

**PERCEIVED EASE OF USE, PERCEIVED USEFULNESS,  
BEHAVIOURAL INTENTION TO USE AND ACCEPTANCE OF MOBILE  
MONEY TRANSFER SERVICES.**

**MARIAM NAIWUMBWE**

**2008/HD10/U/14343U**

**BBC Hons (MAK)**

**A RESEARCH REPORT SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES  
IN PARTIAL FULFILLMENT FOR THE AWARD OF THE DEGREE OF MASTER OF  
BUSINESS ADMINISTRATION OF MAKERERE UNIVERSITY**

**SEPTEMBER, 2012**

## **DECLARATION**

This dissertation is my own original work and has never been presented for the award of the Degree/ Diploma to any University.

Sign:..... Date:.....

Mariam Naiwumbwe

**2008/HD10/14343U**

## APPROVAL

This is to certify that this research report has been submitted with our approval as University supervisors.

Sign:.....

Date:.....

Prof. Waswa Balunywa

Makerere University Business School

Sign:.....

Date:.....

Dr. Mohammad Ngoma

Makerere University Business School

## **DEDICATION**

To my beloved parents who have always loved me unconditionally.

## **ACKNOWLEDGEMENTS**

First and foremost, I would like to thank the Most Merciful and Gracious Allah for His continued blessings and guidance in accomplishing this work.

I wish to extend special thanks to my supervisors: Prof. Waswa Balunywa and Dr. Mohammad Ngoma for their constructive guidance during the preparation of this thesis. Their insightful and constructive comments helped in clarifying the focus of my work. Without their encouragement, patience, support and strictness when needed, I would never have completed this work.

I also wish to thank my lecturers at Makerere University Business School for the efforts they put in helping me grasp business concepts. To all my classmates, friends, members of 1.8 & PDU, staff of MUBS-Jinja campus, brothers and sisters, I say thank you for allowing me to learn from you.

Finally my special thanks go to Mudingu, Agnes, Edith, Olivia, Madrine, Larry, Zaid, Rachael, Joseph, Geoffrey, Barnabas, Jessica, Yunia, Julius, Rogers, Abubakar, Shamy, Hellen, Shakira, Basuta, Regis, Diana, Janida, Brenda, Amina, Nakate, and Don. Plus all those I could not mention here because of space. I say thank you for the unlimited and kindly support during my study and life.

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## **LIST OF ABBREVIATIONS USED**

- ANOVA : Analysis of Variables
- MMT : Mobile Money Transfer services
- TAM : Technology Acceptance Model
- MNO : Mobile Network Operators
- BoU : Bank of Uganda
- UCC : Uganda Communication Commission
- SMS : Short Messaging Service
- SIM : Subscriber Identification Module

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## **ABSTRACT**

The purpose of the study was to establish the relationship between Perceived ease of use, Perceived Usefulness, Behavioral Intention to Use and Acceptance of Mobile Money Services. The study adopted across section design which was both quantitative and qualitative in nature. It involved descriptive and analytical research designs. The study sample comprised of 384 mobile phone subscribers in Kampala District, who were selected through simple random sampling after making clusters. The data was tested for reliability, analyzed using SPSS and results based on the study objectives.

Results revealed a significant positive relationship between Perceived ease of use, Perceived Usefulness, Behavioral Intention to Use and Acceptance of Mobile Money Services. This means that if users perceive mobile money as easy to use, they will find it useful hence their intentions to use will increase thus resulting into actual usage of the system.

The study concluded that Perceived ease of use, Perceived Usefulness and Behavioral Intention to Use significantly affect acceptance of Mobile Money Services. Therefore, the researcher recommended that mobile money service providers should design the mobile money platform as easy to use and increase its perceived usefulness so as to increase acceptance.

# CHAPTER ONE

## 1.0 Introduction

This chapter covers the background to the study, statement of the problem, purpose of the study, objectives of the study, research questions, and significance and scope of the study.

## 1.1 Background

Mobile phones provide a new and rapidly developing technological means to facilitate monetary payments and transfers for those included in and excluded from formal financial systems (Porteous, 2006). Mobile money system allows consumers to use a mobile device such as a phone to initiate, authorize, and confirm a financial transaction (Au & Kauffman, 2007). Mobile telecom networks hold considerable potential to transform the way in which monetary payments and transfers are conducted in formal, semi-formal and informal financial settings (Duncombe, 2009) and it is estimated that about 364 million low income, unbanked Africans will use mobile money by 2012 (GSMA, 2010).

Uganda with an estimated population of 32 million with over 10 million mobile phone subscribers (UCC, 2011) and about three million bank account holders (Mugabe, 2009), problems of being under banked and unbanked could be overcome if financial services were delivered over a mobile phone since there are more mobile phone owners than bank accounts (Porteous, 2007). It is also believed that increase in acceptance of mobile money has the ability to enable and catalyze the development of mobile commerce in developing countries (Leishman, 2010).

In Uganda, the telecom companies led by MTN launched mobile money transfer services in 2009 (MTN Uganda, 2010) followed by ZAIN (now Airtel) and UTL under the brand names of MTN Mobile Money, ZAP (now Airtel Money) and M-Sente respectively (Ndiwalana, 2010). Since then the mobile money platform has become popular with the banked, underserved and the unbanked population (Mbogo, 2009).

The rate of acceptance of mobile money highly depends on how individual users perceive innovation attributes such as simplicity, convenience, security, cost, flexibility and accessibility (Porteous, 2007). Perceptions on an innovation have a direct impact on the intention to use and the actual usage of an innovation (Venkatesh, 2000). Mobile money transfer as a new technology in most parts of the world; can either be adopted or rejected by users depending on several factors that affect their perceptions (Ngugi et al 2010).

Although mobile money has a potential to improve financial services in Uganda, the acceptance rate is still low (Lutaaya, 2010). The low acceptance could be attributed to system breakdown, availability is still in the urban and semi-urban areas limiting access to the rural population, limited access to network agents, users not being able to withdraw money from an agent when they want, the money not being reflected on an account, the system being expensive, agents not having sufficient float on their accounts and delays in being able to deposit and withdraw funds (Lutaaya, 2010) This has in turn negatively affected on how customers perceive the innovation thus the low intention to use and actual usage of the innovation. This has resulted into low acceptance and actual usage of mobile money transfer services in the country.

For example, Airtel reportedly has 140,000 active users of its Airtel money services while a total of 1.4 million users with enabled SIM cards for money transfers are not active (Daily Monitor, 2010). This big number of registered users who are inactive may be due to low intention to use the service. MTN reportedly has registered 968,000 customers (both active and non active) of mobile money transfer services (MTN Press Brief, 2010) a small number compared to its total market share of 58% out of the 10,641,110 subscribers (UCC, 2010). In addition Uganda's M-Sente reportedly had a subscription of about 29, 510 as of August 8, 2010 from the time of its launch (Daily Monitor, 2010).

There is also limited scholarly research on acceptance and impact of mobile payments in the developing world (Donner & Tellez 2008). Besides understanding the current usage patterns, this study seeks to explain and predict the acceptance of mobile money transfer services in Uganda basing on psychological perception.

## **1.2 Statement of the Problem**

Despite the benefits derived from using the mobile money transfer services like convenience, flexibility, simplicity and low cost plus its potential of improving the financial services (Mbogo, 2009), its acceptance and usage rate is still low. This is evidenced by the small number of both active and inactive users who are reportedly about 10% out of the 10,641,110 mobile phone subscribers in the country (Bank of Uganda, 2010). The low rate of acceptance and actual usage could be attributed to negative perceptions about the innovation by the users and potential users since it involves the user's voluntary decision to send or receive money through the money platform and this decision is a result of the attitudes and intentions toward trying to learn to use

and the usefulness of the technology. Hence the users' perception about the system becomes vital in making the decision of whether to use or not to use the mobile money platform.

