፡፡ የዚህ ጥናት ግኝት የተጠቃሚዎች አመለካከት በሞባይል ባንኪንግ ቅቡልነት ላይ ያለውን ተጽእኖ ለመረዳት በግብአትነት ይውላል፡፡ እርስዎ የሚሰጡት መረጃ ለመመረቂያ ፅሁፍ በግብአትነት ብቻ ይውላል፡፡ የእርስዎ ማንነት እንዲሁም የሚሰጡት መረጃ ሚስጥራዊነት የተጠበቀ ይሆናል፡፡

ይህን መጠይቅ መሙላት ከ10-15 ደቂቃዎችን ይወስዳል፡፡ በውስጡ ፲ ጥያቄዎችን የያዘ ሲሆን አምስቱ አዎ ወይም አይደለም በማለት የሚመለሱ ናቸው፡፡ ሁለቱ በቁጥር ሲመለሱ የተቀሩት 4 ጥያቄዎች በ Lickert scale rating የሚሞሉ ይሆናሉ፡፡ የእርስዎ ምላሽ ለጥናቱ ውጤታማነት ወሳኝ ስለሆነ በቻሉት መጠን በተሰጠው መመሪያ መሰረት ይሙሉ፡፡

ስለትብብርዎ ከልብ አመሰግናለው!!!

ከዚህ በታች ለተሰጡት ጥያቄዎች እባክዎን የ(✓) ምልክት በተሰጡት ክፍት ቦታዎች ላይ ያስገቡ

I. አጠቃላይ መረጃ

1.1.	ጾታ	ወንድ	ሴት

1.2.	የትምህርት ደረጃ	2ኛ ደረጃ	ዲፕሎማ	1ኛ ዲግሪ	2ኛ ዲግሪ	ከ2ኛ ዲግሪ በላይ

1.3.	እድሜ	18-25	26-35	36-50	50+

1.4.	የስራ ሁኔታ	የግል ስራ	ተቀጣሪ	ስራ ፈላጊ	ተማሪ	ሌላ

1.5.

የወር ገቢ	ከ1,650 በታች	በ1,651 እና 5,250 መካከል	በ5,251 እና 10,900 መካከል	ከ10,900 በላይ

1.6.

የሚገለገሉበት ባንክ	ዳሸን ባንክ	ህብረት ባንክ

2. የሞባይል ኢንተርኔትን ***(Mobile Internet)*** ለተለያዩ አገልገሎቶች ለምን ያክል አመታት/ወራት ተጠቅመዋል

ከ1 አመት በታች	በ1 እና2 አመት መካከል	በ 2እና5 አመት መካከል	በ5 አመት በላይ	በጭራሽ
☐	☐	☐	☐	☐

3. በቀን ውስጥ በአማካኝ ለምን ያክል ሰዐት የሞባይል ኢንተርኔትን ***(Mobile Internet)*** ለተለያዩ አገልገሎቶች ይጠቀማሉ

