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Socio-economic Effects of Mpesa Adoption on the Livelihoods of People in Bureti Sub County, Kenya

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Abstract

MPesa is a mobile phone based money transfer system in Kenya which grew at a blistering pace following its inception in 2007. Its adoption is country wide; both in the urban and rural areas. Mpesa enables the users to send money in electronic form, store money on a mobile phone in an electronic account and deposit or withdraw money in the form of hard currency at any of the Mpesa agents, pay bills and purchase goods and services. The purpose of the study was to identify socio-economic effects of Mpesa adoption on the livelihoods of people in Bureti Sub County. The study adopted a survey research design. The sample of study comprised of 105 Mpesa owners and operators selected purposively from three divisions: Roret; Cheborge, and Buret. Data for this study was obtained mainly from primary sources collected using a structured questionnaire. Data was analyzed using descriptive and inferential statistics. Spearman's rank correlation coefficient was used to test hypotheses. Among the respondents 54% were male and 46% were female. The results indicate that majority (45%) of the Mpesa shops had been in operational between 2 and 3 years. The study established a positive correlation between Mpesa and creation of employment (correlation coefficient of 0.334), Mpesa and access to credit facilities with a coefficient of 0.141 and,

Mpesa and income generation with a coefficient of 0.356. This shows that Mpesa operation had improved peoples' livelihood in Bureti Sub County by creating employment opportunities, increasing income generation, access to credit facilities and social capital between families and friends. In order to fully tap the benefits of Mpesa in the area, its services should be extended to all parts of the Sub *County, as well as widening the scope of banking services to include provision of micro credits to customers.*
Keywords: Income generation, Job creation, Livelihood, Mpesa Adoption, Money transfer, Socio-economic.

Introduction

Mpesa, an agent-assisted, mobile phone-based, person-to-person payment and money transfer system, was launched in Kenya on March 6, 2007. It allows users to store money on their mobile phones in an e-account and deposit or withdraw money in the form of hard currency at one of Mpesa's numerous agent locations (Megan, Plyler, and Geetha, 2010). Since its inception, Mpesa has picked up remarkably quickly, covering the majority of geographic areas of the country. It aimed at attracting 250,000 customers in its first year, and reached that milestone in only four months. About 1 million customers registered with Mpesa by the end of year one. According to the Communications Commission of Kenya (CCK 2012), Safaricom had 19,006,981 users by October 2012. This represented 64% of the mobile money transfer market. Safaricom has also collaborated with various local financial institution and banks to provide financial services (Mas and Ng'weno, 2009).

According to safaricom, the cumulative value of money transfers is over 118 billion KES (£946 million) per year. The Mpesa agent network has also grown rapidly. Over 10,000 retail outlets have signed up as agents, and provide customers with points at which they can deposit and withdraw cash. These agents are located throughout urban and medium-to-large market centers in the country (Mas and Ng'weno, 2009). Although Mpesa was designed as a money transfer service, there is evidence that it is also being used for savings. For example, a study funded by FSD-Kenya of over 3000 households in Kenya revealed that users were storing money in Mpesa. Research has also revealed that Mpesa is one of the most popular mechanisms for savings amongst rural people. These results raise some interesting questions. In particular, why did Mpesa beat out the mattress and other popular savings mechanisms? Is Mpesa becoming a substitute for these other mechanisms? How are the savings patterns of the poor changing as they begin to store money with Mpesa? (Olga, 2009)

The explosive growth of M-Pesa has inevitably inspired a great deal of discussion about what the system really is and what it could grow to be. Suri and Jack (2011) reported that three out of four M-Pesa users indicate that, they use it to save money. Recently, the potential for M-Pesa to be a savings vehicle has received even more attention, as Safaricom and Equity Bank have introduced M-Kesho, an interest-bearing savings account that is directly linked to Mpesa. Aminuzzaman, Baldersheim, & Jamil (2003) contends that the rapid uptake and extensive reach of the application has led many development practitioners to argue that Mpesa, and similar applications, have the potential to become transformational. That is, they can extend the reach of financial services to the unbanked segment of the population. According to Anderson, Baland, & Moene (2008) previous studies have shown that such services provide a foundation for economic development and in particular, allow the poor to climb the banking ladder by facilitating access to the formal economy.

