THE EFFECT OF MOBILE MONEY TRANSFER ON THE POVERTY LEVELS
AMONG THE ELDERLY PERSONS IN KIAMBU COUNTY

BY

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DECLARATION

This Research Project is my original work and has not been submitted for a degree in any other university.

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ACKNOWLEDGEMENTS

I acknowledge God, my family and Supervisor, Herick Ondigo for their continued support through my Project.
DEDICATION

I dedicate this project to my mum, Salome Njoroge for her continued support through the project.
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LIST OF ABBREVIATIONS

CCK – Communication Commission of Kenya

FHH – Female Headed Households

GNP - Gross National product

ICT - Information and Communications technology

MMT - Mobile Money Transfer

PL – Poverty levels
ABSTRACT

Elderly persons are a group of people exposed to poverty due to lack of financial empowerment as they are not in a position to earn an income. Access to formal financial services in Kenya is still low. In particular, the very poor people who are characterized by low literacy levels and generally low, irregular and sporadic income, in most cases do not have the appropriate financial tools that fit their lifestyle and can help alleviate their poverty. This research paper’s main objective was to find out in detail what Mobile Money Transfer entails and its relationship to Poverty Levels among the Elderly Persons in Kiambu County. This area of study is not widely researched as yet. This study used the quantitative measure of descriptive statistics with a purposive sample of elderly persons in the Cash Transfer Program being spearheaded by the Government. Data was analysed using the statistical package for social sciences (SPSS) and entailed both a correlation and regression analysis of the variables. This study was able to show that elderly persons of Kiambu County positively embrace the usage of mobile phones. It also showed that through the usage of mobile phones they are able to feel more economically empowered by storing a little money in the Mpesa until the need for it arises. It was also clear from the study that poverty reduction is attributable to many factors and mobile money transfer is one among the many other factors. The main policy recommendation of this study is the need to begin income generating activities for the elderly alongside the monthly stipend given to them through the cash transfer initiatives. In addition there is need for a review of the modes of transferring funds to the elderly persons to incorporate the mobile money transfer platform which the elderly persons have positively embraced.
CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

The Middle class and wealthy individuals in society continue to enjoy banking services at their doorstep, whereas the poor still battle with hiding money under a mattress and walking long distances to access banking services in the 21st century. As a result of mobile money transfer (MMT), this scenario is slowly changing as more and more people continue to embrace MMT as a banking solution (Salzaman et al 2001).

Mobile telephony adoption is on the rise and the related technological innovations have dramatically enhanced the capabilities of the mobile phones. About two billion people worldwide are using a mobile phone. As the number of mobile phone increases there has been a pervasive impact on people's lives. Mobile phones adoption and use has a positive and significant impact on economic growth, and this impact may be twice as large in developing countries as in developed countries (Salzaman et al 2001).

Following the emergence of Mobile Banking and other cash transfer services, positive impacts and pitfalls have been experienced and are evident in our day-to-day lives. As a nation state, Kenya has seen an incredible revolution with regards to information and communications technology (ICT) rapid growth. Statistics thereby show that by the late 1990s, less than 3 percent of Kenyan households owned a telephone and fewer than 1 in 1,000 Kenyan adults had access to mobile phone service. Amazingly by the end of 2011, 93 percent of Kenyan households owned a mobile phone thus benefitted from mobile phone services (Donovan, 2012).
In the last five years mobile phone communication has grown faster in Sub-Saharan Africa than in most other parts of the world. African mobile phone subscribers grew from 8 million to nearly 80 million from 1999 to 2004 and are expected to increase to 250 million in the next four years (Manel, 2010).

1.1.1 Mobile Money Transfers

Mobile money transfers (MMT) generally refer to the channeling of funds using the mobile phones. According to a financial access report (2009), half of the world is unbanked and mobile phones play a critical role in bringing banking services to the unbanked. In many developing countries 9 out of 10 people do not have a bank account or access to basic financial services. Poor people are often not considered viable customers by the formal financial sector as their transaction sizes are small, and many live in remote areas beyond the reach of banks branch networks. Informal banking services such as microfinance and village savings and loan associations remain limited in their reach. (Mishkin& Frederic, 2007)

International Finance Corporation (2011) indicates that a study on mobile money offers a framework for a quick market study of a country to determine what type of mobile money services might be developed commercially. It offers models of user perception and demand surveys, develops a set of parameters such as regulatory environments, current access to financial services, and the requirements of potential mobile money service providers to run viable businesses that can spur or block mobile money development.

The Kenya government recognizes the role-played by the mobile phones, and associated technologies in the economic growth and development (Sessional paper, 2005). Therefore
together with other stakeholders and development partners, Kenyan government has encouraged
the development of communication infrastructure such as communication commission of Kenya
(CCK), which is regulating the mobile service providers, fixed line service providers, and other
stakeholders in provision of the service industry (Research ICT Africa 2004). At the same time
the government has recognized with concern the growth of micro-enterprises as the foundation
blocks of development and industrialization.

