

## **AN ANALYSIS OF HOUSEHOLD CHOICE OF MOBILE MONEY TRANSFER SERVICES IN NAIROBI COUNTY, KENYA**

**Mbugua, John Njuguna** 

Research and Risk Analysis Officer, Kenya Revenue Authority, Kenya

[mrmbuguahjohn@gmail.com](mailto:mrmbuguahjohn@gmail.com)

**Gachanja, Paul Mwangi**

Senior Lecturer, Dept of Economic Theory, School of Economics, Kenyatta University, Kenya

[gachanja.paul@ku.ac.ke](mailto:gachanja.paul@ku.ac.ke)

### **Abstract**

*Mobile Money Transfer Services (MMTS) has proven to be a critical component in poverty reduction in Africa in general and Kenya in particular. Access to basic financial services through mobile money could enhance the ability of rural households to invest in their livelihoods and improve welfare. Kenya is a home to six service providers of mobile money making her a global leader in usage of mobile money transfer services. Various researches conducted in Kenya reveal that despite leading in usage of mobile money, users are faced with myriad of challenges such as prohibitive costs on small transactions, network outages and users are not able to switch easily from one dominant service provider to others. The objective of this study was to investigate the household choice of Mobile Money Transfer Services over alternatives of mobile money transfer in Nairobi County. The study adopted non-experimental research design since the information required could not be manipulated. The study made use of both the secondary and primary data. The results on the marginal effect indicated that the variables Age, Education level, income, cost of transaction of MMTS and cost of transaction of alternatives to MMTS were significant at 5% level. The findings revealed that an increase in age, education level or income by one unit would lead to a decrease in the probability that an individual chooses the alternative of MMTS and is more likely to choose MMTS services by 0.011, 0.112 and 0.230 respectively.*

*Keywords: Mobile Money Transfer Services, Mobile Network Operators, mobile phones, Information and Communications Technology*

## INTRODUCTION

In the developing world telecommunication sector has developed widely. Such development includes Mobile Money Transfer Service (MMTS) which can be defined as the transfer of money by use of utilizing Information and Communications Technology (ICT) framework and Mobile Network Operators (MNO). Many people are using these services on daily basis but there is still a great number of people using other alternatives to transfer money. Mobile Network Operators foundation acts as a channel to transfer finances between clients of one or different MNOs to both the cell terminals or to business association to pay for or buy merchandise and enterprises. Money transfer between mobile phones takes different structures, for example, individual to individual and individual to business/bank (Kihara, 2010).

### Mobile Phones Penetration

According to Jack & Suri, (2011); Mbiti & Weil, (2011) of all the different innovations created in the 21st century, the selection of cell phones advances has been referred to as the most quickly diffused of consumer based innovation ever. In the year 2015 International Telecommunication Union (ITU) found that there were more than 7 billion mobile cell memberships. Worldwide entrance of phones in developed countries stands at 128% while for developing countries is 89%. This exponential development over the most recent two decades is owing to the formation of code division multiple access (CDMA) and global system for mobile communication (GSM).

Cell phone infiltration has altered the world's information and innovation sector (Ondiege 2010). As indicated by ITU (2008) statistics, cell phone appropriation has the most astounding infiltration rate on the planet and then internet. For instance, in the period of 1998 and 2009, the utilization of the cell phone in China expanded from 1.92 per 100 individuals to 55.9 for every 100 individuals. In India, it ascended from 0.12 for every 100 to 44.7 for every 100 individuals (Nyaga, 2015). Africa likewise saw an expansion in cell phone infiltration from 0.53 for each 100 individuals in 2003 to 42.82 for each 100 individuals in 2009 (AfDB, 2010).