Furthermore, it is asserted that through such participation the poor can increase their wealth, diversify their asset base and become more resilient to shocks. Morawcyznski and Pickens (2009) observe that Mpesa users sent smaller but more frequent remittances, which resulted in overall larger remittances to rural areas. They also observe that urban migrants using M-Pesa visited their rural homes less frequently, potentially weakening the social ties between migrants and their home communities. Researchers have also noted the potential of Mpesa to affect savings. Morawcyznski and Pickens (2009) observe that users often keep a balance on their Mpesa accounts, thereby using the system as a rudimentary bank account despite the fact that the system does not provide interest. Given the remarkable outreach and use of Mpesa, its sustainability may depend on achieving community wide impact where even the rural people are active participants. Therefore, this study captured the social and economic effects realized by both owners and operators of the Mpesa in Bureti Sub County.

Materials and Methods

Study Area

Bureti Sub County is located in Kericho County between 0.5^0 S and 35.25^0 E. Its borders Kericho district to the North, Konoin to the East, Sotik to the South and Nyamira district to the South West. The district occupies a total area of 955 km^2. Administratively, the district has three divisions: Roret; Cheborge, and Buret, which are further, divided into Locations and sub-Locations. The district headquarters is in Litein town. Economic activities in Bureti Sub County include tea growing and processing; dairy farming; commercial businesses. The change in altitude factors causes the temperature to vary from 20-28ºC. The mean annual rainfall varies from 1400 mm to 1800 mm. The district has a population of 316,882 people (GoK, 2010).

Study Design and Data Analysis

The study used survey research design.method. According to ASA (2005), Survey research is a method of gathering data from a selected group of people, in their natural environment, for a specific purpose. The study involved a sample of 105 Mpesa owners and operators selected purposively from three divisions: Roret, Cheborge, and Buret. Purposive sampling was used to accomplish the blanket selection of Mpesa owners and operators for the survey. Trochim, (2006) argues that when purposive sampling is implemented, the researcher has a specific purpose and specific predefined group in mind. Data for this study was obtained mainly from primary source collected using a structured questionnaire. Data was analyzed using descriptive and inferential statistics. Spearman's rank correlation coefficient was used to test for significant relationship between Mpesa operation and improvement of livelihood.

Results and Discussion

Respondents' Characteristics

The study involved 103 Mpesa owners and operators; 35% were from Buret, 33% from Roret and 32% from Cheborge divisions. Among the respondents 54% were male and 46% were female. Their ages ranged from 19 to 62 years, although majority of the respondents (55%) were aged between 19 and 28 years old. Regarding their marital status, 68% were married and 32% were single. The family sizes of the married respondents ranged from 1 to 8 children however, majority (54%) had between 3 and 6 children. All the respondents were literate, since 9% had primary education and 91% had secondary education and above. The results

also indicate that majority (45%) of the Mpesa businesses have been in operational between 2 and 3 years.

Effect of Mpesa on Job Creation

The survey also assessed the effect of Mpesa operation on creation of job opportunities in Bureti Sub County. In order to establish the level of job creation as a result of Mpesa adoption, the study sought to determine; the average number of customers served by an Mpesa agent, number of cash transfers per day and number of employees per Mpesa agent.

Number of customers served per Day

The results indicate that the number of customers served per day ranged from 19 to 150 people per Mpesa agent although majority (53%) of the Mpesa operators reported having served between 19 and 40 customers per day. This indicates that the many people in the rural areas are now using Mpesa for sending, withdrawing or depositing cash. Table 1 presents number of customers served by the Mpesa agents per day.