1.1.2 Poverty Levels among Elderly Persons

The World Bank defines poverty as whether households or individuals have enough resources or
abilities today to meet their needs, inequality in the distribution of income, consumption or other
attributes across the population, and vulnerability defined here as the probability or risk today of
being in poverty or falling deeper into poverty in the future. Poverty is multidimensional and
complex in nature and manifests itself in various forms making its definition difficult. No single
definition can exhaustively capture all aspects of limiting the term to mean a lack of material
well-being and others arguing that lack of things like freedom, spiritual well-being, civil rights
and nutrition must also contribute to the definition of poverty. (Coudouel et al, 2002)

According to the Participatory Poverty Assessment surveys (PPAs), poverty is hunger, lack of
shelter; sickness and being unable to see a doctor (afford medical care). Poverty can also be
defined as not being able to go to school, not knowing how to read, not being able to speak
properly. Poverty is not having a job and fear for the future, living one day at a time. Poverty is
losing a child to illness brought about by malnutrition and unclean water. Poverty is
powerlessness, lack of representation and freedom by various estimates, people living in poverty constitute more than one-half of Kenya’s population. (Narayan and Nyamwaya, 1996).

Economic growth has been inconsistent in the period from 1978 to the present, and while population growth has declined from 4% per annum in the 1970s to just below 3% in the 1990s, the Gross Domestic Product per capita has not improved much over the past three decades. Simultaneously, other social welfare indicators have also continued declining or remained mostly static, including life expectancy, child mortality, and primary school enrollments (O’Brien and Ryan, 2001). However, while overall poverty has remained static in Kenya, one should not infer that those who were poor 25 years ago are still poor today or that those who are poor today will continue to remain poor in future (Krishna et al., 2004)

1.1.3 Effect of Mobile Money Transfer on the Poverty Levels

A new wave of market based intermediaries is entering the scene with appealing products and services that could assess the challenges that confront financial development in low-income countries or regions. Mobile Money services are seen as a new basic financial product which will make possible the extension of financial services to this community known as the “unbanked”. M-banking appears the highest where the physical presence of well-functioning banking is the weakest, covering the gap left by many commercial banks specially in rural areas. It facilitates the remittance of money or payments to users in distant areas and allows the storage of savings. NGOs and Development programs also use Mobile Money as a platform for financial aid transfers. (Kirchner, 2012)
Globally, the industry acknowledges the social and economic benefits that mobile money brings, especially to developing countries, given the physical limitations of financial services infrastructure. The wide reach of mobile phones enables more people to access financial services quickly and easily, even extending to billions of people in remote, rural areas with a less expensive, more convenient alternative. Mobile banking can keep low-income consumers’ money safe while giving them an affordable and flexible solution. (Demombynes & Thegeya, 2012)

An article by Maina (2011) states that approximately 6% of the older population benefit from the Older Persons Cash transfer. This signals, however, that there is still much to do to ensure income security in old age in Kenya. The Program which targets elderly persons over 65 years may not be sustainable. This shows that many elderly persons are vulnerable to poverty and need to be given financial security beforehand.

1.1.4 Elderly Persons in Kiambu County

Kiambu county is located in Central and constitutes 5 constituencies Gatundu South, Gatundu North, Juja, Githunguri, Kiambaa, Kabete, Limuru and Lari. It has a total Population of 1,623,282; 496,244 Households and covers an area of 2,543.4 sq.km. The Population density is 638 per sq.km. This County is a great beneficiary of mobile money transfers. This is evidenced by the many Mpesa agents located in the area. The study seeks to identify whether Kiambu county is using Mobile money transfer positively to encourage the saving and investment culture among the locals.
In Kiambu county, there is a vast population of young, middle aged and elderly persons. It is also a county that has both the urban and rural set ups. This is because most of their town centres are not far from Nairobi which is the capital city of Kenya. However, there are some very remote parts of Kiambu County which are not easy to access due to the poor infrastructure and distance from the urban centres especially during the rainy season. This is because the roads are all muddy and vehicles get stuck on the road even before they reach their destination.

1.2 Research Problem

Mobile financial services and mobile commerce are not new concepts in the telecom industry. Mobile network operators began exploring the concept of mobile payments in 2000 with little success. However, recent advances in handset functionality, chip and mobile network technologies, and upgrades to point-of-sale infrastructure have dramatically improved the environment for mobile money solutions, bringing together different industry groups, such as banks and operators. (Mishkin& Frederic, 2007)

Access to formal financial services in Kenya is still low. In particular, the very poor people who are characterized by low literacy levels and generally low, irregular and sporadic income, in most cases do not have the appropriate financial tools that fit their lifestyle and can help alleviate their poverty. Research shows that the poor need financial tools that are appropriate, flexible, convenient, quick and affordable. The mobile money channel and the agent network provide the best avenue so far for reaching the very poor, but the business case for serving this segment of
the market has not been well developed to incentivize the main players to be actively involved. (Omwansa&Waema, 2014)

The gap between banking penetration and mobile penetration means that while many people do not have access to financial services, they do have a mobile phone. Capitalizing on the phenomenal growth of mobile telecommunications in Africa, a number of service providers are already active in deploying mobile banking services to tap the demand from the large unbanked population. In Kenya, only one in five people have access to banking facilities, mainly due to the high transaction fees and a scarcity of bank branches. In response, leading operator Safaricom, in co-development with its major shareholder Vodafone, have established M-PESA as one of the most successful mobile payment services in emerging markets. Teaming up with Kenya Commercial Bank and Western Union, M-PESA has become a market leader, acquiring just under six million users one in six Kenyans since its launch in March 2007. The strong growth of M-PESA, reaching 35% penetration of its subscriber base, has helped Safaricom to enlarge its market share. (Wolfgang, 2012)