### **1.3 Purpose of the study**

The study sought to establish the relationship between perceived ease of use, perceived usefulness, behavioral intention to use and acceptance of mobile money services.

### **1.4 Objectives of the study**

- I. To examine the relationship between perceived ease of use and perceived usefulness of mobile money services.
- II. To examine the relationship between Perceived ease of use, perceived usefulness and behavioral intention to use mobile money services.
- III. To establish the relationship between behavioral intention to use and acceptance of mobile money services.

### **1.5 Research Questions**

- I. What is the relationship between perceived ease of use and perceived usefulness of mobile money services?
- II. What is the relationship between Perceived ease of use, perceived usefulness and behavioral intention to use mobile money services?
- III. What is the relationship between behavioral intention to use and acceptance of mobile money services?



## **1.6 Scope of the study**

The study was confined to telecommunication innovations acceptance specifically mobile money transfer services using the Technology Acceptance Model (TAM) among mobile phone subscribers in Kampala District. TAM was used because it could be argued that the determinants of adoption of m-banking and m-payment are applicable to m-money (Tobbin et al, 2011). More so, several studies have shown that TAM is a powerful framework that can explain the influence of different factors on the customers' intention to use mobile services (Cheong & Park, 2005; Hung et al., 2003; Kwon & Chidambaram, 2000; Lu et al., 2003).

The study was limited to perceived ease of use and perceived usefulness as the independent variables, behavioral intention to use as a mediating variable and acceptance of mobile money transfer as the dependent variable.

The geographical scope covered Kampala District because it is the hub of entrepreneurial activities and testing TAM requires that the target population is exposed to the innovation being studied. More so, mobile money was first introduced in Kampala District.

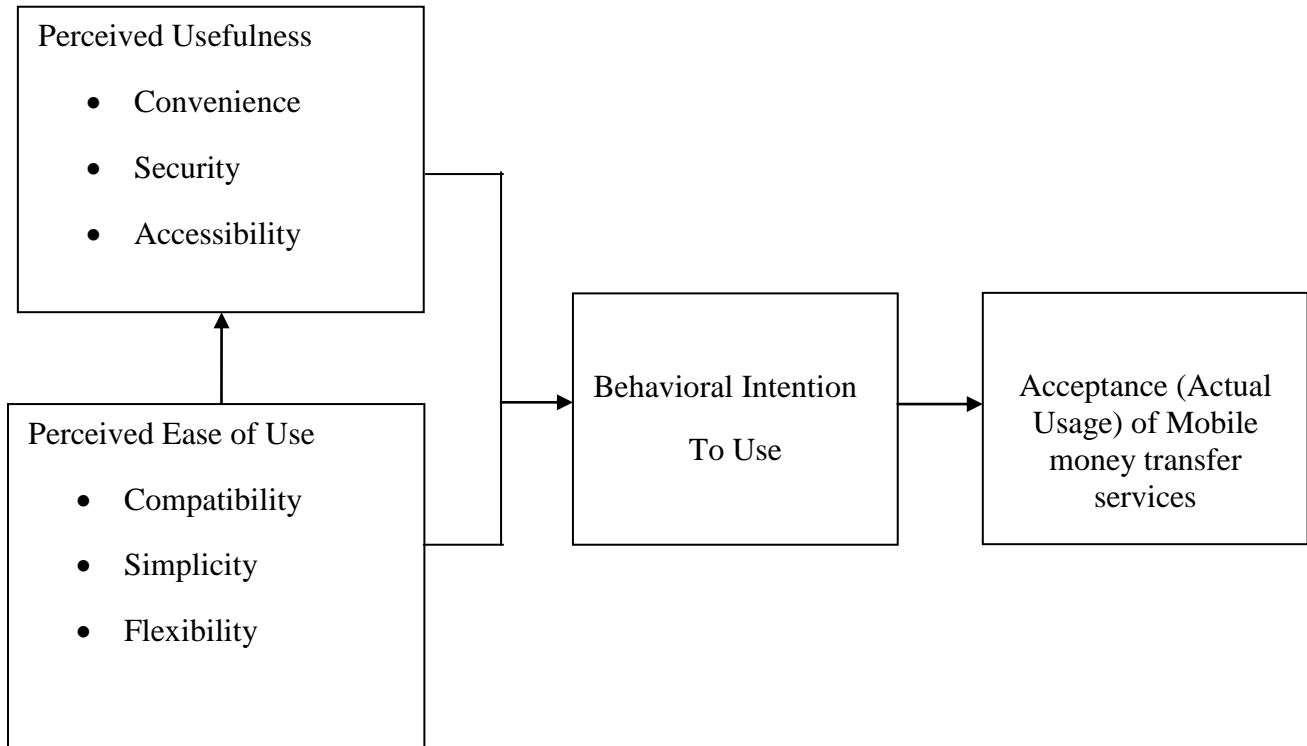
## **1.7 Significance of the study**

- I. The study findings will help telecommunication companies and their partners offer support and advice on the product and also plan for new improvements and developments.
- II. The study will add new practical insights regarding telecommunication innovations acceptance especially concerning the mobile money services in the Ugandan aspect.

- III. Policy makers will use the findings of the study to provide regulations, interventions and enabling environment that enhance telecommunication innovations and their acceptance.
- IV. The study will be useful to service providers that are interested in the mobile money product.
- V. The study will also contribute to the missing gap in the literature.

### Figure 1: The Conceptual Model

The research model below was used to determine the interrelationships amongst Perceived Ease of Use, Perceived Usefulness variables as independent variables, Behavioral Intention to Use as a mediating variable and Acceptance of Mobile Money services as an independent variable.



**Source:** Adapted from Literature Review Davis, 1989, 2000. Venkatesh and Davis, 2000a, b, Mbogo 2009, Venkatesh et al 2003

### Description of the conceptual framework

The Technology Acceptance Model (TAM) posits that perceived ease of use and perceived usefulness determines one's intention to use and actual usage of technology. TAM assumes that perceived ease of use other things being constant, the easier the technology is to use, the more useful it can be. According to TAM, an individual's decision to adopt an innovation is influenced by the individual's perception on ease of use and usefulness.

## CHAPTER TWO

### 2.0 LITERATURE REVIEW

#### 2.1.1 Mobile Money Transfer services

The MMT service is an aspect of a broader concept emerging in the electronic payment and banking industry. Even though mobile money has not been well defined in literature it can be said to include all the various initiatives (long distance remittances, micro payments and informal airtime topping schemes) aimed at bringing financial services to the unbanked using mobile technology. Mobile money is that service that can be accessed and used via a mobile phone (Jenkins, 2008).

It is to be noted that informal methods of remitting funds within Uganda to families and relatives are quite established with numerous difficulties and challenges (Morawczynski, 2009). The choice of remittance depends on accessibility and convenience. The main methods of remittances are through the bus driver, a visiting family or friend.

To access the mobile money service, customers must first register at an authorized agent retail outlet. Customer registration and deposits are free (Mbogo, 2009). They are then assigned an individual electronic money account that is linked to their mobile number and accessible through a SIM card resident application on the mobile phone (Hughes & Lonie, 2007). Customers can deposit and withdraw cash to/from their accounts by exchanging cash for electronic value at a network of retail stores/agents. Once customers have money in their accounts, they can use their phones to transfer funds to other users (even non registered users and persons on other networks), pay bills, purchase mobile airtime credit, pay fees, pay Dstv subscription fees, salaries

and “informally” save on the mobile phone (Mas et al., 2009). The mobile phone’s ability to store value and be used as a means of exchange will depend on the user’s adoption of the telecommunication innovation.

Since MNOs are not legally authorized to handle financial services, the MNOs deposits the full value of its customers’ balances on the system pooled accounts of regulated Partner Banks.