Table 1: Number of customers served by the Mpesa agents per day

Number of customers/per day	Frequency	Percent
19 - 40	55	53.4
41 - 60	17	16.5
61 - 80	0	0.0
81 - 100	21	20.4
100 – 120	7	6.8
Over 120	3	2.9
Total	103	100

Number of cash transfers per day

The results further indicate that the number of cash transfers per day ranged from 10 to 160. As shown in Table 2, majority of the Mpesa shops (46%) reported between 10 and 30 cash transfers per day. This shows that many people in Bureti Sub County transfer money through Mpesa mainly because it's a cheaper method of instantly transferring funds as noted by Mbiti & Weil (2011).

Table 2: No of cash transfers per day

No. of cash transfers/per day	Frequency	Percent
10 - 30	47	45.6
31 – 60	28	27.2
61 - 90	12	11.7
91 - 120	10	9.7
Over 120	6	5.8
Total	103	100.0

Number of people employed in the Mpesa Shops

The results further indicates that most of the Mpesa shops (63%) were being operated by one person, 25% were operated by two people, 8% were operated by 3 people and 4% were operated by 5 people as depicted in Figure 1. This shows that Mpesa had created employment opportunities for some people in Bureti Sub County.

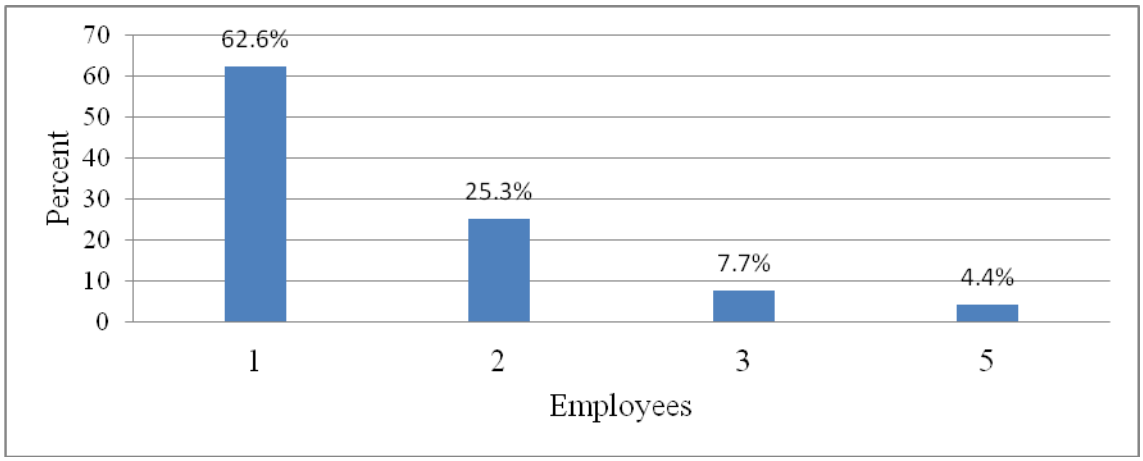

Figure 1: No of employees

In a scale of 1- 4, the respondents were asked to indicate the extent to which they agreed with a set of statement relating to the effect of Mpesa on creation of job opportunities. As shown in Table 3, most of the Mpesa agents confirmed that Mpesa adoption has led to increase of small, informal business such as vegetable sellers and foodstuff Kiosks in the area as supported by a mean response of 3.398. These findings confirms those of Plyler et al (2010) who argue that M-Pesa has promoted the growth rates of (small-scale) firms in the communities they studied, and they argue that this was largely driven by the increased circulation of money in these communities. They also stated that Mpesa services had led to expansion of expansion of businesses by making available more goods and services in the market (3.4951). The standard deviation were small (0.5484 and 0.5920) meaning there was no big variation in the responses i.e. the responses were slightly scattered around the means.

