

USE OF MOBILE PHONE COMMUNICATION FOR GENERATING HOUSEHOLD INCOME IN THE RURAL AREAS IN KENYA

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Abstract

Use of mobile phone has evolved in the recent years and has become a great economic tool for households in rural areas. The mobile communication compensate for inadequate infrastructure by allowing resources and information move free including efficient money transactions. The study was motivated to assess the extent to which mobile phone communication is being used to generate household income. The main units of study were the households in Kiagu locations of Abothuguchi Sub-County in Meru County. One member of every household who owned a mobile phone and used the M-pesa money transfer service was interviewed. A total of 50 households were interviewed including 4 key informants. Data was collected through questionnaire and analyzed with aid of SPSS. The findings indicated that The study concludes that the introduction of mobile phone technology especially with the innovation of m-pesa service has impacted positively on the household income of the rural areas. The study therefore recommends that government should also work together with non-governmental organizations in training rural households on more various ways they can use mobile phone technology for economic generating activities like marketing of their farm products and accessing information which can be useful in their day to day lives.

Key Words: Mobile phone technology, household income, income levels , Mpesa

1.1 Introduction

Usage of mobile phones for e-commerce has enhanced innovations and technical changes in the informal sector particularly in the rural areas. They have evolved within a few years to become economic empowerment for the rural poor. They compensate for in adequate infrastructure, such as bad roads and slow postal services by allowing resources and information to move more freely including making money transactions more efficient. This has a direct impact on economic growth. According to Diga (2008) mobile phones are not identified by most international agencies as tools for development, while they have become long term economic investment for the disadvantaged. She further states that many people across Africa are investing in mobile telephony before meeting the needs of improved sanitation, water, health, housing and education. Mobile phones are regarded as catalysts for productivity, networking and information gathering; and this minimizes the need to travel or to have a face-to-face meeting to complete business deals (Melchioly & Saebo, 2010).

In most developing countries, Kenya not an exception, governments are struggling with the need to improve the living conditions of their people. Among the strategies adopted include the formulation of pro-poor policies and heavy investments in Research and Development (R&D). The latter has encouraged and supported technological innovations taking place in developing countries.

1.2 Statement of the Problem

Reducing poverty and increasing per capita incomes are primary focus of public policies in most countries in sub-Saharan Africa. Many countries in the region, including Kenya have formulated

Poverty Reduction Strategy Papers (PRSP) and are determined to achieve the Millennium Development Goal (MDG) number one of reducing poverty by half and hunger by 2015. High poverty and low per capita incomes coupled with increasing vulnerability to various shocks has motivated poverty and vulnerability research in sub-Saharan Africa. The Kenya government recognizes that information and communication technologies are an engine of development and economic growth. It's therefore, increasingly making investments in poverty monitoring through welfare monitoring surveys with support from World Bank to inform policy decisions and poverty reduction interventions. One of such an investment is the innovation of mobile phone for e-commerce. Once a toy for the rich, mobile phones have evolved in the recent times as tools of economic empowerment for the world's poorest people. It is perceived that if this innovation is taken up by individuals can help to fight poverty as well as provide a material basis for implementing strategies for addressing other social ills. However evidence of this role of mobile phones among households has been lacking. This study sought to assess the extent to which mobile phone communication is being used to generate household income.

1.3 Research Objective.

To assess the extent to which mobile phone communication is being used to generate household income.

2.1 Critical review on use of Mobile Phone Technology in Kenya

Although the growth of mobile phone use has been tremendous over the last years not much empirical research has been done on the impact it has on the households' income in Kenya. However, Gyimah-Brempong et al (2007) are implying that Africa might be the region of the world where the mobile phone could make the biggest economical difference considering the poor infrastructure making other technologies e.g. personal computers, difficult or even impossible to access. Arunga & Kahora (2006) also agree that the telecom industry is doing very well as mobile phone users are rapidly increasing.

On a more economic level, Jacobson (2006) points out that the mobile phone is playing a significant role in the growth of businesses in the rural and small towns. Shopkeepers, auto mechanics, electricians, farmers, open-air market business people have realized the value of having a mobile phone as it makes it possible to strike deals with customers, place orders, contacting business associates and so on. Although Jacobson's study does show the usefulness of the mobile phone in promoting growth of enterprises, the study does not show how mobile phones impacts on the households' income in the same areas.