The choice of this area of study is guided by the increasing social welfare programmes being implemented by the Government of Kenya through giving of cash transfers to poor and vulnerable households. This study seeks to assess whether Mobile Money Transfer would be a more appropriate mode of transmitting funds. This is in a bid to promote the culture of savings which leads to investments and finally poverty reduction. This is all in a bid to guide the Government on the sustainability of these programs due to the amount of money it is spending on the same. Kiambu County as an area of study was guided by several factors which include the
fact that it has a combination of both rural and urban set up and yet it is still within the close reach of the country’s capital city, Nairobi.

Financial Services for the poor (2013) conducted a research on fighting poverty profitably because they believe that there is a gap in the fact base and understanding of how payment systems can extend digital services to low income consumers in developing markets. There exists a gap in this area of study as not many scholars have not studied the the effect of Mobile Money Transfer on Poverty Levels but have focused more on its relevance as an innovation in the telecommunication industry. Many Organisations involved in direct cash transfers to the poor are interested in this area of study as it is meant to enrich the area of financial inclusion of the poor and vulnerable in Society. The question this study seeks to answer is what is the effect of Mobile Money Transfer on the Poverty Levels of elderly persons in Kiambu County?

1.3 Research Objective

To determine the effect of mobile money transfers on Poverty Levels of elderly persons in Kiambu County.
1.4 Value of Study

This study is thus necessary to mobile service providers and banks in their collaborative scheme to address improved access to mobile banking services thus mobile money transfer firms will find this document useful as they will know the impact of their firms in the area of promoting the culture of saving.

The Government of Kenya as it implements the cash transfer to the elderly persons will find this document useful as it will act as a guide on a possible option that they could consider when transmitting funds to the elderly. It will therefore guide policy makers in policy implementation and strategic planning.

Moreover, many financial institutions in Kenya (Equity Bank, KCB, Post Office and the Co-operative Bank) have turned to mobile and branchless banking methods such as agency banking in their efforts to increase their competitive advantage over their rivals. This study will also be useful to investment firms who may be willing to invest in mobile money transfer firms to assist them expand even further.

The study will also assist development partners, financiers and Non Governmental Organizations (NGOs) as they continue to collaborate with the Kenyan government in these programmes at the community level.
CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This seeks to analyse past studies and research work that has been done in the area of mobile money transfers and spending culture that will help enrich this study even further. Literature advanced across academic and research circles relating to mobile money transfers and spending culture are looked into in finer details. Further looked at, is the link between Mobile Money Transfers and Poverty Levels. Going by the above guiding principles the review looks through in finer detail all previous research work done on the subject of mobile money transfers and any related information therein. With relevant and detailed references this study expounds on previous, present or current information and upcoming surveys and studies.

2.2 Theoretical review

This involves review of the various theories that apply to this area of study which are diffusion of innovation theory and theory of planned behavior.

2.2.1 Diffusion Innovation Theory

Diffusion innovation theory was developed by Rogers in 1962. It centers on the conditions which increase or decrease the likelihood that a new idea, product, or practice will be adopted by members of a given culture. Diffusion of innovation theory predicts that media as well as interpersonal contacts provide information and influence opinion and judgment.

Studying how innovation occurs, Rogers (1995) argued that it consists of four stages: invention, diffusion or communication through the social system, time and consequences. The information flows through networks. The nature of networks and the roles opinion leaders play in them
determine the likelihood that the innovation will be adopted. Innovation diffusion research has attempted to explain the variables that influence how and why users adopt a new information medium, such as the Internet.

Opinion leaders exert influence on audience behavior via their personal contact, but additional intermediaries called change agents and gatekeepers are also included in the process of diffusion. Five adopter categories are: innovators, early adopters, early majority, late majority, and laggards. These categories follow a standard deviation-curve, very little innovators adopt the innovation in the beginning (2.5%), early adopters making up for 13.5% a short time later, the early majority 34%, the late majority 34% and after some time finally the laggards make up for 16%. This theory has been used successfully in many fields including communication, agriculture, public health, criminal justice, social work, and marketing.

2.2.2 Theory of Planned Behavior

The Theory of Reasoned Action was developed by Fishbein and Ajzen (1975, 1980). The theory was "born largely out of frustration with traditional attitude behavior research, much of which found weak correlations between attitude measures and performance of volitional behaviors"

The theory of planned behavior suggests that a person's behavior is determined by his/her intention to perform the behavior and that this intention is in turn a function of his/her attitude toward the behavior and his/her subjective norm. The best predictor of behavior is intention. Intention is the cognitive representation of a person's readiness to perform a given behavior, and it is considered to be the immediate antecedent of behavior. This intention is determined by three
things: their attitude toward the specific behavior, their subjective norms and their perceived behavioral control.