Table 3: Effect of Mpesa on job creation

Statement	Mean	Standard deviation
Mpesa use has led to increase of small, informal business such as vegetable sellers and the women who make foodstuff for sale in the area	3.398	0.5484
Mpesa use has led to the expansion of businesses through making available more goods and services in the market	3.4951	0.5920

Hypothesis 1: Mpesa operation has no significant effect on creation of employment opportunities in Bureti Sub County

Spearman's rank correlation test was run to establish the effect of Mpesa on creation of employment opportunities in Bureti Sub County. As shown in Table 4, there was a positive correlation between Mpesa and creation of employment opportunities with a coefficient of 0.334. The hypothesis was tested at a 0.01 significance level. The p-value was 0.001 and thus, less than the alpha of 0.01 hence establishing a significant relationship between the two variables. This indicates that adoption and provision of Mpesa services in the districts had contributed significantly to the creation of job opportunities. Moreover, as shown in Table 3 Mpesa operation has led to start of other small businesses in the area. The findings are in line

with those of Mbiti and Weil (2011) who argue that the increases in employment due to Mpesa are driven by changes in farm employment. One possible explanation is that the increased resource flows due to Mpesa are channeled towards farming, thus boosting the demand for labor and increasing employment.

Table 4: Spearman's rank correlation between Mpesa operation and job creation

			Mpesa operation	Job creation
Spearman's rho	Mpesa operation	Correlation Coefficient	1.000	.334**
		Sig. (2-tailed)	.	.001
		N	103	103
	Job creation	Correlation Coefficient	.334**	1.000
		Sig. (2-tailed)	.001	.
		N	103	103

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

Mpesa and Access to Credit Facilities

In a scale of 1- 4, the respondents were asked to indicate the extent to which they agreed with a set of statement relating to the effect of Mpesa on access to credit facilities. The results in Table 5 indicate that Mpesa facilitated people to access credit through Mswari services (mean, 3.363), enhanced interpersonal transaction (person to person) and this made it possible for people to borrow from friends and relatives (3.116), and also facilitated people to access credit from commercial banks (3.369). The standard deviation ranged from 0.63010 to
0.8666. This shows that the responses were not largely dispersed from the mean responses since the larger the standard deviation the higher the level of scatteredness of the responses.

Table 5: Effect of Mpesa on access to credit facilities

Statement	Mean	Standard deviation
Mpesa facilitates people to access credit through Mswari services	3.363	0.63010
It facilitates interpersonal transaction (person to person) and this makes it possible for people to borrow from friends and relatives.	3.116	0.8666
It enables access to credit from commercial banks	3.369	0.76684

Hypothesis 2: Mpesa operation has no significant effect on access to credit in Bureti Sub County

In order to establish whether there is any relationship between the two variables, spearman's rank correlation test was run. As shown in Table 6, there was a positive correlation between Mpesa and access to credit facilities with a coefficient of 0.141. The hypothesis was tested at a 0.01 significance level. The p-value was 0.157 and thus, higher than the alpha of 0.01 hence establishing a non-significant relationship between the two variables. This indicates that although Mpesa had improved credit access in the area its effect was not significant.

Table 6: Correlation between Mpesa and access to credit facilities

			Mpesa operation	Access to credit
Spearman's rho	Mpesa operation	Correlation Coefficient	1.000	.141
		Sig. (2-tailed)	.	.157
		N	103	103
	Access to credit facilities	Correlation Coefficient	.141	1.000
		Sig. (2-tailed)	.157	.
		N	103	103

Mpesa and Income Generation

Income generated from Mpesa per day

The result (Figure 2) indicated that majority of the respondents (55%) generated between Kshs 15,000 and Kshs 25, 000. per day. This shows that there is a high cash flow through Mpesa.

