

Kenya each having launched a mobile money product. These

Transaction Costs and Facilitating Conditions as Indicators of the Adoption of Mobile Money Services in Kenya



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Abstract : Kenya is depicted as one of the fastest growing mobile money ecosystem in the world. In addition to the traditional text and voice services, all mobile phone service providers in Kenya have incorporated mobile money as a core business function. Mobile money is viewed as a key driver that will 'leap' frog the economy of Kenya, bringing poor people into financial system who have been for a long time been excluded by financial institutions. Despite the positive advancements in mobile money, transaction cost and facilitating conditions remains a major hindrance to the adoption on mobile money services. This paper investigates impact of transaction cost and facilitating conditions in the adoption of mobile money in Kenya. A survey was conducted to gather data which was coded in SPSS 16. Confirmatory Factor Analysis was used to analyze the data and Structural Equation Modeling using Analysis of Moment Structures was used to validate the research model. The research model included three main components; transaction cost, facilitating conditions and adoption. The model was developed based on a review of technology adoption models. The analysis revealed that facilitating conditions impact positively to the adoption of mobile money services. Results demonstrate that facilitating conditions do influence adoption usage of mobile money services.

Keywords: Transaction costs, mobile money services, facilitating conditions, adoption studies

INTRODUCTION

Mobile Money is a digital repository of electronic money developed and implemented on a mobile device allowing peer-to-peer transaction between users of the same service provider [1]. In Kenya, mobile money is viewed as a transformative financial service contributing significantly to financial inclusion for the poor [2]. There has been implausible uptake and growth of mobile money across Kenya since its inception in March 2007. The mobile money industry is continuing to grow rapidly. For instance, there were almost 30 million active users of mobile money services of the 81.8 million registered customers globally who performed 224.2 million transactions totaling \$4.6 billion which represents twice as many mobile money users than Facebook users in Sub-Saharan Africa [3]. With over 520,000 registered agent outlets, there are just as many mobile money outlets globally as Western Union points of sale. There are clear indications that mobile money is bound to grow more in the future.

Kenya has been successful in the adoption of mobile money services. There are four mobile network operators in

include Safaricom operating Mpesa mobile money service, Airtel operating Airtel Money, Telkom Orange operating Orange Money and Yu operating Yu Cash money services. The market share proportion of the four mobile money service providers as at March 2013 was Safaricom's Mpesa (63.2%), Airtel Kenya's Airtel Money (16.8%), Telkom Orange's orange money (10.2%) and Yu Essar Yu Cash (9.9%) [4]. All the four mobile operators started off with domestic money transfer but have continued to add services like airtime purchase, bill payment, bank account link among others. As of June 2012, there were over 17 million mobile money subscribers in Kenya.

Despite these immense advancements in mobile money industry, the adoption of mobile money products remains low in Kenya, a pointer that there could be several factors that hinder the adoption of mobile money services. Some of the factors pointed out in literature include perceived usefulness, ease of use, credibility, facilitating conditions, trust, demographics and socio-economic forces [5]-[8]. Other studies identify regulation as an external factor that can affect the adoption of a service. This study explores the impact of transaction cost and facilitating conditions in the adoption of mobile money in Kenya. We propose the following two hypotheses.

H1: Transaction costs directly influence the user's adoption of mobile money services.

H2: Facilitating conditions positively impacts the adoption of mobile money services

In this paper, we investigate how transaction cost and facilitating conditions might affect the adoption of mobile money services. Further, the relationship between transaction cost and facilitating conditions in the adoption of mobile money is also explored. Quantitative data is used to provide empirical evidence that transaction cost and facilitating conditions need to be factored in when deploying and evaluating adoption of mobile money products.

The rest of this paper is structured as follows. The second section presents related work, the third section presents research methodology, the fourth section presents the results of the study, and the fifth section presents a discussion of the implications of the same results. Finally, the sixth section presents the conclusions of the study.