The theory of planned behavior holds that only specific attitudes toward the behavior in question can be expected to predict that behavior. In addition to measuring attitudes toward the behavior, we also need to measure people’s subjective norms, their beliefs about how people they care about will view the behavior in question. To predict someone’s intentions, knowing these beliefs can be as important as knowing the person’s attitudes. Perceived behavioral control refers to people's perceptions of their ability to perform a given behavior. These predictors lead to intention.

2.3 Determinants of Poverty Levels

Poverty levels are guided by several factors which include the mobile money transfer, age and income levels. Analyzed below are various reasons that guide spending:

2.3.1 Mobile Money Transfer

Mobile money transfer has a direct relationship with spending in the sense that many are the times people have been assisted in an emergency situation as a result of mobile money transfer. Regression analyses across countries worldwide indeed show significant poverty reduction effects of remittances. For instance, household survey data show that remittances have reduced the poverty headcount ratio significantly by 11 percent in Uganda, 6 percent in Bangladesh and 5 percent in Ghana. In Nepal, remittances may explain a quarter to a half of the 11 percent reduction in the poverty head count ratio (Ratha 2007).
2.3.2 Income levels

The higher the income levels, the higher the purchasing power of an individual and thus the higher the ability to spend. According to MTN, South Africa, MTN Banking adopts varied strategies for different segments in the country with half of the population unbanked. For the unbanked, MTN Banking provides a basic bank account at very low cost while for the high-income group; it offers an innovative, multi-access payment solution. MTN Mobile Money, a model in its MTN Banking service, allows users to perform a range of basic financial transactions using their handsets without the need to open or have a bank account.

2.3.3 Education

The higher the educational attainment, the lower the likelihood of poverty for all households and for FHHs, even with occupation and geographic residence held constant. The greater the share of household members receiving apprenticeships or informal training, the lower the odds of poverty overall. (Food and Agriculture Organization of the United Nations, 2002)

2.3.4 Family size

According to Lanjow and Ravallion (1995), there does exist a relationship between poverty and family size but warns that the situation varies in different contexts. This is where the economies of scale become applicable.
2.4 Empirical review

A study by Kiiti and Mutinda (2011) on Mobile money and Poverty reduction, a case of women, For many of the women, M-PESA assists in facilitating group payments, especially for members who are in urban areas or away from their groups, mostly in the rural areas. M-PESA also assists some of the groups with their microfinance transactions, whether they are purchasing or selling a product for their businesses. In one of the group discussion, this was highlighted; there was strong support for M-PESA as a service that promotes more economic transactions in the rural areas; thus leading to rural development and arguably, the reduction of poverty. From a basic usage standpoint, the women emphasized that M-PESA is convenient, safe, accessible, efficient and affordable.

A study by Mbiti and Weil (2011) on the impact of Mpesa in Kenya states that M-Pesa has found a niche in the former realm of day-to-day cash management, but not as much in the accumulation of larger sums. The introduction of a program encouraging saving and offering interest, might allow mobile banking to find an additional niche as a simple and secure financial tool for the accumulation of usefully large sums. This would assist in ensuring that the unbanked get access to banking services.

The fact that M-PESA creates opportunities for employment was also viewed as a positive aspect of the service. This demonstrates money’s role in the process of engagement According to Demombynes and Thegeya (2012), 93% of Kenyans are mobile phone users and 73% are mobile money customers. Out of the mobile money customers 23% use mobile money transfer at least once a day. Their conclusion was that the need for basic mobile savings as a repository for funds is widespread.
In a survey CGAP et al (2009), incomes of the rural recipients increased by five to 30 per cent since they started using M-Pesa. Out of a sample of 1210 users, 14.39% store money for everyday use, 6.69% store money for emergencies and 0.27% store money for unusually large purchases. This is a positive step towards alleviating poverty in Kenya. A research done on deconstructing life cycle expenditure that depicted that people tend to spend less as they age. The interesting thing is that the elderly are the most likely to be poor as compared to the younger. The lack of expenditure by the elderly is attributed to the fact that they seem to lack interest in areas and things that would appeal to the younger ages. (Aguiar and Hurst, 2013)

A study by Wolfgang, (2012), in a paper titled, ''How Kenya became a leader in Mobile Money he states that the emerging social and economic impact from Mobile Money Transfer has been remarkable. Businesses can operate more effectively: shop-owners don’t need to carry a lot of cash, or to stand in long queues at Banks to transfer money to suppliers. Urban dwellers no longer need to make overnight trips to their rural homes to pay their children’s school fees (or give money to relatives). Women have been empowered because their husbands have a harder time taking their money away. Even macroeconomic policy has become easier because the Central Bank has a better handle on the money in circulation, as mobile money helped to move cash from the mattresses to the market.

A study by the Bill and Melinda gates foundation (2013), Payment system innovations across markets are continuously developing, expanding the potential for improvements as new technology and business models emerge. Mobile money in East Africa and mobile phone-based card readers (both digital payments solutions) are two examples that have promising applications
to further reduce provider cost barriers as well as extend reach to lower income consumers. These indicators show us that payment system providers have the ability to lower costs, expand margins, and broaden services. If they can do these things and generate more value for themselves, they will coordinate more with each other, increase their investments, and focus on growth. These improved economics can give much larger portion of the population a first step to financial inclusion and the financial service support they can use to better their lives. The results would be a dual win for providers and consumers.