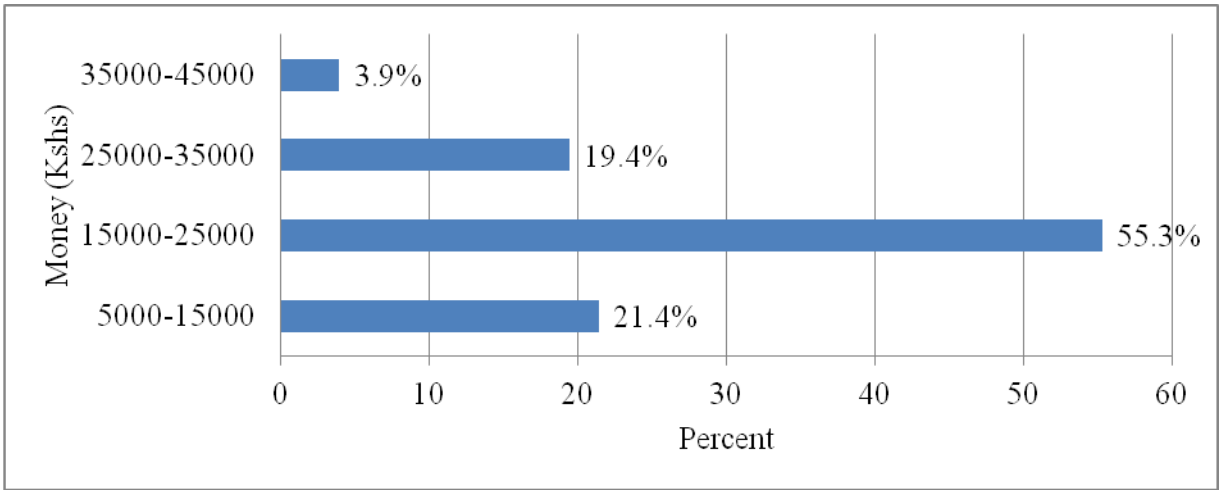

Figure 2: Income generated from Mpesa agents per day

As shown in Table 7, adoption of Mpesa had led to increased money circulation and expansion of local market hence improving people's livelihood in the district (3.4563). It also emerged that mobile phones allowed immediate money transfers from town to village and vice versa with consequences on time and money savings rapid solution to daily problems affecting vulnerable communities (3.5825). The respondents also confirmed that Mpesa empowered rural women by making it easier for them to solicit funds from husband and friends working in the city (3.4000). The standard deviation ranged from 0.55172 to 0.78935.

Table 7: Effect of Mpesa on income generation

Statement	Mean	Standard deviation
Adoption of Mpesa has led to increased money circulation and expansion of local market hence improving people's livelihood in the areas	3.4563	0.78935
The mobile phone allows immediate money transfers from town to village and vice versa with consequences on time and money savings rapid solution to daily problems affecting vulnerable communities	3.5825	0.55172

Mpesa empowers rural women by making it easier for them to solicit funds from husband and friends in the city.	3.4000	0.61791

Hypothesis 3: Mpesa operation has no significant effect on income generation in Bureti Sub County

Spearman's rank correlation test was run to establish the effect of Mpesa on income generation in Bureti Sub County. As shown in Table 8, there was a positive correlation between Mpesa and income generation with a coefficient of 0.356. The hypothesis was tested at a 0.01 significance level. The p-value was 0.000 and thus, less than the alpha of 0.01 hence establishing a significant relationship between the two variables.

Table 8: Correlation between Mpesa and income generation

			Mpesa operation	Income generation
Spearman's rho	Mpesa operation	Correlation Coefficient	1.000	.356**
		Sig. (2-tailed)	.	.000
		N	103	103
	Income generation	Correlation Coefficient	.356**	1.000
		Sig. (2-tailed)	.000	.
		N	103	103