Despite the fact that in the countryside the income growth might be on a very small range, it is important to note that there are observable facts. People do not need to take a trip to places to check prices on different products or asking for appointments or even search for a job, all these tasks can be done via the mobile phone. In a study by Arunga & Kahora (2006), women entrepreneurs almost cut the expenditures in half on travels. Before, they spent equivalent to Ksh 750 a week on meeting business associates and agents to ensure that their supplies would arrive to the preferred destination with no problem. They now spend only Ksh. 400 a week to do the same thing and they say it has become easier to perform and complete a business transaction through the mobile phone (William, 2007).

According to Fahamu (2007), the economic impacts of mobile phones use are felt on individual levels, in businesses and on overall activities that are undertaken by different people. The M-Pesa function is booming because many people in Kenya need to send money to their families who usually live upcountry to help them out. According to AFP (2007) and Nyamache (2011) opine that the M-Pesa function is making bank institutions re-think on how to handle those who live in rural areas, as they often do not have bank accounts. Nonetheless more than half the population in Kenya now owns or has

access to a mobile phone providing a great potential for banks and other financial institutions to utilize the prospect to attract new kind of customers (AFP, 2007).

2.2 Materials and Methods

The data on extent to which mobile phone communication is being used to generate household income was collected from Central Imenti constituency of Meru County in Eastern Kenya. The main units of study were the households in Kiagu locations of Abothuguchi Sub- County in Meru County. One member of every household who owned a mobile phone and used the M-pesa money transfer service was interviewed. A total of 50 households were interviewed including 4 key informants. The study employed simple random sampling to enhance the representativeness of its findings. This method ensured that the whole population was adequately represented in the sample so as to increase their level of accuracy when estimating parameters. The study was based on primary data collected from the site. The main tool of data collection was structured questionnaires where respondents were subjected to face to face interviews. The data collected for this study was checked for completeness and consistency before processing. Checking was done with the view of detecting errors and omissions and other discrepancies in the filled questionnaires. This was to guarantee that quality data and reliable results were obtained. The data was then coded and entered into an SPSS programme to run frequencies.

3.1 Results, Analysis, Discussions and Conclusions

The study sampled 50 respondents who possessed a mobile phone. A total of 4 key informants were also interviewed, specifically to provide deeper insight into the relationship between mobile phone adoption and household income outcomes. The response rate for the key informants was also 100%. Those interviewed were mobile money transfer agent, the local chamber of commerce representative, co-operative society officer and a local leader (chief).

3.2 Uses of Mobile Phone Technology to generate Income

The objective of the study was to assess the extent to which mobile phone technology is used to generate household income. All the respondents indicated that they use their mobile phone in income generating activities. This corresponds with the earlier analysis that the primary motivation for acquiring a mobile phone was largely for commercial purposes. The study further sought to know the various ways in which the study participants used their phones for income activities

Table 4.1 shows that nearly 44% of the respondents indicated that they use their mobile phone handset to send and receive money to and from other people. Also, another nearly 40% of the respondents indicated that they receive calls and short message services for income generating purposes (e.g. a *bodaboda* (motorcycle) operator may receive a short message or a call from a customer in need of transport). Only 17% of the respondents indicated that they use their mobile phones for income generating ways by calling and sending short messages. The response rate for this particular question was not 100% because 4% of the respondents did not answer this question. However, this did not affect the findings.

Table 4.1 How Mobile Phone is used to generate Household income

Economic uses of mobile phone		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Calling/sms for income generating purposes	8	16.0	16.7	16.7
	Receiving calls/sms for income generating purposes	19	38.0	39.6	56.3

	Sending/ receiving money to/from other people	21	42.0	43.8	100.0
	Total	48	96.0	100.0	
Total		50	100.0		

In regard to the use of the mobile phone for the M-pesa services, which include depositing cash, withdrawing, sending money, paying bills, and shopping among others all the respondents indicated that they use their mobile phones for all the listed M-pesa services. To establish whether the use of mobile phone had influence in their income outcomes, all the respondents acknowledged that since they adopted mobile phone technology, there has been improvement in their household incomes a change they overwhelmingly attributed to mobile phone technology.