ከ1 ሰዐት በታች	በ 1እና2 ሰዐት መካከል	በ 2እና5 ሰዐት መካከል	በ5 ሰዐት በላይ	በጭራሽ
☐	☐	☐	☐	☐

4. በቅርንጫፍ ባንኮች ከሚሰጠው መደበኛ አገልገሎት በተጨማሪ ሌላ አማራጭ መገልገያ መንገድ አስፈላጊ ነው ብለው ያምናሉ

አዎ ☐ አይደለም ☐ ምናልባት ☐

5. የሚገለገሉበት (ዳሸን/ህብረት) ባንክ የሚሰጠውን የሞባይል ባንኪንግ አገልገሎት ለማገኘት ተመዝግበዋል

አዎ ☐ አይደለም ☐

6. የሚገለገሉበት (ዳሸን/ህብረት) ባንክ የሚሰጠውን የሞባይል ባንኪንግ አገልገሎት ይጠቀማሉ

አዎ ☐ አይደለም ☐ ምናልባት ☐

7. የሚገለገሉበት (ዳሸን/ህብረት) ባንክ የሚሰጠውን የሞባይል ባንኪንግ አገልገሎት ምን ያህል ድግግሞሽ ይጠቀማሉ

በተደጋጋሚ ☐ አንዳንዴ ☐ ከስንት አንድ ☐ በጭራሽ ☐

II. ተሳታፊዎች የሞባይል ባንኪንግን ጠቃሚነት፣ ለአጠቃቀም ቀላልነት እና ተአማኒነት የተረዱበት ሁኔታ

8. ለመመለስ እባክዎን የ(✓) ምልክት በመጠቀም ወይም ቁጥሮቹን በማከበብ ከዚህ በታች ከተሰጡት አረፍተነገሮች ጋር ያለዎትን የስምምነት ወይም ያለመስማማት መጠን በተሰጡት ክፍት ቦታዎች ላይ ያመልክቱ። ለዚህም የሚከተሉትን መመዘኛ ነጥቦች ይጠቀሙ። (አረፍተነገሮቹ ከ Kim et al. (2009) እና Gu et al. (2009) የተወሰዱ ናቸው).

		መመዘኛ ነጥቦች (Rating points)				
	የሞባይል ባንኪንግን ጠቃሚነት ተሳታፊዎች የተረዱበት ሁኔታ (Respondent's perception on usefulness of mobile banking platform)	1- በጭራሽ አልስማማም	2- አልስማማም	3- መካከለኛ	4- እስማማለው	5- በጣም እስማማለው
1	ሞባይል ባንኪንግን መጠቀም የባንኪንግ አገልግሎትን በቀላሉ ለማገኘት ያስችላል (using mobile banking enhances your access to banking services)	1	2	3	4	5

1- በጭራሽ አልስማማም (strongly disagree)	2- አልስማማም (disagree)	3- መካከለኛ (neutral)	4- እስማማለው (agree)	5- በጣም እስማማለው (strongly agree

2	ሞባይል ባንኪንግን መጠቀም የባንኪንግ አገልግሎትን በፍጥነት ለማከናወን ያስችላል (using mobile banking enables you to complete banking activities quickly)	1	2	3	4	5
3	ሞባይል ባንኪንግን መጠቀም ጊዜን ለመቆጠብ ያስችላል (using mobile banking helps you use your time effectively)	1	2	3	4	5
4	ሞባይል ባንኪንግ ለአጠቃቀም ቀላል ነው (mobile banking is easy to use)	1	2	3	4	5
5	ሞባይል ባንኪንግ ጠቃሚ ነው (mobile banking is useful)	1	2	3	4	5

	የሞባይል ባንኪንግን ለአጠቃቀም ቀላልነት ተሳታፊዎች የተረዱበት ሁኔታ **Respondent's perception on ease of use of mobile banking platform**	1- በጭራሽ አልስማማም	2- አልስማማም	3- መካከለኛ	4- እስማማለው	5- በጣም እስማማለው
1	የሞባይል ባንኪንግን አጠቃቀም ተረድቶ አገልግሎት ላይ ማዋል ቀላል ነው (it is easy to learn how to use mobile banking and conduct transactions)	1	2	3	4	5
2	ሞባይልን ለባንክ አገልግሎት መጠቀም ብዙም የአዕምሮ ጥረት አይጠይቅም (using mobile for banking transactions requires less mental effort)	1	2	3	4	5
3	ሞባይልን በመጠቀም የባንክ አገልግሎትን ማግኘት ከተለመደው መንገድ ያነሰ ጥረት ይጠይቃል (it requires less effort to conduct my transactions through mobile banking)	1	2	3	4	5
4	ሞባይልን ለባንክ አገልግሎት እንድንጠቀም የሚሰጡ መመሪያዎች ግልጽ እና በቀላሉ የሚረዱት ነው (instructions to conduct mobile banking are clear and understandable)	1	2	3	4	5
5	ከዚህ በፊት ኤ.ቲ.ኤም.ን የመሳሰሉ አማራጭ የባንኪነግ መገልገያ መንገዶች በቀላሉ ስለተገበርኩ ሞባይል ባንኪንግንም በቀላሉ እተገብራለው (I easily adopted previous alternative banking services such as ATM and I will do the same with mobile banking)	1	2	3	4	5