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

Social Effects of Mpesa

In a scale of 1 – 4, where 1 signifies strongly disagree and 4 means strongly disagree, the respondents were asked to indicate the extent to which they agreed with a set of statement regarding the social effect of Mpesa adoption. The means and standard deviation were then computed. The results in Table 9 indicate that Mpesa use had strengthened social bonds by enabling people to receive and send money to each other when in need (3.4369). Through Mpesa, many people sent money directly to their rural relatives, without spending time and money on the journey. Less frequent home visits was a concern for rural wives especially in the Sub County (3.4563). The respondents also pointed out that, men drunk more with Mpesa because they got money when they needed it (2.7087). This made them spend more time in pubs and bars and less time with their families. The results also indicate that the ease of sending and receiving rescue money had strengthened friendships and increased social interaction (3.1165). This confirms the findings of Grewal (2008) that Mpesa is a network in the sense of interconnected group of people linked in a way that makes them capable of beneficial cooperation which can take various forms including the exchange of goods and ideas. The standard deviations were large indicating that the responses were dispersed from the mean.

Table 9: Social effects of Mpesa

Statement	Mean	Standard deviation
Men drink more with Mpesa because they get money when they need it	2.7087	1.09930
The ease of sending and receiving rescue money has strengthened friendships and increased social interaction	3.1165	1.05998

Through Mpesa, many people send money directly to their rural relatives, without spending time and money on the journey. Less frequent home visits are a concern for rural wives especially in the Sub county.	3.4563	0.78935
Mpesa use has strengthened social bonds by enabling people to receive and send money to each other when in need	3.4369	0.72315

Mpesa Services in Bureti Subcounty

Majority of the Mpesa agents (87%) offer cash transfer and airtime sale services, while 12.6% provide bank services (serve as bank agents) as depicted in Figure 3. The bank agents offer cash deposits and withdrawal services. Most of the bank Mpesa agents (93%) provide Equity bank services while 7% were agents of Kenya Commercial Bank.

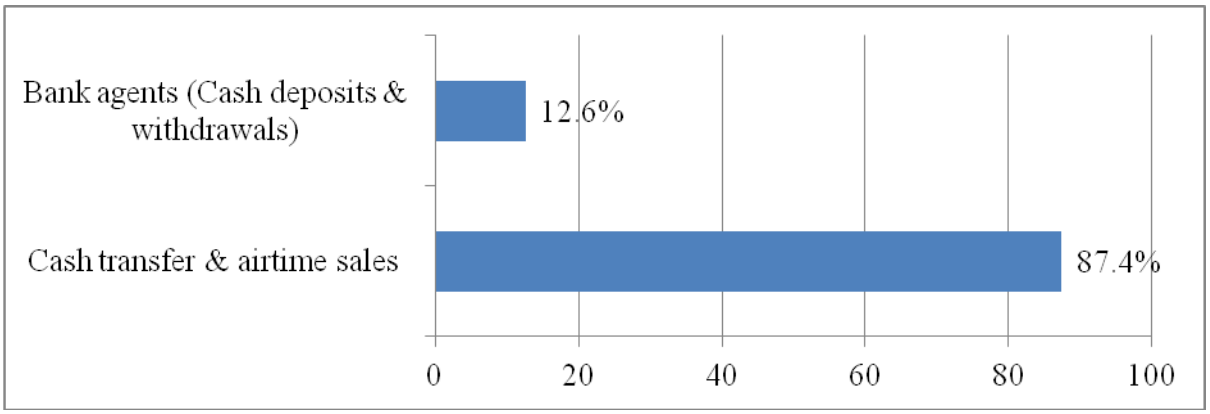

Figure 3: Mpesa services offered in Bureti Sub County

Status of Mpesa services in Bureti Sub County

In a scale of 1 – 4, where 1 signifies strongly disagree and 4 means strongly disagree, the respondents were asked to indicate the extent to which they agreed with a set of statement regarding the status of Mpesa in Bureti Subcounty. As shown in Table 10, majority of the respondents stated that with Mpesa it was easy to track ones savings (2.7184), Mpesa transactions were safe and secure (3.4175), services were easily accessible (3.5049), user friendly (3.5631), affordable and cost effective (3.3592). The standard deviation ranged from 0.55430 to 1.21605. A standard deviation of 0.55430 indicates that the responses were slightly scattered around the mean while that of 1.21605 indicate that the responses were highly dispersed around the mean.