RELATED WORK

Basic Concepts

Mobile Money transfer uses a wireless network infrastructure to facilitate the exchange of money value between the various actors. The advent of Mobile Money service in Kenya has facilitated financial inclusion among the poor and seen many people, irrespective of their social status, utilize the service. Though the transaction costs of sending money through the mobile payment technology are lower than those of banks, money transfer companies costs remain a major hindrance to the adoption of mobile money products [9]. The cost of paying a transaction has a direct effect on consumer adoption of mobile money services [10]. Transaction costs should be low to make the cost of mobile payment affordable hence competitive to the poor. There are many different mobile handsets which are easy to operate and have the functionalities required for the mobile payment technology, hence the cost of the mobile handset device is not a hindrance to adoption of the mobile money services when compared to the cost of transactions.

Facilitating conditions are useful to organizations since they assist them prioritize their resources. Reliable and responsive customer support services, customer education around product features, availability of liquidity, and marketing around each of these aspects are key aspects in facilitating the adoption of mobile money services. Many consumers are not technologically confident. They are likely to have a low level of financial literacy, be un-banked, have irregular or low income and have little or no access to formal savings channels. In their vulnerability, they trust the mobile money provider to manage their money. Consumers also want to be “close enough” to their money, and this closeness comes in the form of facilitating conditions [12].

Adoption of mobile services has been widely discussed using different models. For instance, the Technology Acceptance Model (TAM) [13] Theory of Reasoned Action (TRA) [14], the Theory of Planned Behavior (TPB) [15], the Unified Theory of Acceptance and Use of Technology (UTAUT) [12] are the proponent models used in Information systems adoption research. Researchers while applying these theories and models have developed constructs that impact on human behavior when deciding on adoption of mobile money services [16].

The concept of transaction cost and facilitating conditions predominate in mobile money adoption studies. This study adopts the research model depicted in Fig 1. The model has three components transaction cost (TC), facilitating conditions (FC) and adoption mobile money services (A). The concept of transaction cost has been explored in many adoption theories. According to behavioral decision theory, the cost-benefit pattern is significant to both perceived usefulness and ease of use. If consumers perceive that the cost of mobile money service is acceptable, they will adopt it easier, and then use it. According to Mathieson et al. [17], economic motivations and outcomes are most often the focus of information systems acceptance studies. The cost variable was used in prior research on mobile banking adoption

(extended TAM) [6]. The cost consideration may prevent many people from choosing mobile money [6]. Moreover, hardware/software and financial resources are important for users of an information system [17].

Facilitating Conditions is the degree to which an individual believes that an organizational and technical infrastructure exists to support use of a system. In the context of mobile money it would refer to aspects like easy access to the agent network, confidence in the knowledge of how mobile money works, presence of the network coverage, reliable customer support and availability of liquidity/float.

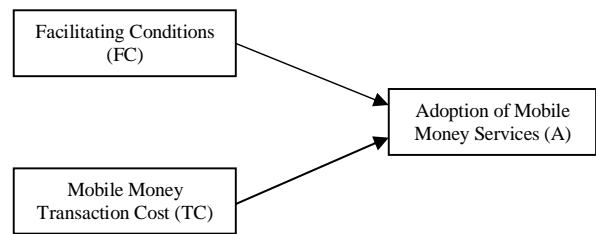


Fig 1: Research model

Characteristics of Mobile Money Services

Mobile devices are continuously becoming very popular in the world today. Mobile money transfer services and electronic Person-to-Person payment systems as an alternative to the paper based mechanism like cash are innovations which have been perpetuated by this rapid development in mobile phone technology. Common mobile financial services offered via the mobile phone include bill payment, account transfers, domestic and international person to person transfers, proximity payments at the point of sale, and remote payments to purchase goods and services.

There are two main mobile financial service models in Kenya: the non bank-led model and the bank-led model. Non bank-led model is a transformational outreach aimed at reaching the unbanked population hence promotes financial inclusion to this group. The mobile network operators (MNO) primarily design products for mobile money alone. The user mobile money wallets are maintained by the mobile network operator who maintains trust accounts with bank. Mobile Network operators use these services to increase their market share and the traffic volume of subscribers using their services. Recently, banking institutions have started cooperating with mobile money operators in effort to increase their market share, for example Equity bank has collaboration with Safaricom on the M-Kesho product and Telkom Kenya on Orange money service.