	የሞባይል ባንኪንግን ተአማኒነት ተሳታፊዎች የተረዱበት ሁኔታ **Respondent's Trust on mobile banking platform**	1- በጭራሽ አልስማማም	2- አልስማማም	3- መካከለኛ	4- እስማማለው	5- በጣም እስማማለው
1	የሚገለገሉበት ባንክ መልካም ስም እና ዝና ያለው ስለሆነ ሞባይል ባንኪንግን በብቃት እና በቅልጥፍና መስጠት ይችላል (your bank has a good reputation and can provide mobile banking services efficiently)	1	2	3	4	5

1- በጭራሽ አልስማማም (strongly disagree)	2- አልስማማም (disagree)	3- መካከለኛ (neutral)	4- እስማማለው (agree)	5- በጣም እስማማለው (strongly agree

2	የሚጠየቁት መረጃዎች እና ቅደም ተከተሎች ከሌሎች አማራጭ አገልግሎት ስርዓቶች ጋር ተቀራራቢ ናቸው (the steps and information requested are typical of similar platforms)	1	2	3	4	5
3	የሚገለገሉበት ባንክ ደህንነትዎን ለመጠበቅ አስፈላጊ የሆኑ ምንጮች (ግብዐቶች) እንዳሉዎት ይሰማዎታል (you feel safe that your bank has the required resources to protect you)	1	2	3	4	5
4	የሚገለገሉበት ባንክ ታማኝነቱን ለማፍረስ እንዲሁም ስለ እርስዎ ላለመጨነቅ ምንም ምክንያት የለውም (your bank has no reason to be dishonest and not care about you)	1	2	3	4	5
5	የሚገለገሉበት ባንክ እምነት የሚጣልበት እና ቃል ኪዳንና ግዴታዎችን የሚፈጽም ነው (your bank is trustworthy and keeps promises and commitments)	1	2	3	4	5

III. ተሳታፊዎች ስለ ሞባይል ባንኪንግ ያላቸው አመለካከት

9. ለመመለስ እባክዎን የ(✓) ምልክት በመጠቀም ወይም ቁጥሮቹን በማክበብ ከዚህ በታች ከተሰጡት አረፍተነገሮች ጋር ያለዎትን የስምምነት ወይም አለመስማማት መጠን በተሰጡት ክፍት ቦታዎች ላይ ያመልክቱ። ለዚህም የሚከተሉትን መመዘኛ ነጥቦች ይጠቀሙ። (አረፍተነገሮቹ ከ Kim et al. (2009)፣ Taylor et al., (2001) እና Bay & Daniel, (2003) የተወሰዱ ናቸው).

		መመዘኛ ነጥቦች (Rating points)				
	ተሳታፊዎች ስለ ሞባይል ባንኪንግ ያላቸው አመለካከት Respondent's Attitude toward trying mobile banking	1- በጭራሽ አልስማማም	2- አልስማማም	3- መካከለኛ	4- እስማማለው	5- በጣም እስማማለው
1	የሞባይል ባንክ አገልግሎትን መጠቀም ትርፋማ ያረጋል (Using mobile banking is advantageous)	1	2	3	4	5
2	የሞባይል ባንክ አገልግሎትን የመጠቀሜ አዝማሚያ አዎንታዊ ነው (My using mobile banking is favorable)	1	2	3	4	5
3	የሞባይል ባንክ አገልግሎትን መጠቀም መቻሌ ጥሩ ስሜት እንዲሰማኝ ያደርጋል (Adopting mobile banking would make me feel Good)	1	2	3	4	5
4	የሞባይል ባንክ አገልግሎትን መጠቀም መቻሌ የደስተኛነት ስሜት ይሰጠኛል (Adopting mobile banking would make me feel Happy)	1	2	3	4	5
5	የሞባይል ባንክ አገልግሎትን መጠቀም መቻሌ የተጠቃሚነት ስሜት ይሰጠኛል (Adopting mobile banking would make me feel Beneficial)	1	2	3	4	5