Cell phone entrance has been viewed as practically equivalent to possession of cell phone. Accordingly, the two terms will be utilized interchangeably in this research. Uganda and Kenya which represents the East Africa experienced Mobile telephone possession expanding by 160% and 263 percent separately. Algeria and Egypt which represent Northern part of Africa encountered a development of cell phone infiltration of 430 % and 69 % respectively in the same year. West African nations encountered the most elevated yearly cell phone entrance. In Chad, cell phone proprietorship expanded by 953.83 percent to 5,251,560 in 2014 from 0.7 in the year 2000 for each 100 occupants, in Nigeria, there was an expansion in cell phone infiltration to 138,960,320 in 2014 from 1,569,050 in the year 2000 speaking to a yearly development rate of

an incredible 330.79 percent. In other countries such as Angola and South Africa experienced an expansion of cell phone infiltration from 25800 in 2000 to about 14,000,000 in year 2014 speaking to a yearly development rate of 3,882 %. South Africa and Botswana recorded a yearly development rate of 60% and 102% respectively in cell phone infiltration.

### The Spread of Mobile Money Transfer Services

According to Tobbin (2013) the use of mobile money transfer services began in Philippines after the dispatch of SMART money. In march 2007 Kenyan started using this service after Safaricom launched the Mpesa (Suri, 2010). According to Fin Acces (2009) M-pesa had just picked up 9 million clients in three years which represents 40 percent of grown-up populace (Ignacio Mas and Dan Radcliffe, 2010) and handled a greater number of exchanges locally than Western Union.

This development in Mobile Money Transfer Services ensures people a productive strategy for executing, as it gives reasonable budgetary administrations to the rejected population (Collins, 2009). The systems of mobile payments are additionally being created in a few other developing nations a greater part of them being in Africa. GSMA (2013) argued that there are a total of 218 mobile money systems in eighty four nations half of them being in Sub-Saharan Africa, for example Globe Telecom works GCASH in the Philippines and WIZZIT in South Africa. Also Sudan, Tanzania, Uganda, Rwanda, Ghana and Zimbabwe and in a few different nations found in Middle East and Latin America have adopted mobile money services.