It is for this reason that Telecom companies have made partnerships with commercial banks to offer this service to ensure that the mobile money transfers are fully compliant with financial services regulation (Bank of Uganda report, 2009). MTN is working with Stanbic Bank, UTL with DFCU and Airtel with Standard Chartered Bank along other partners. MNOs and their agents provide an interface between the two sides through cash-in and cash-out functions providing convertibility between mobile money and cash (Morawczynski 2009).

While literature on the adoption of m-banking (Cheong et al 2006, Chen 2008) and m-payment (Wang & Lie 2006) and the more broader scope of m-commerce (Dai & Palvia 2008) although not quite exhaustive have enjoyed significant attention of many scholars in recent times, research on mobile money is at its informative stages. More so, scholarly research on this new phenomenon (mobile money) of bringing financial services to the unbanked is generally said to be scarce (Maurer, 2008).

### **2.1.2 The Technology Acceptance Model**

In recent years, a number of influential models investigating intentions to adopt technology have emerged. These models have their origins in the disciplines of psychology, information systems

and sociology (Venkatesh, Morris, Davis, & Davis, 2003). Among the best known of these is the Technology Acceptance Model (TAM) (Davis, Bagozzi, & Warshaw, 1989) based on the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975, Venkatesh, 2000). Over the years TAM has been tested and applied in the explanation and prediction of future consumer behavior with respect to adoption and acceptance patterns of new technologies and innovations (Legris et al, 2003) amongst others in the mobile service domain (Cheong & Park 2005).

The main aim of TAM is to identify the factors that affect user acceptance of information systems or to explain why they resist accepting these systems. TAM takes the linkages between belief, attitude, intention and behavior. TAM mainly presents two important variables that affect the intention of user towards usage of computer related systems or applications which are “perceived ease of use” and “perceived usefulness. According to TAM, user intention predicts whether people will use the system or not. User behavioral intention towards actual system usage of information systems is determined by his/her attitude. Perceived ease of use and perceived usefulness jointly determine the attitude. Also perceived ease of use affects perceived usefulness. Attitude towards using a technology was omitted by Davis et al. (1989) in their final model (pp. 995–996) because of partial mediation of the impact of beliefs on intention by attitude, a weak direct link between perceived usefulness and attitude, and a strong direct link between perceived usefulness and intention. This was explained as originating from people intending to use a technology because it was useful even though they did not have a positive affect (attitude) toward using. The omission of attitude helps better understand the influence of perceived ease of use and perceived usefulness on the key dependent variable of interest intention.

Furthermore, a key purpose of TAM is to provide a basis for discovering the impact of external variables on internal beliefs, attitudes, intentions, and usage (Davis et al 1989). Comparing TAM to research grounded in Innovation Diffusion Theory (Rogers, 1995) there are more complex set of beliefs to predict adoption. Perceived usefulness in TAM is equivalent to Roger's relative advantage while ease of use is equivalent to complexity. Perceived innovation attributes are very important in explaining the rate of innovation acceptance or usage.

Empirical studies have found that an individual's actual system usage is determined by behavioral intention, which is jointly predicted by perceived usefulness and perceived ease of use. Khalifa and Shen (2008) confirmed that perceived usefulness directly and significantly influences behavioural intention to use a particular system. Extensive research over the past decade has provided evidence that perceived ease of use has a significant effect on behavioral intention to use, either directly or indirectly, through its effects on perceived usefulness (Agarwal and Prasad 1999; Davis et al. 1989; Venkatesh 2000).

The parsimony of TAM combined with its predictive power make it easy to apply to different situations. However, while parsimony is TAM's strength, it is also the model's key limitation. TAM is predictive but its generality does not provide sufficient understanding from the standpoint of providing system designers with the information necessary to create user acceptance for new systems (Mathieson 1991, Venkatesh, 2000).

A another limitation of TAM is that while it provides a valuable insight into users' acceptance and use of technology, it focus only on the determinants of use (Perceived ease of use and

Perceived useful) and does not reveal how such perceptions are formed or how they can be manipulated to foster users' acceptance and increased usage (Mathieson, 1991). The implication is that without a better understanding of the antecedents of Perceived ease of use and Perceived useful practitioners are unable to know which levers to pull in order to affect these beliefs and, through them, the use of technology (.Yousafzai, et al., 2007).

### **2.1.3 Acceptance of Innovations**

Acceptance is the stage at which technology is selected for use by an individual or organization. It is the extent to which an individual is using the new technology (Rogers, 1995). The rate of acceptance refers to the number of individuals who adopt a given innovation over a given time (Ngugi et al 2010). Consumer acceptance is identified as the process traditionally conceptualized as a sequence of steps in which the consumer passes from initial knowledge of the innovation to forming an attitude towards it, to forming an adoption decision (Venkatesh & Davis, 2000). Innovation is defined as “an idea, practice or object that is perceived as new by an individual or another unit of adoption”, while diffusion is “the process by which an innovation is communicated through certain channels over time among the members of a social system” (Rogers, 1995). The concept of acceptance in this study is used to refer to the decision by mobile phone subscribers to use or not to use the Mobile Money services.

### **2.2 Perceived Ease of Use and Perceived usefulness**

Perceived ease of use is the degree to which a person believes an innovation would be free of effort (Saade and Bahil 2005). Technology users perceive a technology as easy to use if it is simple to learn, flexible and compatible with the users' needs and values. It is a construct based



on a person's assessment of the effort involved in the process of using a particular innovation. In mobile money transfer, it includes registration procedures, ease of use of the payment procedure, ease of the payment procedure, easy to access, simplicity of the platform design, the system flexibility and compatibility to the user's values. The service should be accessible on mobile phones with the most basic features and software.

Perceived usefulness in the adoption of mobile services is defined in a broader context to include how well consumers believe mobile services can be integrated into their daily activities (Kleijnen 2004). Perceived Useful is defined as the prospective user's subjective probability that using a specific system will increase his or her job performance (Venkatesh et al, 2003, Chen, 2008). The perceived usefulness of something is its ability to provide a means-end relationship (i.e. the given thing as a means to a desired end), or to provide a rationale upon which to make decisions. Means-end knowledge accounts for why consumers use a product (Barczak et al., 1997). The importance of perceived usefulness is based on the expectancy theory which models the role of beliefs in decision making (Chau, 1996). This theory asserts that the relative attractiveness of various options is related to people's beliefs about the consequences that each option will lead to and their beliefs about the desirability of these consequences. Individuals evaluate the consequences of their behavior in terms of perceived usefulness and base their choice of behaviour on the desirability of the usefulness (Chau, 1996)

Perceived ease of use directly affects perceived usefulness and both determine the behavioral intention to use and eventually to the actual use of the system (Viehland & Leong, 2007). This is supported by prior research that empirically found a positive relationship between perceived ease

of use and perceived usefulness as critical factors on the use of telecommunication technologies (Agarwal et al., 2000). Perceived ease of use and perceived usefulness are considered to be the primary determinants of system usage and intention (Wu & Wang, 2005).

Convenience of usage in adopting telecommunication innovations occur when customers can transfer and withdraw their money at anytime, anywhere, regardless of location. Therefore the easier it is to use a technology, the greater the expected benefits from the technology with regard to performance enhancement. To prevent under usage, the mobile money platform must be both easy to learn and easy to use (Luarn & Li, 2004). The easier it is for a user to interact with a system, the more likely he or she will find it useful (Thong et al., 2004). There is substantial empirical support for this view (Chau, 2001; Hong et al., 2002; Ramayah & Aafaqi, 2004; Ramayah et al., 2004; Lallmahamood, 2007; Shim & Viswanathan, 2007; Amin, 2007).