Table 4.2 : Uses and influence of mobile phones on household income outcomes

Do you use your mobile phone for all M-pesa services	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	50	100.0	100.0	100.0
Total	50	100.0	100.0	100.0
Has adoption of mobile phone influenced your household income outcomes				
Yes	50	100.0	100.0	100.0
Total	50	100.0	100.0	100.0

To examine the validity of the response on the influence of mobile phone technology on household income outcomes, the respondents were asked to state their average monthly income before and after the acquisition of a mobile phone. The data in table 4.2 shows the distribution of respondents’ average monthly income prior to acquisition of a mobile phone. The data in the table shows that before acquiring a mobile phone, 48% of the respondents had an average monthly income of below Kshs 10,000; 32% of the respondents had an average monthly income of between Kshs 10,001-20,000 followed by 14% of the respondents whose average monthly income was kshs 20,001-30,000 while 4% indicated that their monthly income was Kshs 30,001-40,000 and a mere 2% said their monthly income was above kshs 40,000

Table 4.3 Distribution of Respondents Average monthly income before acquisition of Mobile Phone

Average monthly income prior to mobile phone acquisition	Frequency	Percent	Valid Percent	Cumulative Percent
Below 10,000	24	48.0	48.0	48.0
10,001-20,000	16	32.0	32.0	80.0
20,001-30,000	7	14.0	14.0	94.0
30,001-40,000	2	4.0	4.0	98.0
Above 40,000	1	2.0	2.0	100.0
Total	50	100.0	100.0	

The data on the respondents’ average monthly income after acquiring a mobile phone gives credence to the earlier finding that indeed adoption of mobile phone has had a positive influence on the household income outcomes. A comparison of data in Table 4.3 and that in the preceding Table 4.3.1 shows that the average monthly income of the category of respondents whose monthly income before obtaining a mobile phone was below Kshs 10,000 reduced remarkably from 48% to 16 % indicating a difference of 32% of respondents whose average monthly income increased from their previous average monthly earnings. Those whose monthly income was Kshs 10,001-20,000 increased from 32% to 38 %

while the category of Kshs 20,001-30,000 increased from 14% to 16%. Consequently those respondents whose monthly income was Kshs 30,001-40,000 increased from 4% to 22%. The monthly category of above Kshs 40,000 increased from 2% to 8%.

Table 4.3.1 Distribution of respondents' Average monthly income after acquisition of Mobile Phone

Average monthly income prior to mobile phone acquisition	Frequency	Percent	Valid Percent	Cumulative Percent
10,001-20,00	19	38.0	38.0	38.0
20,001-30,00	8	16.0	16.0	54.0
30,001-40,00	11	22.0	22.0	76.0
above 40,000	4	8.0	8.0	84.0
below 10,000	8	16.0	16.0	100.0
Total	50	100.0	100.0	

As shown by the findings in table 4.4 majority of the respondents consisting 92% agreed that the adoption and use of mobile phone had a huge impact on their household income.

Table4.4: Respondents views on the impact of mobile phone on household income in the last one year

Perceived level of impact	Frequency	Percent	Valid Percent	Cumulative Percent
Very much	44	88.0	91.7	91.7
Neither very much nor not much	2	4.0	4.2	95.8
Not much	2	4.0	4.2	100.0
Total	48	96.0	100.0	
Total	50	100.0		

The key informants indicated that the standard of living had improved since the M-pesa empowered the residents by making it easier for them to solicit funds from their relatives in the city. They are therefore able to provide for their families better particularly in terms of food, education and health care. The co-operative society representative excitedly informed us that, "This Mobile phone technology has helped my farming grow because I am able to know better prices for my products in other markets where I sell them instead of selling in my rural local market. From the above findings, it is clear that the adoption of mobile phones within Kiagu has a positive impact on the household income outcome, thereby bringing economic development to the area.

5.0 Conclusion

In light of the findings from this study we can conclude that the introduction of mobile phone technology especially with the innovation of m-pesa service has impacted positively on the household income of the rural areas. It is clear from the findings that the income and economic development in Kiagu location has improved, with the adoption of mobile phone technology. The welfare of the households have also significantly improved due to enhanced communication which leads to efficiency in business transactions. Rural people can be in a position to order goods from wholesalers and through use of phone goods can be delivered easily to retail shops and directly to consumers thus increasing trade and income generating activities.

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