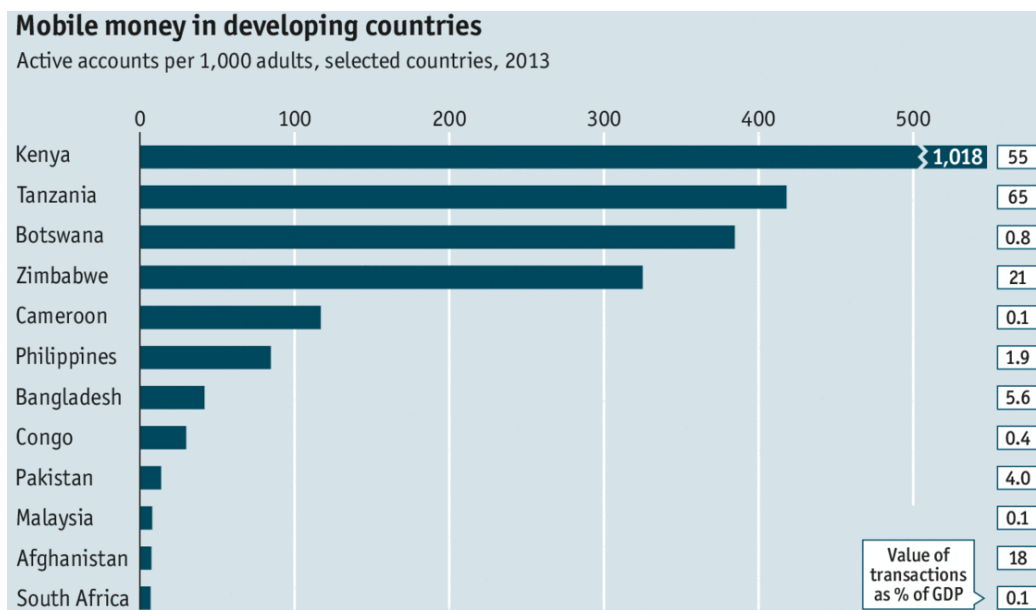


Figure 1 Trend in mobile money in 12 selected developing countries

Source: IMF, 2013

Kenya is a worldwide pioneer as far as mobile money adoption is concerned (Morawczynski and Pickens, 2009). Kenya has more dynamic accounts in the mobile installments than grown up population (IMF, 2013). Around the same year of study, cell phones carried out transaction worth \$24 billion which represented 50% of the nation's GDP (Marumbwa, 2013). As cell phones turn out to be all the more broadly accessible, cell cash exchanges have helped reach the "unbanked". In no less than eight African nations, including Zimbabwe and Congo, there have been more enrollments of the versatile cash accounts contrasted with conventional financial balances (Mutiskiwa, 2013). Figure 1 shows that exponential development of MMTS is experienced in both developed and developing nations particularly the Asian nations and Latin American. In Philippines the measure of exchange through Mobile Money Transfer Services is equal to 1.9 % of the aggregate GDP.

### **Current State of Kenyan mobile Money Market**

In Kenya M-pesa which belongs to Safaricom has dominated the mobile money. This predominance can be credited to the way that Safaricom was the principal MNO to dispatch Mobile Money Transfer Services in 2007 USAID, (2011) and delighted in a monopoly business model for more than 3 years before different MNOs propelled their Mobile Money Transfer Services. It is in this way not astonishing that despite everything it commands the money market currently enjoying 71.72 percent of the mobile money services. In the subsequent years other providers mobile money services thus Safaricom share reduced from 82.37% in 2011 to 71.72 percent as the end of 2015. This other mobile money providers included Tangaza money, Yu Cash which was launched by Essar, Orange money launched by Telkom Kenya, Airtel money which is owned by Airtel and finally Finserve Africa launched Equitel in July 2015. Equitel money entered the market with similar products and offered them at extremely lower costs than other old providers and as a result in a period of one year it had acquired 5.26 % mobile money market share.

Kenya mobile money services have grown exponentially. The result in the table shows that the subscription grew 18,673,009 to 31,996,912 between 2011 and December 2016 which represents 71.35 % growth rate hence much money was transacted via cell phones. Between first of October and end of December the same year the volume of mobile money exchange was Kshs 456,600,000. According to KNBS (2017) Kshs 1,100 Billion was exchanged among mobile money clients in the year 2016. This represented 67.81% of the aggregate government spending and 50 percent of the nation's GDP.

## Problem Statement

Policymakers and cell phone organizations have all touted the capability of cell phones to eradicate poverty (Corbett, 2008). Mobile innovation has kept on reforming banking and payment frameworks in Kenya, with arrangement of utilizations that empowers assorted mobile money transfer services (MMTS). These applications incorporate buying airtime, transferring money, ATM withdrawals, paying bills and facilitating transactions like withdrawing and sending money across different bank accounts using mobile phones. Collins (2009) observes that in Kenya MMTS has been on an upward trend and currently has 6 service providers making her global leader in mobile money transfer services. The growth in MMTS has benefited households by giving them variety of choice, further increase in the number of MMTS has led to improvement in financial inclusivity especially to rural households thereby reducing poverty and improving livelihoods (Asongu, 2015). However, despite cited benefits of utilizing mobile money transfer services, households are still faced with myriad of challenges such as such as prohibitive fees for small transactions Comninos, Esselaar and Ndiwalana, (2008) and network outages and delays Sadana et al., (2011). In Kenya ome people are still using the traditional means of sending or receiving money from their friends and family relatives. This is a drawback to households and government which has set various regulatory frameworks Asongu (2015) to benefit the households utilizing Mobile money transfer services whichever service provider they choose.

Cost, usability, advantageous, safety, convenience among different elements is thought to hypothetically explain why individuals choose different service providers. However, their effect on decision for the service provider has not been experimentally settled. This study has explored household choice of Mobile Money Transfer Service over alternatives of mobile money transfer.

## Objective of the study

The main objective of the study was to analyze household's choices of mobile money transfer services in Nairobi County. Specifically the study investigated the household choice of Mobile Money Transfer Service over alternatives of mobile money transfer in Nairobi County.