The studies above signify that indeed there is a positive relationship between the use of Mobile Money Transfer and Poverty in that it helps the poor save their little amounts and withdraw at the time of their convenience. It is therefore against this background of information that I intend to carry out my research.

2.5 Summary of Literature Review

Based on the studies that have been undertaken in this area it is evident that there is a knowledge gap on the benefit that can be received by embracing mobile money transfers positively. This study sought to enrich this area with more information.

The limitation of Diffusion of Innovation Theory includes the fact that much of the evidence for this works better with adoption of behaviors rather than cessation or prevention of behaviors and it doesn't take into account an individual's resources or social support to adopt the new behavior.

The limitations of the theory of planned behavior include the fact that it assumes the person has acquired the opportunities and resources to be successful in performing the desired behavior, regardless of the intention; it does not account for other variables that factor into behavioral
intention and motivation, such as fear, threat, mood, or past experience; while it does consider normative influences, it still does not take into account environmental or economic factors that may influence a person's intention to perform a behavior; it assumes that behavior is the result of a linear decision-making process, and does not consider that it can change over time; while the added construct of perceived behavioral control was an important addition to the theory, it doesn't say anything about actual control over behavior and the time frame between "intent" and "behavioral action" is not addressed by the theory.

There are only a few studies that have analyzed impacts on household welfare empirically. Several studies were initiated by telecommunication providers to demonstrate the viability of their business model but these results are not always representative (Duncombe & Boateng, 2009). In another quantitative study, Mbiti & Weil (2011) used aggregate data to show that mobile money use has positive effects on different economic indicators, including employment. Both studies did not analyze the impact on household income. As seen in the above cases, many studies on mobile money transfer tend to focus more on the customer outreach, mobile phone usage, M-pesa usage than on the social impacts attributable to the use of mobile money transfer thus leaving a gap in this area.
CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction
This chapter presents the research design, target population, sample and sampling design, data collection and analysis methods, research instruments that were adopted for the successful completion of this study.

3.2 Research design
Shuttleworth M. defines research as any gathering of data, information or facts for advancement of knowledge. Kothari (2011) defines research design as the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to research purpose to economy in procedure. This study used a descriptive design approach which involves observing and describing the behavior of a subject without influencing it in any way. In this case questionnaires were administered to a set of individuals and the data analyzed so as to arrive at the final conclusion. The descriptive design was recommendable because of the quantitative analysis involved after collecting the data.

3.3 Population
The Population of Kiambu County is 1,623,282 with 496,244 households. Using the 2010 World Population prospects where 2.7% of the Population is considered to be 65 years and above, households with elderly persons in Kiambu County are estimated at 13,398 while the population is at 43,828 persons.
3.4 Sample

The sample design was purposive sampling where a purposive sample is one that is selected based on the knowledge of a population and the purpose of the study. The subjects are selected because of some characteristic. In this case, the sample is of 100 persons from Kiambu County selected for the purpose of analyzing the poverty levels among the mobile money users.

3.5 Data Collection

This study used primary data on the effect of mobile money transfer on the poverty levels of elderly persons in Kiambu County. This was done by administering a questionnaire (attached) which had both open ended and closed questions that sought to get information on whether there is a relationship between mobile money transfer, age income levels, education and family size with poverty levels. The questionnaire is divided into five sections with each section covering a given variable and sought to obtain information on the variable. Section A covered Mobile Money Transfer, Section B covered Poverty Levels, Section C covered Income Levels, Section D Family Size and Section E, Education.

3.5.1 Data validity and reliability

To ensure data validity and reliability, a pilot test was done before the actual data collection was undertaken.

3.6 Data Analysis

According to Shamoo and Resnik (2003) various analytic procedures “provide a way of drawing inductive inferences from data and distinguishing the signal (the phenomenon of interest) from
the noise (statistical fluctuations) present in the data”. In this particular study, data analysis helped in making sense of the data collected.

3.6.1 Analytical model

Formula:-

\[ Y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \epsilon \]

Where: 

- \( Y = \) Poverty Levels and was measured using likert scale questionnaire question 12.
- \( X_1 = \) Mobile Money Transfer and was measured using likert scale questionnaire question 5
- \( X_2 = \) Income levels and was measured using likert scale questionnaire question 13
- \( X_3 = \) Family size and was measured using likert scale questionnaire question 14
- \( X_4 = \) Education and was measured using likert scale questionnaire question 15
This is summarized as follows:

Table 3.1: Operationalisation of Study Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Orientation</th>
<th>Measurement</th>
<th>Tool</th>
<th>Expected Sign</th>
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<tbody>
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<td>Poverty Levels (Y)</td>
<td>Dependent Variable</td>
<td>5 scale Likert Scale(1-5)</td>
<td>Descriptive Regression</td>
<td></td>
</tr>
<tr>
<td>Mobile Money transfer(X₁)</td>
<td>Independent Variable</td>
<td>5 scale Likert Scale(1-5)</td>
<td>Descriptive Regression</td>
<td>-</td>
</tr>
<tr>
<td>Age (X₂)</td>
<td>Independent Variable</td>
<td>5 scale Likert Scale(1-5)</td>
<td>Descriptive Regression</td>
<td>+</td>
</tr>
<tr>
<td>Income Levels (X₃)</td>
<td>Independent Variable</td>
<td>5 scale Likert Scale(1-5)</td>
<td>Descriptive Regression</td>
<td>-</td>
</tr>
<tr>
<td>Family Size (X₄)</td>
<td>Independent Variable</td>
<td>5 scale Likert Scale(1-5)</td>
<td>Descriptive Regression</td>
<td>+</td>
</tr>
<tr>
<td>Education (X₅)</td>
<td>Independent Variable</td>
<td>5 scale Likert Scale(1-5)</td>
<td>Descriptive Regression</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Researcher
It is expected from the analysis that increased value of money transfer, high income levels and high education level reduces one's poverty. Poverty, however, is expected to increase with age and family size.