		መመዘኛ ነጥቦች (Rating points)				
	ተሳታፊዎች ሞባይል ባንኪንግን ሞክሮ ስለማሳካት ያላቸው አመለካከት Respondent's Attitude toward trying mobile banking and succeeding	1- በጭራሽ አልስማማም	2- አልስማማም	3- መካከለኛ	4- እስማማለው	5- በጣም እስማማለው
1	ሞባይል ባንኪንግን ሞክሮ ማሳካት መቻሌ ጥሩ ስሜት እንዲሰማኝ ያደርጋል (Trying and succeeding at adopting mobile banking would make me feel Good)	1	2	3	4	5

1- በጭራሽ አልስማማም (strongly disagree)	2- አልስማማም (disagree)	3- መካከለኛ (neutral)	4- እስማማለው (agree)	5- በጣም እስማማለው (strongly agree

2	ሞባይል ባንኪንግን ሞክሮ ማሳካት መቻሌ የደስተኛነት ስሜት ይሰጠኛል (Trying and succeeding at adopting mobile banking would make me feel Happy)	1	2	3	4	5
3	ሞባይል ባንኪንግን ሞክሮ ማሳካት መቻሌ የተጠቃሚነት ስሜት ይፈጥርብኛል (Trying and succeeding at adopting mobile banking would make me feel Beneficial)	1	2	3	4	5

		መመዘኛ ነጥቦች (Rating points)				
	ተሳታፊዎች ሞባይል ባንኪንግን ሞክረው ባይሳካላቸው ያላቸው አመለካከት **Respondent's Attitude toward trying mobile banking, but failing to succeed**	1- በጭራሽ አልስማማም	2- አልስማማም	3- መካከለኛ	4- እስማማለው	5- በጣም እስማማለው
1	ሞባይል ባንኪንግን ሞክሮ ማሳካት አለመቻል መጥፎ ስሜት እንዲሰማኝ ያደርጋል (Trying but failing at adopting mobile banking would make me feel Bad)	1	2	3	4	5
2	ሞባይል ባንኪንግን ሞክሮ ማሳካት አለመቻል የደስተኛነት ስሜት ያሳጣኛል (Trying but failing at adopting mobile banking would make me feel Unhappy)	1	2	3	4	5
3	ሞባይል ባንኪንግን ሞክሮ ማሳካት አለመቻል የብኩንነት ስሜት እንዲሰማኝ ያደርጋል (Trying but failing at adopting mobile banking would make me feel Unbeneficial)	1	2	3	4	5

		መመዘኛ ነጥቦች (Rating points)				
	ተሳታፊዎች የሞባይል ባንክ አገልግሎትን አጠቃቀም ስለመማር (ሂደት ላይ) ያላቸው አመለካከት **Respondent's Attitude toward learning/process to use mobile banking**	1- በጭራሽ አልስማማም	2- አልስማማም	3- መካከለኛ	4- እስማማለው	5- በጣም እስማማለው
1	የሞባይል ባንክ አገልግሎትን አጠቃቀም መማር ጥሩ ስሜት እንዲሰማኝ ያደርጋል (Learning to use mobile banking would make me feel Good)	1	2	3	4	5
2	የሞባይል ባንክ አገልግሎትን አጠቃቀም መማር የደስተኛነት ስሜት ይሰጠኛል (Learning to use mobile banking would make me feel Happy)	1	2	3	4	5
3	የሞባይል ባንክ አገልግሎትን አጠቃቀም መማር የተጠቃሚነት ስሜት ይፈጥርብኛል (Learning to use mobile banking would make me feel Beneficial)	1	2	3	4	5

IV. ተሳታፊዎች የሞባይል ባንክ አገልግሎት ላይ ያላቸው የአመለካከት ጥንካሬ (AttitudegStrength)

10. ለመመለስ እባክዎን የ(✓) ምልክት በመጠቀም ወይም ቁጥሮቹን በማክበብ ከዚህ በታች ከተሰው አረፍተነገር ጋር ያለዎትን የስምምነት ወይም አለመስማማት መጠን በተሰጡት ክፍት ቦታዎች ላይ ያመልክቱ። ለዚህም የሚከተሉትን መመዘኛ ነጥቦች ይጠቀሙ። (አረፍተነገሮቹ ከ Kim¦et¦al.¦ (2009) የተወሰዱ ናቸው)