## LITERATURE REVIEW

### Theoretical Literature Review

#### *The Theory of Technology Acceptance Model (TAM)*

TAM which was initially proposed by Davis (1986) identifies with innovation acknowledgment and utilize. TAM incorporates two intellectual convictions that is apparent usefulness and perceived ease of use. Perceived Usefulness (PU) is characterized by how much a person trusts that utilizing a specific framework would improve his or her activity execution. PU in the

adoption of mobile money services is characterized in a more extensive idea to incorporate how well customers trust mobile money services can be integrated into their day by day activities (Kleijnen et al., 2003). The other factor is perceived ease of use (PEOU) characterized as how much a person utilizing a specific system will be free of mental and physical exertion. Marumbwa and Mutsikiwa (2013) argued that MMTS identifies with the convenience of the transaction procedures, enrollment systems and how easily can individuals access the agents offering mobile money services. TAM has turned out to be a hypothetical model in clarifying and anticipate user conduct of information innovation (Legris, Ingham, and Collette, 2003).

#### *Modified Technology Acceptance Model (TAM 2)*

TAM2 stretched out the first model to clarify perceived usefulness and use expectations including social impact, intellectual instrumental procedures and experience. The new model was tried in both willful and compulsory settings. The outcomes emphatically upheld TAM (Venkatesh and Davis, 2000). Like TAM, TAM 2 place individual (convenience, usefulness) and authoritative (e.g. social standards, encouraging conditions) precursors to foresee conduct goal to utilize new innovation in an association. The model recommends that usefulness and convenience are vital factors in deciding client mentality towards embracing another innovation (Malhotra & Galletta, 1999). The model has in fact been utilized as a part of various investigations on adoption of mobile services, which focuses on users (Amberg, 2004, Pagani, 2004, Samtani et al., 2003). The builds of the model are really intended to be general and widespread.

#### *The Unified Theory of Acceptance and use of Technology (UTAUT)*

Another model that has been utilized in the adoption of mobile phone technology researches is UTAUT. The UTAUT model which plans to clarify innovation acknowledgment depends on seven hypotheses or models. Specifically, the UTAUT draws on the Theory of Reasoned Activity (TRA), the Theory of Planned Behavior (TPB), the Social Cognitive Theory, the Technology Acceptance Model (TAM), the Motivational Model, and the model of Personal Computer Utilization, the Innovation Diffusion Theory (Venkatesh et al., 2003). At its center, the UTAUT model utilizes conduct aim as an indicator of the innovation use conduct. The included indicators of social goal depend on the segments of the innovation selection models inspected.

### **Empirical Literature**

Jack and Suri, (2008) utilized panel data to examine the effect of appropriation of M-pesa on the welfare of the individual families. A study of 3,000 haphazardly chose family units crosswise over Kenya was embraced for an examination on selection of the mobile money transfer

services. The sample was looked over an edge that secured 92 % of the whole Kenya populace, making it the biggest overview on MMTS in 2011 (Tobbin, 2012). The study found that gender and age determined the MMTS choice.

Wesolowski et al., (2012) carried out an examination on Heterogeneous cell phone proprietorship and use in Kenya using multilevel logistic regression. Cell phone ownership was used as the dependent variable in the study. The study focused on key socio-statistic qualities comprehensive of gender, age, level of education and income per month of the house hold head. The study used dummy variables to construct a fixed effect model. The study used ordinary least squares regression to estimate the coefficients. The study found that the most predictors of ownership were gender, education and literacy.

Marumbwa and Mutsikiwa (2013) using 300 people in Masvingo urban, Zimbabwe examined the components affecting buyer's appropriation of Mobile Money Transfer Services utilizing an expanded Technology Acceptance model and Diffusion Innovation theory (DIT). Hypothesis proclamations were planned in view of DIT and TAM models. To test speculation articulation multiple linear regressions was adopted.