Bank-led model mobile money service products are generally used by banks where cell phone based services are additional channel for services for their customers, not as a way to capture large numbers of new customers with additional services to existing customers through a mobile banking application [21]. Many banks in Kenya allow bank account holders to use m-banking services to check balances; receive deposit or withdrawal alerts related to ATM or credit cards; and transfer between their accounts using their cell phones. These non-transactional services are the most basic type of mobile banking.

Facilitating Conditions

A. Financial Cost

According to behavioral decision theory, the cost-benefit pattern is significant to both perceived usefulness and ease of use of technology. If consumers perceive the cost of mobile money service is acceptable, they will adopt it easier, and then use it. According to [17] economic motivations and outcomes are most often the focus of IS acceptance studies. Service cost consideration may prevent many people from choosing mobile money service [6]. Moreover, hardware/software and financial resources are important for users of an information system [17]. Financial cost is likely to directly influence the user's intention to use mobile money services.

B. Perceived Credibility

Perceived credibility consists of two important elements namely privacy and security. Security is the protection of information or systems from unsanctioned intrusions or outflows. Fear of the lack of security is one of the factors that have been identified in most studies as affecting the growth and development of technology including mobile money adoption. Wang examined the impact of perceived credibility on usage intention of technology, and found that perceived credibility had a significant effect on intention [5].

C. Normative Pressure

Normative pressure was promoted by Theory of Reasoned Action (TRA) by Fishbein and Ajzen [14]. It can be defined as a person's perception that most people who are important to her or him should or should not perform the behavior in question [14]. Previous studies have explored the importance of such construct in social science studies including in banking studies [22]. In [22], mobile chatting usage is examined in Norway, and found subjective norm was found to be an important driver for mobile chatting usage among Norwegian.

Technology Acceptance Models

A. Technology Acceptance Model

Several studies focusing on adoption of mobile services have their roots in Technology Acceptance Model. The model is originally designed to predict user's acceptance of information technology and usage on the job. TAM focuses on the attitude explanations of intention to use a specific technology or service; it has become the most widely applied model for user acceptance and usage. TAM has become well established as a robust, powerful model for predicting user acceptance. The original Technology Acceptance Model was developed based on the Theory of Reasoned Action (TRA) [14]. Davis extended the Theory of Reasoned Action to formulate the Technology Acceptance Model. TAM model suggests that when users are presented with a new technology, two important factors influence their decision about how and when they will use it [13], Perceived usefulness (PU) and Perceived ease-of-use (PEoU).

TAM deals with perceptions and it is not based on observing real usage but users reporting their conceptions. The instruments used in connection with TAM are surveys, where the questions are constructed in such a way that they reflect the different aspects of TAM [23]. As [13] noted, future technology acceptance research must address how other variables affect usefulness, ease of use and user acceptance. Therefore, perceived ease of use and perceived usefulness may not fully explain behavioral intention towards the use of mobile services. Another key limitation of TAM is that while it provides a valuable insight into user's acceptance and use of technology, it focuses only on the determinants of intention and does not tell us how such perceptions are formed or how they can be manipulated to foster user's acceptance and increased usage.

B. Theory of Reasoned Action

The theory of reasoned action (TRA) is a well established model that has been used broadly to predict and explain human behavior in various domains [14]. TRA is a more general theory than TAM, and has been applied to explain behavior beyond the adoption of technology. However, when applied to adoption behavior, the model includes four general concepts which are behavioral attitudes, subjective norms and important addition when compared to TAM.

According to the TRA, the most important determinant of a person is behavioral intention (BI). Behavioral intention is defined as the strength of one's intention to perform a specific behavior. A person's intention to perform a behavior is a combination of the attitude towards performing the behavior and his/her subjective norm. TRA is one of the most influential theories of wide range of human behavior [12]. It suggests that attitude towards behavior and subjective norms will determine intention to perform behavior. TRA has been applied in its original form to explain the adoption of ICT – applications but typically TRA is used as a basis for modifying the TAM model with subjective norm [12]. TRA has been successfully applied to predict behavior and intention in a variety of subjective areas. At the same time, a number of studies have been carried out to understand its limitations, test hypotheses, analyze extensions and refinements.