### **2.3 Perceived Ease of Use, Perceived Usefulness and Behavioral Intention to Use**

An individual's actual system usage is determined by behavioral intention, which is jointly predicted by perceived usefulness and perceived ease of use. Venkatesh (2000) posits that for any emerging innovation, perceived ease of use is an important determinant of users' intention of acceptance and usage behavior. Thus, even if a system is believed to be useful by an individual, if the system is too difficult to use, the potentially enhanced performance benefits to be derived from the system are outweighed by the effort required of having to use it. New ideas that are simpler to understand are adopted more rapidly than innovations that require the adopter to develop new skills and understandings.

Empirical studies have confirmed that perceived usefulness directly and significantly influences behavioral intention to use a particular system. When this belief increases, the consumers' intention to use mobile money will also increase. In consumer behavior analysis, perceived usefulness has been well tested as a determinant for a consumer's intention to use a technology. If mobility and easier accessibility characteristics of mobile money services leads to a consumer's belief that the mobile money system is better than traditional money transfer services then that will affect its perceived usefulness.

Extensive research over the past decade has provided evidence that perceived ease of use has a significant effect on behavioral intention to use, either directly or indirectly, through its effects on perceived usefulness (Agarwal & Prasad 1999; Davis et al. 1989; Venkatesh 1999). Research has proved that there is a significant effect of users' perceived usefulness of an information system on the intention to use the system (Venkatesh et al, 2000). Perceived ease of use was found to be the second most important determinant of a users' behavioral intention towards the system. The ultimate reason why people exploit mobile money transfer services is that they find them useful (Luarn and Li, 2005).

At the pre-implementation stage, users' perceived ease of use of a system was found in some studies not to have a significant and direct effect on their behavioral intention to use the system but instead affect their intentions only through perceived usefulness of the system (Szajna 1996). This finding was later supported by Chau 1996. Chau further split the construct of perceived usefulness into two parts: perceived near-term usefulness and perceived long-term usefulness and reveals that behavioral intention to use a particular technology is dependent on the above

two variables. Near-term usefulness can include aspects such as improved job performance or satisfaction, whereas long-term usefulness is more concerned with the improvement of one's career prospects or social status. Empirical findings have supported hypothesized relationships between perceived near-term and long-term usefulness, and intention to use. The ease of use of a system was found to have no significant direct relationship with its long term usefulness but instead its effects on users' intentions to use the system were through near term usefulness of the system.

It was indicated that unless users perceived an information system as being useful, its ease of use has no effect on the formation of behavioral intentions to use it. A system that is easy to use is less threatening to a user (Moon & Kim, 2001). So a consumer that perceives higher ease of use would develop a higher credibility perception towards the system that results into a positive impact on his/her intention to use the system.

For two systems that have identical functions and the one that is perceived to be easier to use by users would be perceived to be more useful. On the other hand, if a system is perceived useless, its ease of use would not lead to acceptance. One of the reasons why a user would accept to use mobile money transfer services is because of its relative advantage over the other methods of money transfers, otherwise the user would opt for alternatives that he perceives to be easier to use.

## **2.4 Behavioral Intention to Use and Acceptance of mobile money services**

Behavior in the intention-based model is referred to as a manifestation which is observable, single-act criterion which is performed (not-performed) with respect to a specific target in a given situation at a given point of time (Fishbein & Ajzen, 1975). How hard individuals are willing to try, the effort the individuals are planning to exert to perform the particular behavior is the motivational factor captured in intention that subsequently influence behavior (Ajzen, 2002). Behavioral intention to use is a function of attitudes from perceived ease of use and perceived usefulness and thus it is a measure of the strength of one's willingness to exert effort while performing certain behaviors.

Research has shown that users' acceptance and usage of an information technology innovation is determined by their beliefs and attitudes toward that information system. Recent studies have indicated that there is a significant positive correlation between behavioral intention and behavior. In that respect, behavior has been seen as an indicator of usage. Venkatesh et al 2000 found that behavioral intention fully mediated the influence of the other factors on immediate use or short term use of a system but did not have effects on continued use.

Their findings showed that short term is the sole predictor of continued usage not behavior. Behavioral intention does not perfectly correlate with the actual behavior. An individual may be engaged in a less intended choice due to the presence of some constraints (behavioral control factors). In addition, stated intentions often differ from true intentions due to social desirability bias (the tendency to provide the response that is socially expected) or consistency bias (the need to appear consistent to the analyst, which can result in the stated intentions that are consonant

with the previously expressed attitudes, whereas in reality one's actual behavior will be dissonant from those attitudes). However, behavioral intention tends to have a positive association with the actual choice of that behavior. Hence it can be concluded that users' intention to use mobile money transfer services will positively influence their acceptance to use the system

## **CHAPTER THREE**

### **3.0 METHODOLOGY**

#### **3.1 Research Design**

A cross sectional and correlation quantitative design was adopted to evaluate the acceptance of mobile money. Cross sectional design was not only adopted to study the variables at a particular point in time but also because of the limited time available to carry out the research. A correlation approach was used to establish the relationships amongst variables. Regression analysis was also used to determine the predictive power of the independent variables on the dependent variable.

#### **3.2 The study population**

The study population consisted of 10,641,110 mobile phone subscribers (Uganda Communication Commission, 2010). There is no authoritative number of registered and actual mobile money users since MNOs are not mandated to disclose this information to either the financial regulator - Bank of Uganda nor the telecommunication regulator -Uganda Communication Commission (Bank of Uganda, 2009). It is for this reason that respondents were chosen from the mobile phone subscribers because a registered user can send money across all networks even to non registered users. In other words a mobile phone subscriber is a potential user of mobile money.

Testing TAM requires that the target population is exposed to the innovation being studied. Mobile money transfer having been first introduced in Kampala and its suburbs the study was

conducted around Kampala District. It was also reported that most of the transactions are initiated in Kampala ([www.mtn.co.ug](http://www.mtn.co.ug)).

### **3.3 Sampling procedure and sample size.**

The study employed convenience sampling to obtain the number of respondents from the target population of 10,641,110 mobile phone subscribers. The units of analysis were mobile phone subscribers from the target population. A sample size of 384 was chosen basing on Krejcie and Morgan's sampling table and this sample was found to be representative of the population (Krejcie and Morgan 1970).

### **3.4 Data collection, sources and instrument**

Data was collected using both primary and secondary methods.

Secondary data was collected for review of relevant literature about the variables and theories from journal articles, text books, Internet and any relevant publications. For primary data, a close ended questionnaire as an instrument was administered by the researcher to obtain data from respondents. The questionnaire was divided into two that is first part consisted of the background information and the second part comprised of items that measure perceptions and acceptance of mobile money.

### **3.5 Reliability and validity of the Instrument**

The reliability of the instrument was determined using Cronbach's alpha coefficient to measure the internal consistence of the variables. Hence a pre-test on the questionnaire was performed using SPSS to validate the research instrument within the targeted context since its validity may not have been persistent across different technologies and user groups (Straub, 1989, 2004). Data



collected was considered reliable and acceptable for further analysis when the alpha coefficients were more than 0.7 as stated by Nunnally (1978). The results are tabulated as below;

**Table 1: Reliability Coefficients**

<b>Variables</b>	<b>Anchor</b>	<b>Alpha</b>
Perceived Usefulness	5 Point	0.7174
Perceived Ease of Use	5 Point	0.8115
Behavioral intention to Use	5 Point	0.9193
Acceptance (actual Usage) of mobile money	5 Point	0.8769

**Source:** Primary Data

### **3.6 Measurement of Variables**

The independent variables were perceived ease of use and perceived usefulness while the intention to use was the mediating variable and acceptance of mobile money transfer services the dependent variable. A questionnaire was designed and tailored to the study using items from prior technology acceptance studies (Davis, 1989; Venkatesh and Davis, 2000a, b, Straub et al., 2000; Saade and Bahil, 2005, Mbogo, 2009). Perceived ease of use was measured in respect of compatibility, flexibility and simplicity while perceived usefulness was measured in terms of convenience, security and accessibility. Behavioral Intention to use and Acceptance were measured in respect to willingness to use and benefits derived from using mobile money services respectively. The variables were rated on a five point likert scale running from (5) strongly agree to strongly disagree (1) to measure the extent of agreement pertaining to the ease of use and usefulness of mobile money services.