1- በጭራሽ አልስማማም (strongly disagree) 2- አልስማማም (disagree) 3- መካከለኛ (neutral)

4- እስማማለው (agree) 5- በጣም እስማማለው (strongly agree)

		መመዘኛ ነጥቦች (Rating points)				
	ተሳታፊዎች የሞባይል ባንክ አገልግሎትን በተመለከተ ያላቸው የአመለካከት ጥንካሬ **Respondent's Attitude Strength**	1- በጭራሽ አልስማማም	2- አልስማማም	3- መካከለኛ	4- እስማማለው	5- በጣም እስማማለው
1	የሞባይል ባንክን ስለመጠቀም ባለኝ አመለካከት እርግጠኛ ነኝ (I feel certain about my attitude toward using the platform)	1	2	3	4	5

V. ተሳታፊዎች የሞባይል ባንክ አገልግሎት ተጠቃሚ ለመሆን ያላቸው ፍላጎት(ተነሳሽነት) (Behavioral Intention)

11. እባክዎን የ(✓) ምልክት በመጠቀም ከዚህ በታች ከተሰጡት አረፍተነገሮች ጋር ያለዎትን የስምምነት ወይም አለመስማማት መጠን በተሰጡት ክፍት ቦታዎች ላይ ያመልክቱ:: ለዚህም የሚከተሉትን መመዘኛ ነጥቦች ይጠቀሙ:: (አረፍተነገሮቹ ከ Kim et al. (2009)፣ Gu et al. (2009) እና Chemingui and Ben Lallouna, (2013) የተወሰዱ ናቸው).

1- በጭራሽ አልስማማም (strongly disagree) 2- አልስማማም (disagree) 3- መካከለኛ (neutral)

4- እስማማለው (agree) 5- በጣም እስማማለው (strongly agree)

		መመዘኛ ነጥቦች (Rating points)				
	ተሳታፊዎች የሞባይል ባንክ አገልግሎት ተጠቃሚ ለመሆን ያላቸው ዝንባሌ (ተነሳሽነት) **Respondent's Behavioral Intention to use mobile banking (BI)**	1- በጭራሽ አልስማማም	2- አልስማማም	3- መካከለኛ	4- እስማማለው	5- በጣም እስማማለው
1	የሞባይል ባንክ አገልግሎትን መጠቀም የተሻለ እንደሆነ አስባለሁ (I think it is better for me to adopt mobile banking)	1	2	3	4	5
2	ወደፊት የሞባይል ባንክ አገልግሎትን የመጠቀም ዝንባሌ (ፍላጎት) አለኝ (I intend to use mobile banking in the future)	1	2	3	4	5
3	የባንክ አገልግሎት ፍላጎቴን ለማሟላት ሞባይል ባንኪንግን ልጠቀምበት እፈልጋለው (I would use the mobile banking for my banking needs)	1	2	3	4	5
4	ሞባይል ባንኪንግን በመጠቀም የባንክ ግብይቶችን (transactions) ላካሂድ እችላለው (Using the mobile banking for handling my banking transactions is something I would do)	1	2	3	4	5
5	ለወደፊቱ ሞባይል ባንኪንግን በመጠቀም የባንክ ግብይቶችን እንቅስቃሴ (transactions) የማካሂድ ይመስለኛል (I would see myself using the mobile banking for handling my banking transactions)	1	2	3	4	5
6	ለወደፊቱ የሞባይል ባንክ አገልግሎትን አዘውተሬ አጠቀማለው (I will frequently use mobile banking in the future)	1	2	3	4	5
7	የሞባይል ባንክ አገልግሎትን ሌሎች እንዲጠቀሙ አበረታታለሁ (እመክራለው) (I recommend others to use mobile banking)	1	2	3	4	5

THANK YOU!!!