C. Theory of Planned Behavior

Theory of planned behavior (TPB) was proposed as an extension of TRA to account for conditions where individuals do not have complete control over their behavior [24]. TPB suggests that in addition to determinants of behavioral attitude and subjective norm, a third element, perceived behavioral control (PBC), also influences behavioral intentions and actual behavior. Models based upon TPB have been applied to the explanation of different types of behavior, but when applied to the adoption of ICT systems or services, the model contains five concepts which are behavioral attitudes, subjective norm, behavioral control, intention to use and actual use. According to the theory, both attitude toward behavior and subjective norms are immediate determinants of intention to perform behavior [25]. Attitude refers to the degree of a person's favorable or unfavorable

evaluation or appraisal of the behavior in question. Subjective norms refer to the perceived social pressure to perform or not to perform the behavior TPB further proposes that intention to perform behavior is the proximal cause of such behavior. Intentions represent motivational components of behavior, that is, the degree of conscious effort that people will exert in ease or difficulty in performing the behavioral of interest. It is associated with the beliefs about the presence of control factors that may facilitate or hinder the performance of the behavior.

RESEARCH METHODOLOGY

Research Design

A survey was conducted to collect data that was used to validate the research model. Questionnaires were the main research instrument used in this research since they are useful in discovering both facts and opinions relating to the main objectives of this study. Furthermore, a self-administered questionnaire is a cost effective method of questioning a large number of people, being relatively easy to administer. They are flexible in that they can be used to collect a wide variety of data in a variety of different circumstances. They are also relatively cheap [27]. The survey method was selected due to the high participation rate in prior surveys for other related studies [17].

Sampling Method

This study used probability sampling method to select the respondents. Probability sampling method is commonly associated with survey-based research where researcher needs to make inferences from the sample about a population to answer the research questions or to meet research objectives [18]. In probability sampling, sampling elements are selected randomly and the probability of being selected is determined ahead of time by the researcher. If done properly, probability sampling ensures that the sample is representative. The survey data samples were conducted in slums areas in Kenya, where many low income people live.

Survey Instrument

Reviewing prior studies on mobile money and information systems, it was found that many studies used questionnaires to collect data for analysis and research objective investigation. In this study a survey with questionnaires was implemented to explore impact of transaction cost and facilitating conditions to adoption of mobile money services. The items used on the questionnaire were adopted from relevant previous studies and modified to suit this study with necessary validation being made [5],[7]. Items on behavioral intention were adopted from the original items in the theory of technology acceptance model [13] while items on transaction cost and facilitating conditions were adopted from [6]. Likert scales (1-4), with anchors "N/A", "Disagree", "Not Sure" and "Agree" was used for all questions on this components. To ensure validity and reliability of the research instruments a pre-test of these measures was conducted through selected 25 respondents to validate the instrument.

In order to facilitate participants' understanding of this research, a brief introduction of the research purpose was provided at the beginning of the questionnaire. Furthermore, confidentiality and anonymity were afterwards. The demographic questions for this research were placed at the beginning of the questionnaire. Table 1 outlines the questionnaire items used in this study.

Table 1: Questionnaire items

| Variable | Item | |
|-------------------------|------|--|
| Transaction cost | TC1 | The transaction costs of Mobile Money are too high. |
| | TC2 | Sometimes I don't send money because using Mobile Money because the transaction cost is expensive. |
| | TC3 | Mobile Money transactions are cheaper. |
| | TC4 | Transacting using Mobile Money helps me save time and transport cost. |
| Facilitating Conditions | FC1 | Agents and network coverage are available for me to use mobile Money. |
| | FC2 | Mobile Money is convenient compared to other means of sending and receiving money. |
| | FC3 | Mobile money is very useful in managing my finances. |
| | FC4 | Mobile money technology is unreliable. |
| Adoption | A1 | I intend to use Mobile Money in the near future |
| | A2 | I recommend people to use Mobile Money |

Questionnaire Reliability

A pre-test was conducted on 25 respondents to validate the instrument questionnaire. Feedback about the layout of the questionnaire and question ambiguity was obtained. Furthermore, measures of internal consistency to test the reliability of the questionnaire items in SPSS was conducted. The method of internal consistency for estimating reliability is mainly focused on how consistently the examinees/subjects performed or scored across items or subsets of items on this single test/scale form. The reliability estimates generated by this method is usually called coefficient of internal consistency. The individual scales will be examined for internal consistency by subjecting them to Cronbach's alpha test. Variables can be used for analyses within acceptable reliability scores if the alpha is greater than 0.70. Table 2 shows the result of the alpha scores obtained when the items were subjected to Cronbach alpha test.