### **3.7 Data Processing, Analysis and Presentation**

Data was compiled, sorted, edited, classified and entered into a computer for analysis using statistical packages for social scientists (SPSS version 16.0). The data was manipulated using cross tabulations. Multiple regression analysis was used to find out the relationship between the dependent variables, mediating variable and independent variable.

## **CHAPTER FOUR:**

### **4.0 PRESENTATION OF FINDINGS, ANALYSIS AND INTREPRETATION**

#### **4.1 INTRODUCTION**

This chapter presents the findings of the study in accordance with and in relation to the research variables and research questions of the study. It gives the demographic characteristics of the respondents, correlation statistics and regression analysis. The variables were Perceived Ease of Use, Perceived Usefulness, Behavioral Intention to Use and Acceptance of Mobile Money services. The presentation was guided by the following objectives;

- I. To examine the relationship between perceived ease of use and perceived usefulness of mobile money services.
- II. To examine the relationship between Perceived ease of use, perceived usefulness and behavioral intention to use mobile money services.
- III. To establish the relationship between behavioral intention to use and acceptance of mobile money services.

#### **4.2. DEMOGRAPHIC STATISTICS**

The sample characteristics of the respondents include age group, gender, mobile phone ownership, mobile money awareness, mobile money registration and frequency of usage of mobile money services. The results from the demographic characteristics are presented through statistics in cross tabulations format.

**Table 2: Age Group and Gender Distribution**

			Gender		Total	
			Male	Female		
Age Group	18 - 25 yrs	Count	69	58	127	
		Column %	44.8%	55.2%	49.0%	
	26 - 30 yrs	Count	53	23	76	
		Column %	34.4%	21.9%	29.3%	
	31 - 35 yrs	Count	20	13	33	
		Column %	13.0%	12.4%	12.7%	
	36 - 40 yrs	Count	8	5	13	
		Column %	5.2%	4.8%	5.0%	
	Above 40 yrs	Count	4	6	10	
		Column %	2.6%	5.7%	3.9%	
	<b>Total</b>		Count	154	105	259
			Sample %	<b>59.5%</b>	<b>40.5%</b>	<b>100.0%</b>

**Source: Primary Data**

It is clear that the sample was dominantly male (59.5%) and females were the minority (40.5%). The results indicate that among the males, the majority were between the age of 18 – 25 (44.8%). Only 2.6% of the males were above 40years of age. Among females, the trend was slightly different, most were in the 18 – 25 years of age but the least proportion was to be noted in the 36 – 40 year age bracket (4.8%).

**Table 3: Gender and registration with mobile money services**

			Gender		Total
			Male	Female	
Are you Registered with mobile money services	Yes	Count	119	82	201
		Column %	77.3%	78.1%	77.6%
	No	Count	35	23	58
		Row %	60.3%	39.7%	100.0%
		Column %	22.7%	21.9%	22.4%
	Total		Count	154	105
Sample %			59.5%	40.5%	100.0%

**Source: Primary Data**

The results indicate that 77.3% of the male respondents are registered users of mobile money while 22.7% are not registered. 78.1% of the female respondents are registered and 21.9% are not registered users. This implies that women are using mobile money services more than their male counter parts.

**Table 4: Marital Status and registration with mobile money services**

			Are you Registered with mobile money services		Total	
			Yes	No		
Marital Status	Married	Count	53	18	71	
		Column %	26.4%	31.0%	27.4%	
	Single	Count	136	34	170	
		Column %	67.7%	58.6%	65.6%	
	Divorced	Count	5		5	
		Column %	2.5%		1.9%	
	Widowed	Count	1	2	3	
		Column %	.5%	3.4%	1.2%	
	Separated	Count	6	4	10	
		Column %	3.0%	6.9%	3.9%	
	Total		Count	201	58	259
			Sample %	77.6%	22.4%	100.0%

The results above show that single people were the majority registered users of mobile money at 67.7% followed by married people at 26.4%. The trend was different among the divorced, separated and widowed with 2.5%, 3.0% and 0.5% respectively.

**Table 4: Hearing and means of hearing about Mobile Money Services**

			Have you heard about mobile money services		Total
			Yes	No	
<b>Means of hearing about Mobile Money Services</b>	Friends	Count	37		37
		Column%	14.7%		14.3%
	Family & Relatives	Count	26		26
		Column%	10.3%		10.0%
	Media	Count	189	7	196
		Column%	75.0%	100.0%	75.7%
<b>Total</b>		Count	252	7	259
		<b>Sample %</b>	<b>97.3%</b>	<b>2.7%</b>	<b>100.0%</b>

**Source: Primary Data**

A cross tabulation between the means of hearing about mobile money and the mode through which they heard about mobile money reveal that 97.3% of the respondents had heard about mobile money. 75% of the respondents had heard about Mobile money through the media, 14.7% through friends and 10.3% through family and relatives. Only 2.7% had not heard about mobile money services. This implies that Mobile money services providers’ mega promotions have yielded the awareness desired about the service therefore should continue advertising to create awareness about the different applications on the mobile money platform.

**Table 6: Income level per month and registration with mobile money services**

		Are you Registered with mobile money services		Total	
		Yes	No		
Income level per month	Less than 100,000	Count	42	16	58
		Column %	20.9%	27.6%	22.4%
	100,000 - 500,000	Count	111	29	140
		Column %	55.2%	50.0%	54.1%
	500,001 - 1,000,000	Count	27	11	38
		Column %	13.4%	19.0%	14.7%
	Over 1,000,000	Count	21	2	23
		Column %	10.4%	3.4%	8.9%
Total		Count	201	58	259
		Sample %	77.6%	22.4%	100.0%

**Source: Primary Data**

From the above analysis it can be deduced that majority (55.2%) of the registered mobile money users are in the income bracket of 100,000-500,000, followed by those individuals with less than 100,000 shillings at 20.9%, the minority users are those with an income above 1,000,000 shillings at 10.4%. This implies that mobile money is majorly used by average and low income earners.



**Table 7: Registration with mobile money services and Service Provider used**

			Are you Registered with mobile money services		Total
			Yes	No	
<i>Mobile Money Service Provider Used most</i>	<b>MTN</b>	Count	186	57	243
		Column %	92.5%	98.3%	93.8%
	<b>UTL</b>	Count	15	1	16
		Column %	7.5%	1.7%	6.2%
<b>Total</b>		Count	201	58	259
		Sample %	77.6%	22.4%	100.0%

**Source: Primary Data**

From table 7 above, it can be deduced that the majority of the respondents (77.6%) were registered users of mobile money services and 22.4% were not registered users. 92.5% of the registered users were using MTN Mobile Money services while 7.5% were using UTL's M-Sente. This implies that MTN is the biggest service provider of mobile money services this may be attributed to the fact that it has the biggest market share.

**Table 8: Highest level of education and registration with mobile money services**

			Are you Registered with mobile money services		Total	
			Yes	No		
Highest level of education	No Formal Education	Count		1	1	
		Column %		1.7%	.4%	
	Below Diploma	Count	37	27	64	
		Column %	18.4%	46.6%	24.7%	
	Diploma	Count	31	10	41	
		Column %	15.4%	17.2%	15.8%	
	Degree	Count	110	17	127	
		Column %	54.7%	29.3%	49.0%	
	Post Graduate	Count	22	1	23	
		Column %	10.9%	1.7%	8.9%	
	Professional	Count	1	2	3	
		Column %	.5%	3.4%	1.2%	
	Total		Count	201	58	259
			Sample %	<b>77.6%</b>	<b>22.4%</b>	<b>100.0%</b>

**Source: Primary Data**

The above results indicate that majority of the registered users have a degree (54.7%), followed by individuals with qualifications below a diploma at 18.4%. The minority registered users are those with post graduate and professional qualifications at 10.9% and 0.5% respectively. While those with qualifications below a diploma make the biggest percentage of unregistered users at 46.6%. These results imply that most of the registered users have received some formal education.