### **Overview of the Literature.**

From looking at literature review, there are family units' and logical qualities that assume a critical part in deciding if mobile money technology is adopted. A portion of these factors are incorporated into the exact work for this exploration. The greater part of the past investigations has used the Technology Acceptance Model (TAM) to uncover determinants of innovation selection. A portion of the factors that have been observed to be huge in deciding mobile money technology adoption are gender, Age, Income level of the individual, the education level, social components among others. It is additionally watched that no exact investigation has been completed in Nairobi County on household choice of Mobile Money Transfer Service over alternatives of mobile money transfer.

### **METHODOLOGY**

MMTS choice was assumed to be a multinomial discrete choice variable and not binary discrete choice variable. Since consumers are assumed to be rational they choose a provider that maximizes their utility. The utility of an individual  $i$  relies upon the characteristics of the MMTS, the attributes of the individual  $i$ ,  $X_i$  and the service provider  $j$ ,  $(Z_{ij})$ . The utility of the individual  $i$ , looked with settling on discrete decision amongst  $J$  MMTS of the 4 Mobile Network Operators (MNO), can be given as:

$$U_{ij} = U_{ij}(X_{ij}, Z_{ij}, \varepsilon_{ij}) \dots \dots \dots (1)$$

Where by:

$U_{ij}$  = the expected utility of consumer  $i$  who has chosen alternative MMTS  $j$ ,

$\varepsilon_{ij}$  = the error term

If the MMTS  $k$  is preferred to MMTS  $m$ , the consumer then derives less utility from  $m$  than the utility derived from  $k$ . This is expressed as:

$$U_{ik}(X_i, Z_{ik}, \varepsilon_{ik}) > U_{im}(X_i, Z_{im}, \varepsilon_{im}) \dots \dots \dots (2)$$

Introducing the probability in equation 1 and transforming the resultant equation yields equation 3

$$P_{ik} = prob\{(U_{ik}(X_i, Z_{ik}, \varepsilon_{ik}) > U_{im}(X_i, Z_{im}, \varepsilon_{im})\} \dots \dots \dots (3)$$

$U_{ij}(X_i, Z_{im}, \varepsilon_{ij})$  Can be divided further into two main components as shown in equation 4 that is, non-stochastic and stochastic as follows:

$$U(X_i, Z_{ij}, \varepsilon_{ij}) = V(X_i, Z_{ij}) + \Omega(X_i, Z_{ij}) \dots \dots \dots (4)$$

Where by  $V(X_i, Z_{ij})$  represents the Non – stochastic and  $\Omega(X_i, Z_{ij})$  Represents the Stochastic

The random part of the utility function determines the possibilities of selecting different MMTS varieties.

From the set  $J+1$  the consumer chooses MMTS range preference  $j$  which is given as:

$$P(Y_i = j|x) = P(U_{ij} > U_{ik} | x) = P(X_i\beta_j + \varepsilon_{ij} > X_i\beta_k + \varepsilon_{ik}), \text{ for all } k \neq j \dots (5)$$

Transforming equation (5) yields equation 6:

$$P(Y_i = j|x) = P(\varepsilon_{ij} - \varepsilon_{ik} > X_i\beta_k - X_i\beta_j | x) \text{ for all } k \neq j \dots \dots \dots (6)$$

In view of equation (6) the functional form of the MNL probabilistic reaction can be written as:

$$P_{ij}(Y_i = j|X) = \frac{e^{X_i\beta_j}}{\sum_{j=0}^4 e^{X_i\beta_j}} \dots \dots \dots (7)$$

Standardization of equation includes the decision of reference class and comparing the coefficients on the reference classification to zeroes (Wooldridge, 2002). The reference class utilized here is  $j=0$  which is the utilization of Safaricom's M-pesa as it were. With standardization, the likelihood function given in condition (7) brings about new logistic likelihood capacities for the three MMTS decisions as shown in equation 8:

$$P_0(Y_i = 0|x) = \frac{1}{1 + \sum_{j=1}^4 e^{X_i\beta_j}}, \text{ for } j = 0 \dots \dots \dots (8)$$

$$P_j(Y_i = j|x) = \frac{e^{X_i\beta_j}}{1 + \sum_{j=1}^4 e^{X_i\beta_j}}, \text{ for } j = 1, 2, 3 \dots \dots \dots (9)$$