Alpha ($\alpha$) is the constant or intercept, Beta ($\beta$) is the coefficient or slope and

$\varepsilon$ is the prediction error.

3.6.2 Test of Significance

To establish the test of significance, the analysis of variance (ANOVA) model developed by Fisher to determine the impact independent variables have on the dependent variable in a regression analysis was used.
CHAPTER FOUR – DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter discusses the data collected for the various variables and how it was analysed. The Variables analysed below are: Mobile Money Transfer, Poverty Levels, Income Levels, Family Size and Level of Education.

Sample Profile

Out of the 100 questionnaires administered, 63 were returned fully filled and were considered for the analysis. This translated to 63 percent response rate. Out of this, 55.6 percent received less than Kshs. 100 while 33.3 percent withdrew all the monies at a go. A further, 69.8 percent withdrew the money a day later, with the rest (30.2%) withdrawing the money a week later.

4.2 Descriptive Analysis

Table 4.1: Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poverty Levels</td>
<td>63</td>
<td>1.44</td>
<td>.501</td>
</tr>
<tr>
<td>Mobile Transfer</td>
<td>63</td>
<td>1.74</td>
<td>.640</td>
</tr>
<tr>
<td>Income Levels</td>
<td>63</td>
<td>3.02</td>
<td>.553</td>
</tr>
<tr>
<td>Family Size</td>
<td>63</td>
<td>2.68</td>
<td>.469</td>
</tr>
<tr>
<td>Education Level</td>
<td>63</td>
<td>1.78</td>
<td>.634</td>
</tr>
<tr>
<td>Age of the Respondent</td>
<td>63</td>
<td>67.33</td>
<td>11.488</td>
</tr>
</tbody>
</table>

Source: Researcher
4.3 Inferential Statistics

This entails using a sample to draw certain conclusions about a population. Described below is the correlation analysis, regression analysis and model summary out of this study.

4.3.1: Correlation Analysis

Table 4.2: Correlation Analysis

<table>
<thead>
<tr>
<th>Mobile Transfer</th>
<th>Mobile Transfer</th>
<th>Income Levels</th>
<th>Education Level</th>
<th>Age of the Respondent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>1</td>
<td>-539**</td>
<td>-0.39</td>
<td>-0.40</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.763</td>
<td>.754</td>
<td>.378</td>
</tr>
<tr>
<td>N</td>
<td>66</td>
<td>63</td>
<td>63</td>
<td>63</td>
</tr>
<tr>
<td>Income Levels</td>
<td>Pearson Correlation</td>
<td>-539**</td>
<td>1</td>
<td>-0.20</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.878</td>
<td>.318</td>
<td>.005</td>
</tr>
<tr>
<td>N</td>
<td>63</td>
<td>63</td>
<td>63</td>
<td>63</td>
</tr>
<tr>
<td>Family Size</td>
<td>Pearson Correlation</td>
<td>-0.039</td>
<td>0.20</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.763</td>
<td>.878</td>
<td>.143</td>
<td>.358</td>
</tr>
<tr>
<td>N</td>
<td>63</td>
<td>63</td>
<td>63</td>
<td>63</td>
</tr>
<tr>
<td>Education Level</td>
<td>Pearson Correlation</td>
<td>-0.040</td>
<td>-0.128</td>
<td>-0.187</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.754</td>
<td>0.318</td>
<td>0.143</td>
<td>0.234</td>
</tr>
<tr>
<td>N</td>
<td>63</td>
<td>63</td>
<td>63</td>
<td>63</td>
</tr>
<tr>
<td>Age of the Respondent</td>
<td>Pearson Correlation</td>
<td>-0.113</td>
<td>-0.351**</td>
<td>-0.118</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.378</td>
<td>0.005</td>
<td>0.358</td>
<td>0.234</td>
</tr>
<tr>
<td>N</td>
<td>63</td>
<td>63</td>
<td>63</td>
<td>63</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Researcher
From the above table, mobile money transfer and income levels have a moderate negative correlation which is significant at 99 percent of significance (R = -0.539, P<0.05). Likewise, the level of income and the age of the respondent have a weak negative correlation which is significant at 99 percent of significance (R = -0.351, P<0.05). All the others factors have either weak negative or positive relationship, and together with money transfer, income levels and age have no impact whatsoever of the regression model.