Table 2: Questionnaire reliability test

| Construct | Item | Factor Loading | Composite Reliability |
|-------------------------|------|----------------|-----------------------|
| Transaction Cost | TC1 | 0.756 | 0.7858 |
| | TC2 | 0.859 | |
| | TC3 | 0.672 | |
| | TC4 | 0.717 | |
| Facilitating conditions | FC1 | 0.810 | 0.8957 |
| | FC2 | 0.912 | |
| | FC3 | 0.791 | |
| | FC4 | 0.865 | |
| Adoption | A1 | 0.912 | 0.8749 |
| | A2 | 0.865 | |

Data Collection and Analysis

Data used in this study was collected from subscribers using mobile money service from the major mobile money service providers companies in Kenya, these include, Mpesa,

Airtel Money, Orange Money and Yu cash. The respondents were sampled from the low income areas; the areas covered in the research are Kawangware, Kangemi, Mulango Kubwa, Kayole and Kibera. The survey targeted 300 respondents and a total of 250 responses were valid and were used for the analysis, this constitute 83.33% response rate.

The data from the survey was tested using Structured Equation Model. The aim of the data analysis was to uncover the latent variables in the data and to test the reliability of the emerging scale items. Reliability analysis and confirmatory factor analysis was used to test the research data. SPSS 16 for Windows and Structural Equation Modeling (SEM) using Analysis for Moment Structure (AMOS) 16 were used in the two tests. SEM uses Confirmatory Factor Analysis (CFA) to align the tested measures to the specific constructs by measuring the extent to which each construct contributes to the overall model. CFA also tests the separation between constructs by evaluating the fit in the overall model.

RESULTS

Characteristics of Respondents

Table 3 shows the demographics of the respondents. There were more male (61.2%) than female. Majority of respondents (80.4%) had attained secondary school education level or higher. In addition, a majority of respondents (58%) were MPESA subscribers. The result also indicates that a significant number of the respondents (47.6%) who use mobile money services fall within the age group 21-30 years.

Table 3: Demographics characteristics

| Variable | | Frequency | Percent |
|-------------------|------------|-----------|---------|
| Gender | Male | 153 | 61.2 |
| | Female | 97 | 38.8 |
| Educational Level | Primary | 39 | 15.6 |
| | Secondary | 97 | 38.8 |
| | Tertiary | 104 | 41.6 |
| | Others | 10 | 4 |
| MM Service | MPESA | 145 | 58 |
| | AIRTEL | 65 | 26 |
| | ORANGE | 23 | 9.2 |
| | Yu cash | 17 | 6.8 |
| Age | 21 – 30 | 119 | 47.6 |
| | 31 – 40 | 71 | 28.4 |
| | 41 – 50 | 39 | 15.6 |
| | 51 & Above | 21 | 8.4 |

Reliability Analysis

Reliability is the degree to which measurements are free from error and therefore yield consistent results on different occasion. Cronbach's alpha was used to measure the internal consistency among the measurement items. A reliability coefficient above 0.700 is considered a relatively high internal consistency or adequate convergence. Four items were used to obtain data about Facilitating Conditions (F.C) and Transaction Cost (T.C) while two items were used on Adoption of Mobile Money (A). It is recommended that corrected item-total correlations should range between .30 and .70 for a good scale. Table 4 indicates the result of the reliability analysis, the Cronbach's coefficient and inter item

correlations confirm that all the items used in the final survey were reliable. The Cronbach's Alpha values reported 0.9119 for Facilitating Conditions, 0.7493 for transaction cost and 0.9488 for Adoption. These values reported acceptable measures.