Rearranging equation 8 and 9 the resultant equation yields a binary logit model as shown in equation 10.



$$\ln \frac{P_i}{1 - P_i} = \beta_1 X + \beta_2 Z \dots \dots \dots (10)$$

According to Fadden (1975) and also assuming the Weibull distributed errors the logistic probability function of choosing MMTS k to m can be expressed as:

$$P_{ik} = \frac{e^{(X_i, Z_{ik})\beta}}{\sum_{j=1}^j e^{(X_i, Z_{ij})}} \dots \dots \dots (11)$$

Combining the above equations and rewriting the resultant expression yields a multinomial logit model given in equation 12:

$$\log \left[ \frac{P_{ik}}{1 - P_{ik}} \right] = \beta_1 X + \beta_2 Z + \varepsilon \dots \dots \dots (12)$$

Where by:

$\varepsilon$  is the error term.

$X$  is a matrix of all individual characteristic variable.

$Z$  is a matrix of all attributes of the Mobile Money Transfer Services Provider/Market attributes.

The multinomial logit model in 12 is expanded to:

$$MultiLogit(MMTSCh) = \beta_0 + \beta_1 Y + \beta_2 E_L + \beta_3 S + \beta_4 A_g + \beta_5 N_p + \beta_6 P_1 + \beta_7 P_2 + \beta_8 C_v + \beta_9 D_{Ag} + \varepsilon_i \dots \dots \dots (13)$$

**Empirical Model Specification**

The study employed a logit regression model. The dependent variable was dichotomous with MMTS being the base category and taking the value 0 and the alternative to MMTS taking the value 1. This study specified the model as:

Mobile Money Transfer Service Provider’s choice =f (Attributes of the consumer, attributes of the service providers/ attributes of the market).

$$Logit (MMTSh) = \beta_0 + \beta_1 Y + \beta_2 E_L + \beta_3 S + \beta_4 A_g + \beta_5 N_p + \beta_6 P_1 + \beta_7 P_2 + \beta_8 C_v + \beta_9 D_{ag} + \varepsilon_i \dots \dots \dots (14)$$

Table 1 Summary of the Specified Model Variables

Attributes of the Consumer	Attributes of the Service providers/attributes of the market
Income Levels(Y),	Transaction costs of sending/withdrawing money per MMTS ( $P_1$ ),
Education Levels ( $E_L$ ),	Number of Phones owned by an individual ( $N_p$ ),
Sex/Gender of the Household head (S),	Transaction cost of the alternative to the use of MMTS. Example courier services( $P_2$ ),
Age of the Household Head ( $A_g$ ).	Convenience or The ease of use of Mobile money transfer services ( $C_v$ )
	Ease of accessibility or the distance to mobile money agent $D_{Ag}$

## Sampling Technique and Data collection

Probability sampling method was used in this study. Specifically stratified sampling method which partitioned into 4 sub-districts was used. By use of Watson and Chow (2001) formula a sample size of 209 was picked. Data was collected by use of questionnaires and Interview method.

## ANALYSIS AND FINDINGS

### Descriptive Statistics

Residency of the respondents was considered due to differential in levels of income depending on residency of the respondents. Table 2 represents findings about the residency of the respondent.

Table 2 Residency of the Respondent

Residency of the Respondent	Frequency	Percent
Nairobi west	42	20.0
Nairobi East	74	35.4
Nairobi North	39	18.7
Westlands	54	25.8
Total	209	100.0

Table 3 Gender of the respondents

Gender	Frequency	Percent
Valid Male	100	52.2
Valid Female	109	47.8
Total	209	100.0

Table 3 shows that the majority of the respondents in this study were male respondents accounting for 52.2 percent of the responses.