**Table 9: Registration with mobile money services and Possession of Bank Account**

			<i>Do you have a Bank Account</i>		<b>Total</b>
			Yes	No	
<i>Are you Registered with mobile money services</i>	Yes	Count	164	37	201
		Column %	81.6%	63.8%	77.6%
	No	Count	37	21	58
		Column %	18.4%	36.2%	22.4%
<b>Total</b>		Count	201	58	259
		sample %	<b>77.6%</b>	<b>22.4%</b>	<b>100.0%</b>

**Source: Primary Data**

The results indicate that 81.6% of the registered respondents have bank accounts while 18.4% did not have bank accounts. Among the non registered users, 63.8% have bank accounts while 36.2% are neither registered users of mobile money services nor do they own bank accounts. These results imply that mobile money is being utilized majorly by the banked.

**Table 10: Age Group and registration with mobile money services Distribution**

		Are you Registered with mobile money services		Total		
		Yes	No			
Age Group	18 - 25 yrs	Count	100	27	127	
		Column %	49.8%	46.6%	49.0%	
	26 - 30 yrs	Count	66	10	76	
		Column %	32.8%	17.2%	29.3%	
	31 - 35 yrs	Count	25	8	33	
		Column %	12.4%	13.8%	12.7%	
	36 - 40 yrs	Count	9	4	13	
		Column %	4.5%	6.9%	5.0%	
	Above 40 yrs	Count	1	9	10	
		Column %	.5%	15.5%	3.9%	
	Total		Count	201	58	259
			Sample %	77.6%	22.4%	100.0%

**Source: Primary Data**

It is clear that 77.6 of the registered users of mobile money majority were in the age group of 18-25 at 49.8%, followed by 32.8% (26-30) and above 40 years as minority at 0.5%. Among the unregistered users, most were 18-25 years of age (46.6%) and the least proportion was to be noted in the 36-40 years age bracket (6.9%). This implies that the young adults have widely accepted mobile money compared to their much older counterparts.

**Table 11: Receives Money from and Occupation status**

			Occupation status				Total	
			Student	Self Employed	Unemployed	Employed		
If Yes, who sends you the money	Parents	Count	17	6	3	4	30	
		Column %	20.7%	9.0%	12.0%	4.7%	11.6%	
	Children	Count	1	2	1	1	5	
		Column %	1.2%	3.0%	4.0%	1.2%	1.9%	
	Friends	Count	53	41	17	62	173	
		Column %	64.6%	61.2%	68.0%	72.9%	66.8%	
	Relatives	Count	11	2	3	10	26	
		Column %	13.4%	3.0%	12.0%	11.8%	10.0%	
	Business Partners	Count		16	1	8	25	
		Column %		23.9%	4.0%	9.4%	9.7%	
	Total		Count	82	67	25	85	259
			Sample %	31.7%	25.9%	9.7%	32.8%	100.0%

**Source: Primary Data**

The findings from the table above indicate that 32.8% of the respondents are employed, 31.7% students, 25.9% are self employed, and 9.7% are unemployed. The results indicate that students receive money from mostly parents and friends. The results also indicate that all kinds of occupation mostly receive money from friends (66.8%). The self employed receive money from business partners (23.9%). It may be deduced that business individuals are slowly embracing mobile money services.

**Table 12: Registration with mobile money services and Network provider offers Mobile Money Services**

		Does your Network provider offer Mobile Money Services		Total	
		Yes	No		
<b>Are you Registered with mobile money services</b>	<b>Yes</b>	<b>Count</b>	<b>201</b>		
		Column %	85.2%	77.6%	
	<b>No</b>	Count	35	23	58
		Column %	14.8%	100.0%	22.4%
<b>Total</b>		Count	236	23	259
		Column %	91.1%	8.9%	100.0%

**Source: Primary Data**

It is clear that 91.1% of the sample is subscribed to mobile networks that offer mobile money services. 85.2% of the respondents that were registered with mobile money services were using it probably because their Mobile Network provider was offering the service. 14.8% of the sample with access to mobile money services were not registered users. 8.9% of the respondents did not have access to mobile services because it was not being offered by the mobile network providers they subscribe to.

### 4.3 Relationship between variables

Pearson correlations (r) were used to examine the relationship between the variables and the results are indicated as below;

**Table 13. Correlation analysis**

	1	2	3	4	5	6	7	8	9	10
Convenience-1	1.000									
Accessibility-2	.518**	1.000								
Security-3	.361**	.389**	1.000							
<b>Perceived Usefulness-4</b>	.689**	.539**	.382**	1.000						
Compatibility-5	.355**	.342**	.360**	.361**	1.000					
Simplicity-6	.522**	.452**	.327**	.490**	.511**	1.000				
Flexibility-7	.555**	.402**	.403**	.501**	.306**	.478**	1.000			
<b>Perceived Ease of Use-8</b>	.533**	.467**	.443**	.489**	.329**	.644**	.616**	1.000		
<b>Behavioural Intention To Use-9</b>	.517**	.379**	.430**	.410**	.308**	.382**	.465**	.451**	1.000	
<b>Acceptance of Mobile Money -10</b>	.604**	.442**	.510**	.527**	.299**	.445**	.605**	.615**	.658**	1.000
** Correlation is significant at the 0.01 level (2-tailed).										

#### 4.3.1 Perceived Ease of Use and Perceived Usefulness of mobile money services.

There was a positive significant relationship between Perceived Ease of Use and Perceived Usefulness of mobile money services ( $r = .489^{**}$ ,  $p < .01$ ). This means that ease of use positively influences perceived usefulness. This implies that a system that is easy to use will be perceived to be more useful compared to a difficult one.

#### **4.3.2 Perceived ease of use and behavioral intention to use mobile money services.**

The results revealed that Perceived ease of use is positively related to behavioral intention to use mobile money services ( $r = .451^{**}$ ,  $p < .01$ ). The results further show that the components of Perceived ease of use i.e. compatibility, simplicity and flexibility were all positively related to behavioral intention to use mobile money services with the following parameters ( $r = .308^{**}$ ,  $p < .01$ ), ( $r = .382^{**}$ ,  $p < .01$ ) and ( $r = .465^{**}$ ,  $p < .01$ ) respectively. This implies that the more people will perceive mobile money system as easy to use, the more their intention and willingness to use the system will increase.

#### **4.3.3 Perceived usefulness and behavioral intention to use mobile money services**

The results revealed that Perceived usefulness is positively related to behavioral intention to use mobile money services ( $r = .410^{**}$ ,  $p < .01$ ). The results further show that the components of Perceived usefulness i.e. convenience, accessibility and security were all positively related to behavioral intention to use mobile money services with the following parameters ( $r = .517^{**}$ ,  $p < .01$ ), ( $r = .379^{**}$ ,  $p < .01$ ), and ( $r = .430^{**}$ ,  $p < .01$ ) respectively. The results imply that perceived usefulness highly influences the behavioral intention to use mobile money services that is if people perceive a technology as useful their behavioral intention to use increases.

Conclusively, when a system is perceived to be useful and user friendly, learning to use it becomes much easier, thus the intention by the user to use would increase.