I. English questionnaire

Questionnaire

Research study title: "Influence of Attitude on Mobile Banking Adoption in Ethiopia: The Case of Dashen and United Banks in Addis Ababa" by Abera Bekele KEJELA

Researcher's status: Prospective graduate; MA International Business, Hochschule Mainz and MSc Quality Management and Organizational Excellence, Addis Ababa University

Researcher's email address: abera.bekele.kejela@students.hs-mainz.de

Dear Sir/Madam,

You are invited to participate in a research study designed to explore "The effect of attitude on mobile banking adoption in Ethiopia". The finding of this study is projected to be an input for understanding the influence of consumer attitude on mobile banking adoption. The information gathered will only be used for achieving an academic award. I assure you that all information will remain confidential and your identity will remain anonymous.

Participation in this questionnaire will last approximately 10 to 15 minutes. The questionnaire will comprise eleven questions, five of which require yes or no answers. The rest is measured using Lickert scale (rating). Please answer all questions according to the instructions provided. Your response is essential for the fruitfulness of this study.

I thank you in advance for your time!

Please indicate (✓) your appropriate answer to the following information

I. General information

1.1.

Gender	Male	Female

1.2.

Education attainment	High school	Diploma	Undergraduate degree	Postgraduate degree	PhD

1.3.

Age	18-25	26-35	36-50	50+

1.4.

Occupation	Personal business	Employed	Unemployed	Student	Other

1.5.	**Monthly income in ETB**	Less than 1,650	Between 1,650-5,250	Between 5,250-10,900	Above 10,900

1.6.	**Service provider**	Dashen Bank	United Bank

2. Please indicate your **mobile internet** usage experience (per year) for any purpose

Less than 1 year □	Between 1 and 2 years □	Between 2 and 5 years □	More than 5 years □	Never □

3. Average time spent on **mobile internet** (per day) for any purpose

Less than 1 hour □	Between 1 and 2 hours □	Between 2 and 5 hours □	More than 5 hours □	Never □

4. Do you think it is necessary to have alternative service platforms besides to the traditional banking platforms?

Yes ☐ No ☐ Maybe ☐

5. Are you registered for mobile banking service?

Yes ☐ No ☐

6. Are you using the mobile banking service provided by your bank?

Yes ☐ No ☐ Maybe ☐

7. How often do you use mobile banking to conduct transactions?

Regularly ☐ Sometimes ☐ Rarely ☐ Never ☐

II. Perceived Usefulness (PU), Perceived Ease of Use and Trust (T)

8. Please indicate the extent of your level of agreement and disagreement with the following statement. Please tick (✓) on your appropriate answer based on the following rating (adopted from Kim et al. (2009) and Gu et al. (2009)).

1= strongly disagree 2= disagree 3= neutral 4= agree 5= strongly agree

		Rating point				
	Respondent's perception on perceived usefulness of mobile banking platform	1= strongly disagree	2= disagree	3= neutral	4= agree	5= strongly agree
8.1	Using mobile banking enhances your access to banking services	1	2	3	4	5
8.2	Using mobile banking enables you to complete banking activities quickly	1	2	3	4	5

8.3	Using mobile banking helps you use your time effectively	1	2	3	4	5
8.4	Mobile banking is easy to use	1	2	3	4	5
8.5	Mobile banking is useful	1	2	3	4	5

		Rating point				
	Respondent's perception on perceived ease of use of mobile banking platform	1= strongly disagree	2= disagree	3= neutral	4= agree	5= strongly agree
8.6	It is easy to learn how to use mobile banking and conduct transactions	1	2	3	4	5
8.7	Using mobile for banking transactions requires less mental effort	1	2	3	4	5
8.8	It requires less effort to conduct my transactions through mobile banking	1	2	3	4	5
8.9	Instructions to conduct mobile banking are clear and understandable	1	2	3	4	5
8.10	I easily adopted previous alternative banking services such as ATM and I will do the same with mobile banking	1	2	3	4	5

Please indicate the extent of your level of agreement and disagreement with the following statement. Please tick (✓) on your appropriate answer based on the following rating (adopted from Gu et al. (2009)).