Table 4: Reliability analysis

| Construct | Variables | Cronbach's Alpha coefficient | Reliability Level |
|------------------------------|-----------|------------------------------|-------------------|
| Facilitating Conditions (FC) | FC1 | 0.9119 | Good |
| | FC2 | | |
| | FC3 | | |
| | FC4 | | |
| Transaction Cost (TC) | TC1 | 0.7493 | Acceptable |
| | TC2 | | |
| | TC3 | | |
| | TC4 | | |
| Adoption (A) | BI1 | 0.9488 | Good |
| | BI2 | | |

Validity Analysis

Validity analysis is used to determine the goodness of the data collected. There are various measures used to measure validity, in this study we tested for both convergent and discriminant validity. Data has to be tested for validity before proceeding to perform factor analysis. We ran Bartlett's test for sphericity and Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy as presented in Table 5. These measures suggest that sufficient correlations among the variables existed to warrant factor analysis. The KMO measure of 0.654 was obtained which can be interpreted as a good fit.

Table 5: Kaiser-Meyer-Olkin and Bartlett's test

| Test | Value | |
|---|--------------------|---------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy | 0.654 | |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 327.307 |
| | Df | 21 |
| | Sig. | 0.000 |

Squared Multiple Correlations (SMC) was used to measure convergent validity. SMC measures the correlation between a measurement/indicator variable and the construct it measures. AMOS was used to obtain the Squared Multiple Correlations. A good SMC measure should have a value of 0.50 or higher [26], [28]. With exception of TC1 and FC3, SMC values for all other observed variables attained 0.50 or higher. We found the two variables TC1 and FC3 to be not significant, hence we excluded them from further factor analyses. Overall, as shown in Table 6, we were satisfied that convergent validity test was met.

Table 6: Squared multiple correlations

| Indicator variable | Standardized Loading | SMC Estimate | Significant |
|--------------------|----------------------|--------------|-------------|
| BI1 | 0.0587 | 0.9010 | Yes |
| BI2 | 0.0379 | 0.9046 | Yes |
| TC1 | 0.0708 | 0.0085 | No |

| | | | |
|-----|--------|--------|-----|
| TC2 | 0.0722 | 0.7025 | Yes |
| TC3 | 0.0801 | 0.9022 | Yes |
| TC4 | 0.0861 | 0.4657 | Yes |
| FC1 | 0.0686 | 0.6598 | Yes |
| FC2 | 0.0688 | 0.7055 | Yes |
| FC3 | 0.0674 | 0.3487 | No |
| FC4 | 0.0653 | 0.5634 | Yes |

Structural Model and Hypotheses Testing

Model fit indices are used to tell the model overall fit characteristics. The common fit measures used to estimate a measurement model fit include the normed chi-square which is a ratio of chi-square to the degrees of freedom (χ^2/df). A small chi-square value relative to its degree of freedom is indicative of good fit. Ratios in the order of 3 to 1 or less are considered good for fitness [20]. The normed fit index (NFI), a ratio of the difference in the chi-square value of the estimated model and a null model divided by the chi-square value for the null model should have a value should be between 0 and 1. The closer it is to 1, the better the fit [19]. The comparative fit index (CFI) an improved version of NFI is normed to ensure values range between 0 and 1. A CFI value above 0.90 is considered a good fit [19]. The root means square error of approximation (RMSEA) is another commonly used measure of fitness. It factors in sample size and model complexity in its computation. A low value indicates better fit. A RMSEA value of 0.05 or 0.08 has been considered a good cut-off. Recent research findings do not support this cutting off but instead propose a confidence level to be included for even lower RMSEA values. Therefore, values of 0.03 to 0.08 with a confidence of 95% are considered acceptable [11], [37].

Table 7 outlines the result obtained in this study. The fit indices indicate good fit hence no modification on the model was required. All the fit values were the recommended values.

Table 7: Model fit indices

| Fit Indices | Recommended Value | Measurement Model | Significant |
|-------------|-------------------|-------------------|-------------|
| CMIN/DF | ≤ 3.00 | 1.4668 | Yes |
| NFI | ≥ 0.90 | 0.9700 | Yes |
| CFI | ≥ 0.90 | 0.9900 | Yes |
| RFI | ≥ 0.90 | 0.9400 | Yes |
| IFI | ≥ 0.90 | 0.9903 | Yes |
| TLI | ≥ 0.90 | 0.9801 | Yes |
| RMSEA | 0.03 to 0.08 | 0.0433 | Yes |

The path coefficients of the structural model were evaluated to test the hypothesis identified in this study. The model reported good fit indices hence the structural weights obtained are indicative of the hypothesis support in the study. Based on AMOS text output, the results of the two hypotheses are presented in Table 8.