#### **4.3.4 Behavioral Intention to use and acceptance of mobile money services**

Results indicated a strongly positive relationship between Behavioral Intention to use and Acceptance of mobile money services ( $r = .658^{**}$ ,  $p < .01$ ). Behavioral Intention measures how hard an individual is willing to try or the strength of the intended effort to perform a behavior (Ajzen, 1991). The above results imply that the stronger an individual's behavioral intention to use mobile money services, the more likely s/he is to perform that behaviour.

#### **4.3.5 Perceived ease of use and Acceptance to use mobile money services**

The results revealed that perceived ease of use is positively related to acceptance of mobile money services ( $r = .615^{**}$ ,  $p < .01$ ). The results further show that the components of perceived ease of use i.e. Compatibility, simplicity and flexibility were all positively related to acceptance to use mobile money services with the following parameters ( $r = .299^{**}$ ,  $p < .01$ ), ( $r = .445^{**}$ ,  $p < .01$ ) and ( $r = .605^{**}$ ,  $p < .01$ ) respectively. This implies that the easier the mobile money services can be used without any disturbances the more users will be willing to use it for their financial needs.

#### **4.3.6 Perceived usefulness and Acceptance to use mobile money services**

The results revealed that perceived usefulness is positively related to acceptance of mobile money services ( $r = .527^{**}$ ,  $p < .01$ ). The results further show that the components of perceived usefulness i.e. convenience, accessibility and security were all positively related to Acceptance of mobile money services with the following parameters ( $r = .604^{**}$ ,  $p < .01$ ), ( $r = .442^{**}$ ,  $p < .01$ ), and ( $r = .510^{**}$ ,  $p < .01$ ) respectively. This implies that the more users feel that the mobile money system is useful, the higher their acceptance level.

#### 4.4 Regression Model

With the help of the regression model, the researcher predicted the extent to which Perceived Ease of Use, Perceived Usefulness and Behavioral Intention to Use can determine the Acceptance of Mobile Money. The model shows the extent to which independent variables influence the dependent variable.

**Table 14. Multiple Regression Model**

In order to determine how the study variables are related, a prediction model was developed using multiple regression analysis.

	<i>Unstandardized Coefficients</i>		<i>Standardized Coefficients</i>	t	Sig.
	B	Std. Error	Beta		
Model					
(Constant)	.480	.199		2.413	.017
Perceived Usefulness	.196	.050	.193	3.963	.000
Perceived Ease of Use	.373	.057	.324	6.489	.000
Behavioral Intention To Use	.343	.038	.431	9.023	.000
Dependent Variable: Acceptance of Mobile Money					
R Square	.585				
Adjusted R Square	.580				
F Statistic	114.954				
Sig.	.000				

**Source: Primary Data**

The results in the above table indicate that a combination of Perceived Usefulness, Perceived Ease of Use and Behavioral Intention to Use have 58% (Adjusted R square= 0.580) predictive potential for acceptance/adoption. This means that 58% of the variance in Acceptance of Mobile Money is attributed to perceived ease of use, perceived usefulness and behavioral intention to use. The regression model was significant (sig. <.000) and therefore fit for the study. All these variables, perceived ease of use (Beta=.324, t=6.489, p=.000), perceived usefulness (Beta=.193,

$t=3.963$ ,  $p=.000$ ) and behavioral Intention to Use (Beta = .431,  $t=9.023$ ,  $p=0.000$ ) are significant predictors of acceptance.

This implies that if you know the level of one's perceptions regarding ease of use and usefulness of the mobile money platform, it is possible to predict his or her level of acceptance of the system.

Behavioral intention to use is a statistically significant predictor of acceptance therefore it can explain an increase or decrease in the acceptance of mobile money services. This implies that if you know the level of one's willingness to use mobile money services, it becomes easy to predict his or her intentions to use the mobile money system.

## CHAPTER FIVE

### 5.0 DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

In this chapter the findings of the study are discussed, conclusions are drawn, recommendations are presented and areas for further research identified. As indicated the research investigated the relationship between Perceived Ease of Use, Perceived Usefulness, Behavioral Intention to Use and Acceptance of Mobile Money services.

The discussion is guided by the objectives and research questions stated in chapter one of this report. The study aimed at getting answers to research questions referred to above. Guidance was derived from analyses of recognized scholars in the area of technology acceptance and adoption from the reviewed literature. The research was guided by the following objectives;

- i) To examine the relationship between perceived ease of use and perceived usefulness of mobile money services.
- ii) To examine the relationship between Perceived ease of use, perceived usefulness and behavioral intention to use mobile money services.
- iii) To establish the relationship between behavioral intention to use and acceptance of mobile money services.

The above objectives were summarized into a purpose of the study as stated below; establish the relationship between perceived ease of use, perceived usefulness, behavioral intention to use and acceptance of mobile money services among mobile phone users in Uganda.

## **5.1 DISCUSSION OF MAJOR FINDINGS**

### **5.1 .1 Relationship between Perceived Ease of Use and Perceived Usefulness**

It was established from the study that Perceived ease of use of mobile money services has a positive impact on perceived usefulness. This means that users, who perceive an innovation as easy to interact with, find it useful in meeting their needs. In other words, if the mobile money platform can be used by mobile phone subscribers to accomplish different financial transfers and payments, such a system will be accepted. More so, if the users find the system as easy to use, they will find it useful. When customers perceive the system as difficult to use, it is likely they will have difficulty in recognizing the usefulness of the technology.

This is line with Rogers (1985) findings in which he asserts that “ease of use is an antecedent of useful”. All other factors being constant, the easier a technology is to use, the less effort needed to operate it and the more effort one can allocate to other activities.

This result is also in line with previous studies on this link (Chau, 2001; Hong et al., 2002; Lallmahamood, 2007; Shim & Viswanathan, 2007; Ramayah & Aafaqi, 2004; Ramayah et al. 2004; Thong et al., 2004; Amin, 2007) who found a positive effect of perceived ease of use on perceived usefulness. This indicates that if users find that the mobile money system is easy to use, they will find the system useful in meeting their financial needs.

### **5.1.2 Relationship between Perceived Ease of Use, Perceived Usefulness and Behavioral Intention to Use**

There was a significant positive relationship between perceived ease of use, perceived usefulness and behavioral intention to use. Behavioral intention was significantly determined by perceived usefulness and perceived ease of use. Perceived ease of use has a direct effect on perceived usefulness and both determine the consumers' toward use, which leads to behavioral intention to use the system and actual use of the system. This means that mobile phone users' intentions to use will increase if they find the system easy to use and useful. A perceived easy and clear interaction between the user and the mobile money service promotes interest and consequently leads to the consumer's intention to use the technology. This means that the combined effects of perceived ease of use and perceived usefulness explain the variance in behavioral intention. This confirms the original TAM relationship between perceived ease of use, perceived usefulness and intention to adopt new technology.

The finding is also in line with a study by Venkatesh et al., (2003) of the consistently prominent factors in explaining and predicting consumer behaviour in a variety of adoption models are perceived usefulness and perceived ease of use. The findings are also in conformity to other studies where TAM has been tested (Davis et al 1989; Venkatesh et al, 2000; Mbogo 2009; Cheong & Park, 2005; Hung et al, 2003, Lu et al, 2003), all discovered the direct interrelationships between perceived ease of use, perceived usefulness and behavioral intention to use. In order to prevent the "under-used" system problem, mobile money transfer must be both easy to learn and easy to use (Luarn and Lin, 2004).

In this study, Perceived ease of use was found to have a more significant effect on behavioral intention to use. There are also many researches that have found ease of use to be influential in system usage (Adams, Nelson & Todd, 1992; Davis, 1989; Ramayah, Siron, Dahlan, & Mohammad, 2002; Ramayah & Jantan, 2004). Wang et al., (2003) in their study on determinants of user acceptance of internet banking found that Perceived ease of use exerted a stronger influence on behavioral intention than perceived usefulness. Similarly, Davis (1989) found the direct effect of Perceived Ease of Use on intentions to be stronger in the early stages of learning and behaviour. This may be true since mobile money is a new phenomenon in the money transfer business.