Explanatory variables are said to be problematic in a model when they are strongly correlated. In such a case, a new variable is generated to replace the two or one is dropped. This is not the case here. The correlation coefficient ranges from -1 to 1.
4.3.2: Regression Analysis

Table 4.3: Regression Analysis Coefficients Table

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>(Constant)</td>
<td>3.887</td>
<td>.643</td>
</tr>
<tr>
<td>Mobile transfer</td>
<td>-.106</td>
<td>.128</td>
</tr>
<tr>
<td>Income levels</td>
<td>-.243</td>
<td>.095</td>
</tr>
<tr>
<td>Family Size</td>
<td>.708</td>
<td>.103</td>
</tr>
<tr>
<td>Education level</td>
<td>-.085</td>
<td>.076</td>
</tr>
<tr>
<td>Age of the respondent</td>
<td>.005</td>
<td>.004</td>
</tr>
</tbody>
</table>

Dependent Variable: Poverty levels

Source: Researcher

A model of poverty levels, as dependent variable, and age of the respondent, family size, education level, income levels and mobile transfer, as explanatory variables, can be formulated as below;

\[ Y = 3.887 - 0.106X_1 - 0.243X_2 + 0.708X_3 - 0.085X_4 + 0.005X_5 \]
The above Equation shows that the model has a trend at 3.887, meaning that in a scale of 1-5, poverty levels are at 3.887 level if all the other factors have zero contribution. However, a unit increase in mobile money transfer, poverty levels reduce by 0.106 units, holding the other four (4) factors constant. Mobile money transfer alone is not a significant to poverty reduction ($t = -0.824, p>0.05$). On the other hand, an increase in income from one level to another i.e. from 1,000 to 10,000 reduces poverty by 0.243 units if all the other factors are held constant. Income levels alone contribute significantly to poverty reduction strategies ($t = -2.548, p<0.013$). As expected, a huge family size leads to more poverty, and the contribution is significant ($t =6.857, <0.05$) if all the other factors are held constant. A high education level is associated with low poverty, and a level rise in education level leads to 0.085 units decrease in poverty. This contribution alone is not significant, when the other four (4) factors are held constant. Added years of age increase the probability of slipping back into poverty by a 0.005 factor. Age alone is not significant ($t = 1.051, p>0.05$).
### Table 4.4: Test of Significance: ANOVA (Analysis of Variance Model)

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>7.512</td>
<td>5</td>
<td>1.502</td>
<td>10.655</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>8.044</td>
<td>57</td>
<td>.141</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>15.556</td>
<td>62</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Predictors: (Constant), Age of the respondent, Family Size, Education level, Income levels, Mobile Transfer

Dependent Variable: Poverty levels

**Source: Researcher**

As shown in table above, age of the respondent, family size, education level, income levels and mobile transfer significantly explain poverty levels at 95 percent level of significance \( F(5, 57) = 10.655, p<0.05 \). This means that the five (5) explanatory variables can be used to forecast poverty levels at any time.
4.3.3: Model Summary

Table 4.5: Model Summary

<table>
<thead>
<tr>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>.695</td>
<td>.483</td>
<td>.447</td>
<td>.372</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Age of the respondent, Family Size, Education level, Income levels, Mobile Transfer

Source: Researcher

The model summary table above shows that age of the respondent, family size, education level, income levels and mobile transfer explain 48.3 percent of the total variation in poverty levels. This means that other significant factors exist, which hold sway on poverty levels.
4.4 Interpretation of the Findings

According to table 4.3, as Mobile Money Transfer, Income Levels and Education Levels increase they lead to a significant reduction in poverty levels whereas family size and age increases it leads to a significant increase in poverty levels.

According to table 4.4, the variables used in this study have been able to explain poverty levels at a 95% level of significance. This shows that the variables used in this study were relevant to this particular area of study.

According to table 4.5, this study has only been able to explain the variations in poverty levels up to 48.3%. This implies that 51.7% variation in poverty levels is as a result of other variables not covered in this study.

In summary the findings of this study depict that the use of Mobile money transfer does help in reducing poverty. It is also important to note that reduction of poverty is attributable to many other factors and Mobile money transfer is one among others that helps in poverty reduction.
CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The study brings forth several insights regarding the effects of mobile money transfer on the savings behavior and practices of elderly and low income users in Kiambu County.

5.2 Summary

A critical finding is that mobile banking service is valued as a boom for small savers and users who depended on risky informal savings practices. In particular, a high percentage of users save in mobile banking for emergencies. More importantly, it is considered as a robust substitute to many informal savings mechanisms as well as a bank account.

Savings behavior indicated that mobile banking accounts have not dispelled the need for some of the savings mechanisms used earlier because different savings methods were perceived as having their own usefulness and purpose. Contrary to expectations, in addition to making payments and deposits easier and more accessible, mobile money accounts also seem to improve efficiency and regularity of other savings mechanisms.
5.3 Conclusion

Overall, the positive perceptions of mobile banking in the daily lives of mobile account holders are an encouraging sign of the potential of mobile money for expanding the financial inclusion of large numbers of elderly and low income households in Kiambu County.

The negative perceptions of non users with regard to their saving capacity speak on the one hand, to their irregular income and, on the other hand, to their lack of awareness of the potential of mobile banking for improving their financial opportunities. This lack of awareness raises the need for more creative strategies for reaching out to the poor in India and elsewhere. This alone will ensure their financial inclusion.