Table 4 Age of the Respondents

Age in Years	Frequency	Percent
Valid 18-24	60	28.0
Valid 25-29	76	36.0
Valid 30-34	34	17.8
Valid 35-39	14	6.5

40-44	11	5.1
45-49	10	4.7
50+	4	1.9
Total	209	100

The data shows that 28 percent were aged between 18 and 24 years, 36 percent were between 25 and 29 years, 17.8 percent were between 30 and 34 years, 6.5 percent were between 35 and 39 years, 5.1 percent were between 40 and 44 years, 4.7 percent were between 45 and 49 years and 1.9 percent were 50 years and above.

Table 5 Education Level

	Frequency	Percent
University	102	49.1
College	46	22.0
Secondary	49	23.2
Primary	12	5.7
Total	209	100

Table 5 shows that 49.1 percent of the respondents were university graduates while 22 percent were college graduates, 23.2 percent were secondary school certificate holders and 5.7 percent were primary school certificate holders. This suggests that majority of respondents had been exposed to different technologies.

Table 6 Level of Income

Monthly Gross Income in Kshs.	Frequency	Percent
0-10,000	48	22.9
10,001-20,000	52	24.8
20,001-50,000	45	21.5
50,001-100,000	37	18.0
100,001-150000	17	8.1
150,001-200000	8	3.8
200,001 and above	2	0.9
Total	209	100

Table 6 shows the level of income of the respondents in Kenyan shillings per month. 22.9 percent earned between 0 and 10,000, 24.8 percent earned between 10,000 and 20,000, 21.5

percent earned between 20,000 and 50000, 18 percent earned between 50,000 and 100,000, 8.1 percent earned between 100,000 and 150000, 3.8 percent earned between 150,000 and 200,000 and 0.9 percent earned above 200,000.

### Logit Regression Model

In order to achieve the objective of the study which was to investigate the household choice of mobile money transfer service providers over alternatives of mobile money transfer services (such as courier, traditional means such as use Friends and relatives, Hawalas, bus and public transport etc.) in Nairobi County, this study conducted a logit regression model. The dependent variable was choosing between MMTS services or the alternatives such as use courier services, traditional means example use of friends and relatives, public transport such as buses to send and receive money. The choice of MMTS services being the reference category. The Logit regression was carried out in two steps. The first step was the determination of the log odds of the independent variables and the results are presented in table 7.

Table 7 Logit Regression with log odds Estimates

Logistic Regression	Coefficients	S.E.	Z statistic	P> Z	95% C.I.	
					Lower	Upper
Gender	.545	.369	1.477	.440	.336	3.555
Age	-.106	.041	-2.606	.045	-.638	1.268
Education Level	-.454	.246	-2.845	.016	-.592	1.030
Income	-.528	.188	-2.808	.005	-.608	.852
Cost of Transaction of MMTS	.446	.150	2.973	.023	.386	2.757
Cost of transaction alternative of MMTS	.208	.088	2.373	.034	.105	1.065
Ease of accessibility	-.444	.342	-1.298	.094	-.528	1.255
Convenience	.243	.305	.797	.425	.102	2.319
Number of Mobile Phones	-.483	.314	-1.538	.125	-.533	1.143
Constant	1.494	.639	2.338	.041		

Number of observation=209, Prob>Chi2(8)=483.01, Prob>Chi2=0.000; Pseudo R<sup>2</sup>=0.16120, LR Likelihood= -62.536

From table 7 the pseudo R<sup>2</sup> value was 0.1612 which implied that 16.12 percent of all changes in the dependent variable were explained in the model. However since the logistic regression model maximum likelihood estimates are arrived at by the iteration method then the OLS

method of goodness of fit and the  $R^2$  interpretations do not hold. In addition the odds ratio in the logit model cannot be interpreted but instead the second step is to estimate the marginal effects which are to be interpreted. The results of the marginal effects are presented in table 8.