Perceived Ease of Use is a dynamic construct with varying levels and effects depending upon whether the type of use is intrinsic or extrinsic to the technology Straub et al., (2000). Straub concluded in their research on relative importance of Perceived Ease of Use in Information System Adoption that by controlling exogenous factors when comparing the two types of intentions to use a system it is the task or type of intended use that seems to determine whether Perceived Ease of Use directly affects use-intention.

However, past studies on technology adoptions have consistently showed that perceived usefulness has a stronger influence on users' intentions to adopt the technology. Jeyaraj et al. (2006) in their review of technology adoption studies from 1992-2003, found that of the 29 studies on technology adoptions, perceived usefulness was found to be significant in 26 of the studies.

As Davis et al (1989) noted, future technology acceptance research needs to address how other variables affect usefulness, ease of use and user acceptance. Therefore, perceived ease of use and perceived usefulness may not fully reflect the user's intention to adopt a technology necessitating a search for additional factors that can explain and predict the acceptance of technological innovations.

### **5.1.3 Behavioral Intention to Use and Acceptance of Mobile Money**

The study established a strong positive significant relationship between behavioral intention to use and acceptance of mobile money. Acceptance of mobile money is highly influenced by positive behaviour intentions of users towards it. This result concurs with previous studies of (Davis et al 1989; Mathieson, 1991; Hu, et al., 2003; Venkatesh et al, 2000; Mbogo 2009; Cheong & Park, 2005; Lu et al, 2003,) who concluded that there is a strong link between intention and actual behaviour. Behavioral intention to use is a function of attitudes from perceived ease of use and perceived usefulness and thus it is a measure of the strength of one's willingness to exert effort while performing certain behaviors (Venkateshet et al., 2003)

Venkatesh et al., (2000) also found that behavioral intention fully mediated the influence of the other factors on immediate use or short term use of a system but did not have effects on continued use. However in another study carried by Venkatesh (2003) it was found that behavioral intention does not perfectly correlate with actual behavior. An individual may be engaged in a less intended choice due to the presence of some constraints (behavioral control factors). In addition, stated intentions often differ from true intentions due to social desirability bias (the tendency to provide the response that is socially expected) or consistency bias (the need to appear consistent to the analyst, which can result in the stated intentions that are consonant



with the previously expressed attitudes, whereas in reality one's actual behavior will be dissonant from those attitudes).

## **5.2 Conclusions**

The study aimed at establishing mobile money acceptance in the country. The research was also in response to the gap in scholarly work in the area of mobile money acceptance.

This study found out that mobile money usage is rapidly growing in the country. Since the technology is being spread into the rest of the country, it is concluded that the ultimate usage of mobile money services will increase tremendously. The study revealed that 77.6% of the respondents were registered on the mobile money system. The final conclusion is that mobile money and other technological innovations command high acceptance in Uganda.

The study aimed at establishing the relationship between perceived ease of use and perceived usefulness of mobile money transfer system, as well as the relationship between perceived ease of use, perceived usefulness and behavioral intention to use the system as well as the relationship between behavioral intention to use and acceptance of mobile money system. The inferential statistical data analysis provided evidence of existing relationships amongst the variables. The conclusions derived from the study are that there exists a strong, direct and positive relationship between perceived ease of use and perceived usefulness.

Similarly there exists a direct strong relationship between perceived usefulness and acceptance of mobile money services. Perceived ease of use, perceived usefulness, and behavioral intention to use are the major variables in the Technology Acceptance Model (TAM) by Davis et al 1989. This model has consistently indicated the above relationships even when tested in different environments. This study conducted on a new telecommunication innovation and in a developing

country has further confirmed the model's universal applicability and validity. Behavioral intention was proposed to have a significant influence on the user's acceptance decision of mobile money. The evidence revealed by this study and previous studies has implications to system developers, especially at the level of system planning, development and implementation. This leads to the conclusion that TAM should be an important tool in system design, development and implementation. In order to achieve this goal, attention must be given to designing easy to use and useful systems.

Conclusively, the contribution of this study to technology acceptance research is twofold. The study extends the literature by applying the TAM in a new technological context (mobile money system) in a developing country that is quite different from the systems examined in prior studies. Previous studies have highlighted the need to extend TAM to different contexts to be validated and to enhance its generalizability (Yoo & Donthu, 2001, Parasuraman & Malhotra ,2000). Perceived ease of use and Perceived usefulness were found to be significant antecedents of the intention to use mobile money services. Second, Behavioral intention to use as a mediating variable was found to be the most significant element in determining mobile money acceptance and usage.

### 5.3 Recommendations

These are derived from conclusions and implications that were drawn from the study.

- i. Mobile Network Operators, Banks should adopt the Technology Acceptance Model (TAM) when planning and implementing new technological innovations.
- ii. System designers and developers should endeavor to achieve user friendliness in a technological system so as to increase the end users' perceived ease of use of the system. This is because perceived ease of use influences the users' perception of the usefulness of the system; if users find the system easy to use then it is perceived to be useful. Hence perceived ease of use is a primary motivator to perceived usefulness of technological innovations and thus both being motivators for system acceptance or usage.
- iii. Practitioners, who might have been guided by previous TAM studies to underestimate the importance of PEOU, should reconsider the extent to which PEOU affects system use. PEOU is important and does influence intended use, but its effects are task-dependent. Consequently, when advertising, marketing, or implementing new systems, mobile money service providers might find it beneficial to advocate the ease of use of the system for given tasks rather than present it in a task-independent manner.
- iv. MNOS may find it useful to advertise the benefits of mobile money hence Management attention should be focused on the development of belief. They should employ training and promotion approaches to develop the customers' beliefs of usefulness and ease of use of the system, which in turn will influence the behavioral intention to use mobile money services.

- v. A balanced approach is required for money transfer regulation of Mobile Network Operators wishing to offer Mobile money services independently from banks as opposed to the current situation where MNOs are not directly responsible for the virtual Mobile Money accounts for their Mobile Money registered users.

#### **5.4 Limitations and Areas for further Research**

- i. The study revealed empirical evidence of the existence of the relationships mentioned in the preceding chapters. However, the study provided empirical evidence that system acceptance or usage is not solely influenced by the variables included in the Technology Acceptance Model used in this study. This evidence is apparent in the correlation and regression coefficients derived in the study. The results from the study indicated that the studied variables explain or predict 58% in the acceptance of mobile money services. It is therefore, recommended that further research be conducted to find out the actual effect of those variables to mobile money system usage.
- ii. The discussed findings and their implication are obtained from one single study that examined a particular technology and targeted respondents in Kampala District with a large percentage of the respondents being young adults. In order to reduce on the bias accruing from studying one district, future research can be extended to include more districts other than Kampala District.
- iii. Future research can also examine whether mobile money system characteristics such as mobile money platform design and feedback have an influence on the acceptance of mobile money transfer services.

- iv. This study was conducted with a cross sectional design approach, additional research efforts are needed to evaluate the validity of the investigated model and the research findings (Poon, 2004). Longitudinal evidence might enhance the understanding of the causality and the interrelationships between variables that are important to the acceptance of mobile money system.
- v. Study how competing models like innovation diffusion theory (IDT), Unified theory of acceptance and use of technology (UTAUT), Theory of Reasoned Action (TRA) and Theory of Planned Behavior (TPB) compare with TAM in terms of predicting acceptance of mobile money.
- vi. Further research should be carried out to study the different kinds of adopters of mobile money and further study the effects of Perceived ease of use on mobile money in the long run.
- vii. Further research needs to incorporate the quality perspective of mobile money because in Uganda the quality of mobile money is low which could be a limiting factor as to why some people are not accepting or using mobile money.

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