On comparing the findings of this study with other related studies which include Mbiti and Weil (2011) where they found that mobile money transfer contributes towards providing banking services to the unbanked. This study shows that with a mobile phone one is more economically empowered as they can receive money through the same. It also shows that the elderly have embraced mobile phone usage very positively.
5.4 Policy Recommendations

Since majority of respondents have mobile phone but others have not applied the use of mobile banking, this technology needs further promotion so that all the elderly people can make good use of it.

From the findings of the study, it was clear that many respondents live under abject poverty. Consequently, here is need to improve the manner in which money is transferred to the elderly people in the cases of those registered with it so that the level of poverty and the gap between the rich and the poor to be reduced.

It was evident from the findings of the study that most of people depend on the money being sent to them from other people and not from their own initiatives. Consequently, there is need to engage the elderly in some income generating activities that can help them feed themselves and reduce dependency ratio. There is also the need to improve education in the region so that the new generation can depend on themselves. In conclusion, the Government of Kenya to explore the use of Mobile Money Transfer as a payment solution for the Cash transfer to elderly persons Programme
5.5 Limitations of the Study

In the course of conducting this study some challenges were experienced that hindered the achievement of better results which included lack of sufficient time available for research, the target population of the elderly is quite a challenge to interview, the area of study.

The elderly are not an easy group of people to interview as they quickly get tired of something. In addition, the time required to interview them is long as they take some time before responding to a question. There is also a lot of expectation from them that once they are interviewed they will be getting something in return.

Given the limited time of research, there was no ample time to spend with each elderly person as you interview them as their speed of processing information cannot be compared to a middle age or young person. In addition as one interviews an elderly person you must understand the local language spoken by the person as many of them are not conversant with English & Swahili.

The vastness of Kiambu County was also a limitation in the sense that Kiambu county spreads all the way from Thika and Juja traversing Kiambu town and Gatundu going all the way to Limuru, Ndenderu & Lari. It was not possible to have every area covered by the study as a result of this. The sample of 63 was found to be representational of all these areas.

Dealing with the level of eagerness and high expectation of the elderly is also a challenge as they seem to have a certain expectation that once you interview them, they will get something back into their lives that will enrich them further.
5.6 Suggestions for Further Research

Mobile money transfer is an area that needs further research as indicated by International Finance Corporation (2011) that a study on mobile money offers a framework for a quick market study of a country to determine what type of mobile money services might be developed commercially.

Another area of research would entail studying on how to promote financial inclusion of the elderly persons at a global level. This would entail analyzing various welfare programs globally and evaluating the level of financial inclusion brought about by the same.

In conclusion, there is need to do a study on income generating activities that are favorable to the poor given their level of strength and processing information. This would go a very long way in ensuring that individuals are economically empowered even in their old age.
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APPENDIX: - Questionnaire Tool

BASIC INFORMATION:-

Name: Id No:

Location: County:

Date enrolled in the Program: (Applies to persons enrolled in the elderly persons cash transfer)

SECTION A: - MOBILE MONEY TRANSFER

1. Do you have a mobile phone?
   Yes [ ] No [ ] (If yes go to question 2)

   1 [ ] 2 [ ]

2. Do you use a mobile money transfer service?
   Yes [ ] No [ ]

   1 [ ] 2 [ ]

3. When was the last time you received money using this service?
   a) 1 day ago 1 [ ]
   b) A month ago 2 [ ]
   c) A year ago 3 [ ]
4. After how long did you withdraw all the money sent?
   a) Immediately  1
   b) A day later  2
   c) A week Later  3
   d) A month later  4
   e) Not sure  5

5. What was the value of the transfer?
   a) Shs 100 and below 1
   b) Shs 101 - 250  2
   c) Shs 251 - 500  3
   d) Shs 501 and above  4

6. Do you withdraw all the money at once when you receive it or do you withdraw gradually depending on the need for the money?
   a) Yes  1
   b) No  2

7. Do you feel safe leaving some money in the mobile money transfer service or do you prefer withdrawing all of it?
   a) Withdrawing all  1
   b) Leaving some money  2
8. What do you find more convenient?

a) Getting the actual cash regardless of time taken 1
b) Receiving the money via mobile money transfer 2
c) Not sure 3
d) Any other (To be specified) 4

9. Where do you collect your cash transfer payments? (Applies to persons enrolled in the elderly persons cash transfer)

10. Would you consider receiving the same amount on your mobile phone? (Applies to persons enrolled in the elderly persons cash transfer)

11. Any reservations/challenges on mobile money transfer?
SECTION B: - Poverty Levels

12. What is your daily expenditure?

a) Shs 100 and below 1
b) Shs 101-250 2
c) Shs 251-500 3
d) Shs 501 and above 4

SECTION C: - INCOME LEVELS

13. What are your daily income levels?(In kshs)

a) 0 – 1000 1
b) 1001-10000 2
c) 10001 – 50000 3
d) Over 50001 4
SECTION D: - FAMILY SIZE

14. How many are you in your family?

a) Alone 1
b) 2-5 members 2
c) 6-10 members 3
d) Above 10 members 4

SECTION E: - EDUCATION

15. What is your highest level of education?

a) Primary 1
b) Secondary 2
c) University or college 3
d) Village Polytechnic 4
e) None 5