1= strongly disagree 2= disagree 3= neutral 4= agree 5= strongly agree

		Rating point				
	Respondent's trust on mobile banking platform	1= strongly disagree	2= disagree	3= neutral	4= agree	5= strongly agree
8.11	Your bank has a good reputation and can provide mobile banking services efficiently	1	2	3	4	5
8.12	The steps and information requested are typical of similar platforms	1	2	3	4	5
8.13	You feel safe that your bank has the required resources to protect you	1	2	3	4	5
8.14	Your bank has no reason to be dishonest and not care about you	1	2	3	4	5
8.15	Your bank is trustworthy and keeps promises and commitments	1	2	3	4	5

III. Attitude toward trying mobile banking

9. Please indicate the extent of your remark with the following statement. Please tick (✓) on your appropriate answer based on the following rating point (adopted from Kim et al., (2009), Taylor et al., (2001) and Bay & Daniel, (2003)).

1= strongly disagree 2= disagree 3= neutral 4= agree 5= strongly agree

		Rating point				
	Respondent's attitude toward trying mobile banking	1= strongly disagree	2= disagree	3= neutral	4= agree	5= strongly agree
9.1	Using mobile banking is advantageous	1	2	3	4	5
9.2	My using mobile banking is favorable	1	2	3	4	5
9.3	Adopting mobile banking would make me feel Good	1	2	3	4	5
9.4	Adopting mobile banking would make me feel Happy	1	2	3	4	5
9.5	Adopting mobile banking would make me feel Beneficial	1	2	3	4	5

		Rating point				
	Respondent's attitude toward trying mobile banking and succeeding	1= strongly disagree	2= disagree	3= neutral	4= agree	5= strongly agree
9.6	Trying and succeeding at adopting mobile banking would make me feel Good	1	2	3	4	5
9.7	Trying and succeeding at adopting mobile banking would make me feel Happy	1	2	3	4	5
9.8	Trying and succeeding at adopting mobile banking would make me feel Beneficial	1	2	3	4	5

		Rating point				
	Respondent's Attitude toward trying mobile banking, but failing to succeed	1= strongly disagree	2= disagree	3= neutral	4= agree	5= strongly agree
9.9	Trying but failing at adopting mobile banking would make me feel Bad	1	2	3	4	5
9.10	Trying but failing at adopting mobile banking would make me feel Unhappy	1	2	3	4	5
9.11	Trying but failing at adopting mobile banking would make me feel Unbeneficial	1	2	3	4	5

		Rating point				
	Respondent's Attitude toward learning to use mobile banking	1= strongly disagree	2= disagree	3= neutral	4= agree	5= strongly agree
9.12	Learning to use mobile banking would make me feel Good	1	2	3	4	5
9.13	Learning to use mobile banking would make me feel Happy	1	2	3	4	5
9.14	Learning to use mobile banking would make me feel Beneficial	1	2	3	4	5

IV. Attitude Strength

10. Please indicate the extent of your remark with the following statement. Please tick (✓) on your appropriate answer based on the following rating (adopted from Kim et al. (2009))

1= strongly disagree 2= disagree 3= neutral 4= agree 5= strongly agree

		Rating point				
	Respondent's Attitude Strength	1= strongly disagree	2= disagree	3= neutral	4= agree	5= strongly agree
10.1	I feel certain about my attitude toward using the platform	1	2	3	4	5

V. Intention to use mobile banking

11. Please indicate the extent of your remark with the following statement. Please tick (✓) on your appropriate answer based on the following rating (adopted from Kim et al. (2009); Gu et al. (2009) and Chemingui and Ben Lallouna, (2013)). 1= strongly disagree 2= disagree 3= neutral 4= agree 5= strongly agree

		Rating point				
	Respondent's Intention to use mobile banking (I)	1= strongly disagree	2= disagree	3= neutral	4= agree	5= strongly agree
11.1	I think it is better for me to adopt mobile banking	1	2	3	4	5
11.2	I intend to use mobile banking in the future	1	2	3	4	5
11.3	I would use the mobile banking for my banking needs	1	2	3	4	5
11.4	Using the mobile banking for handling my banking transactions is something I would do	1	2	3	4	5
11.5	I would see myself using the mobile banking for handling my banking transactions	1	2	3	4	5
11.6	I will frequently use mobile banking in the future	1	2	3	4	5
11.7	I recommend others to use mobile banking	1	2	3	4	5

THANK YOU!!!