Table 8: Regression results of the hypotheses tests

| | Estimate | S.E. | C.R. | P | Significant |
|----|----------|--------|--------|--------|-------------|
| H1 | 1.6103 | 0.3025 | 5.3238 | *** | Yes |
| H2 | 0.0228 | 0.0710 | 0.3211 | 0.7482 | No |

We found a significant positive relationship between facilitating conditions and behavioral Intention to use mobile

money service with a path coefficient 1.6103, significant level 0.001. This is a strong relationship between the two variables hence it supports H1 that is, facilitating conditions plays a critical role in the adoption of mobile money services. H2 was not supported in this study, meaning that there is no significant relationship between transaction cost and intention to use mobile money services. This could be attributed to the fact that consumers will use other facts to determine the need for the service and not the cost of the service. Fig 2 visualizes a summary of these model results. The question item on transaction cost variable TC2 sort to test whether the respondent perceived mobile money as expensive. As shown in Fig 2, TC2 had the lowest structural weight among the endogenous variables. This low structural weight indicates that most of the mobile money users perceive mobile money to be cheaper compared to other forms of electronic money.

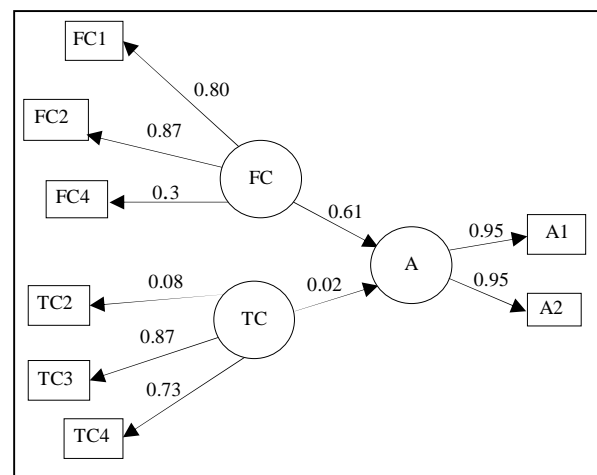


Fig 2: Summary of results

DISCUSSION

There was a strong relationship between Facilitating Conditions and Adoption of mobile money services as evidenced with the structural weight of 0.61. One can hypothesize that though there is remarkable growth and development of mobile money product, adoption of these services has been slower due to inadequate attention to facilitating conditions on the adoption by the service providers. It is possible that the growth of mobile money services be quicker if appropriate facilitating conditions are readily available. Reliable technology, adequate agent network coverage, reliable technology are some of the issues mobile money services providers need to invest in to enhance adoption of the mobile money services. Market structures that support delivery of mobile money services, dependencies between market systems and where the constraints can be unlocked in supporting mobile money market services are key factors mobile money service providers need to invest in when deploying new products.

This study established that transaction cost do not influence the adoption of mobile money services as evidenced with a weak structural weight of 0.02. This is possibly as a

result of the role mobile money plays in financial inclusion. The market base of the mobile money users is big at the bottom of the pyramid, a group that had been excluded by financial services institution. Transaction cost in comparison to financial institution, are relatively low and this can also be attributed to immaturity of mobile money service markets and their current tendency not to offer bulk transactions. It is remarked that until such mobile money providers reach a higher level of scale and maturity, transaction cost will not impact the adoption of the mobile money services.

CONCLUSIONS

Mobile money has become popular in many parts of the world since its inception in Kenya in 2007. Many innovative products have been launched in many countries though their adoption has been poor. Many studies have been conducted to analyze the driving forces behind adoption of mobile money services; most of them focus on product suitability in the market without focusing on consumer adoption. This study identified facilitating conditions are crucial to adoption of mobile money providers, the arguments in this paper are useful for service providers who would like to launch new products or for evaluating existing products success in the market. Further studies should focus on impact of volume of transactions, transactions costs and the platform on the adoption on mobile money services.

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