Table 8 Marginal Effects Results

Marginal Effects	Dy/Dx	S.E.	Z statistic	P> Z	95% C.I.	
					Lower	Upper
Gender	0.004	.003	1.501	.471	-0.1120	0.1033
Age	-0.011	.004	-2.606	.050	-0.0211	0.2011
Education Level	-0.112	.039	-2.855	.019	-0.5592	1.3335
Income	-0.230	.079	-2.900	.009	-0.7008	2.0620
Cost of Transaction of MMTS	0.189	.063	3.001	.027	-0.2091	1.3023
Cost of transaction alternative of MMTS	-0.130	.055	-2.373	.040	0.0005	1.3022
Ease of accessibility	-0.048	.036	-1.301	.102	-0.1246	2.4950
Convenience	0.109	.137	.797	.438	-0.1235	1.0734
Number of Mobile Phones	-0.290	.188	-1.541	.129	-0.5048	-0.0198

The marginal effects as in table above show that the variables Age, Education level, income, cost of transaction of MMTS and cost of transaction of alternative to MMTS were significant at 5 percent level. However, Gender, ease of accessibility, convenience and number of mobile phones were insignificant at 5 percent level. Specifically, the coefficient of age, education level and income were negative with coefficient values of -0.011, -0.112 and -0.230 respectively. This implied that an increase in age, education level or income by one unit would lead to a decrease in the probability that an individual chooses the alternative of MMTS and is more likely to choose MMTS services by 0.011, 0.112 and 0.230 respectively.

The results also showed that the coefficient for the cost of transaction of MMTS was positive as expected. This implied that an increase in the cost of transaction of MMTS providers by one unit would lead to an increase in the probability that individuals opt for alternatives to MMTS services by 0.189. The coefficient for the cost of transaction for alternatives to MMTS also had the expected negative sign. This implied that an increase in the transaction cost of alternatives to MMTS by one unit would lead to a decrease in the probability that individuals prefer MMTS alternatives by 0.13. These results were similar to the conclusions of Kilulwe *et al.*, (2014) who concluded that education level and income of the household were significant factors

in determining the decision to adopt an MMTS provider. These findings however contradicted the same study since it concluded that provider characteristics such as convenience and ease of use were significant variables in explaining the choice between MMTS and its alternative. The study was also similar to the conclusions of Mesoet *al.*, (2005) who concluded that gender was an insignificant variable in explaining the choice.

## **SUMMARY, CONCLUSION AND POLICY RECOMMENDATIONS**

The general objective of the study was to determine the household choice of mobile Money Transfer Service over alternatives of mobile money transfer in Nairobi County. This study sought to achieve this specifically by investigating the household choice of MMTS provider over the alternative to MMTS. The findings showed that most of the respondents received their MMTS provider information from TV stations and internet/social media platforms. Further, the findings showed that most of the respondents were influenced by transaction costs reviews in making their choice of MMTS service over the other alternatives. The study also showed that most of the individuals incurred a high cost of transaction which could be attributed to the fact that many of the respondents stated that they used the MMTS services daily.

The study confirmed that indeed of all the attributes of the service provider/attribute of the market, ease of access, convenience and cost of transactions of using MMTS were of most significance. The study implied that customers were more inclined to choosing MMTS service providers that were easily accessible, convenience to use and with minimal cost of transactions. Similarly on the attributes of the consumers, this study found out that variables age, education level and income, were significant in explaining the choice between MMTS providers and their alternatives. The study also showed that most of the respondent received information about MMTS through the TV and internet/ social media platforms.

This study therefore recommends that the MMTS providers could place advertisement and sensitization measures to make their services more popular through the TV adverts and social media platforms. The MMTS service providers should invest more money in their online social media platforms and use them to pass information about their products and services. This study was limited to Nairobi County in Kenya hence the results cannot be applied on the other countries. The study also dealt with mobile money transfer services only but it did not explain why different households prefer one mobile transfer services provider over the other. The study therefore suggests that further studies be done on the determinants of mobile money transfer services providers. The study also recommends that other similar studies be done in other counties to compare the results with the findings of this study.

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