Table 10: Status of Mpesa services in Bureti

Statement	Mean	Standard deviation
Mpesa transactions are safe and secure	3.4175	0.69345
Mpesa services are easily accessible	3.5049	0.69837
Mpesa services are user friendly	3.5631	0.55430
Mpesa services are affordable and cost effective	3.3592	0.69810
With Mpesa it is easy to track ones savings	2.7184	1.21605

Level of improved livelihood as a result of Mpesa

The results in Figure 4 indicate that the level of livelihood in Bureti had improved as result of Mpesa. Majority of the respondents (87%) pointed out that the level at which livelihood had increased as a result of Mpesa was high.

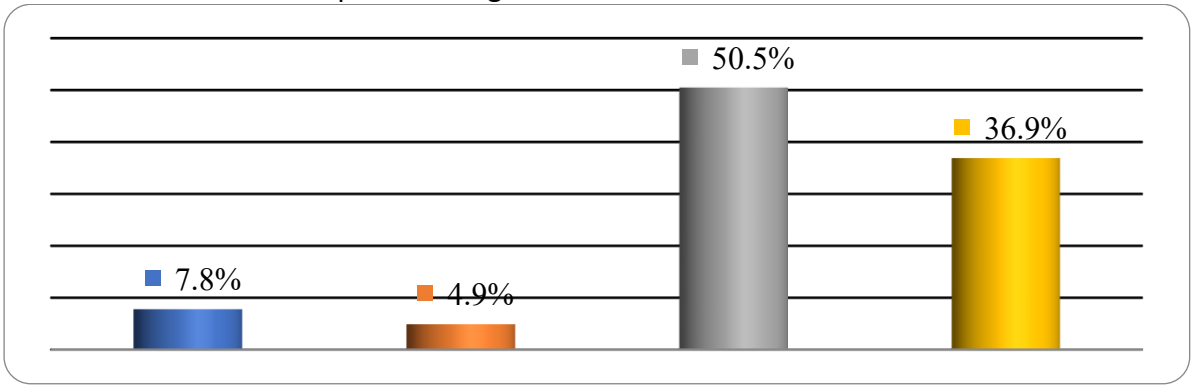

Figure 4: Level improved livelihood as a result of Mpesa

Conclusion

Generally, Mpesa adoption had improved peoples' livelihood in the Sub County by creating employment opportunities, increasing income generation, access to credit facilities and social capital between families and friends. Mpesa is a powerful tool for mobilizing remittances. It enables people to request a remittance and receive it at a nearby agent, making it easier for rural women to solicit funds from their husbands in the city. This has led to increase in small and micro enterprises, such as vegetable sellers and foodstuff kiosks due to increased money circulation and income levels. Mpesa had also led to expansion of businesses by making available more goods and services in the market.

Mpesa had also made it easier for people to solicit cash from friends and relatives and also access credit through Mswari services. The services enhanced interpersonal transaction (person to person) and this made it possible for people to borrow from friends and relatives. Furthermore, it also facilitates people to access credit from commercial banks through mobile phones. The adoption of Mpesa had led to increased money circulation and expansion of local market hence improving people's livelihood in the sub county. Mobile phones allowed immediate money transfers from town to village and vice versa with consequences on time and money savings rapid solution to daily problems affecting vulnerable communities.

Mpesa use had strengthened social bonds by enabling people to receive and send money to each other when in need. Unfortunately, this negatively hurt a few families because some men consumed alcohol more since they got money when they needed it and also spent more time in pubs and bars and lesser time with their families. Adoption of Mpesa has led to a decrease in the frequency of home visits. Through M-PESA, many people send money directly to their rural relatives, without spending time and money on the journey. Less frequent home visits are a concern for rural wives especially in the sub county. Many claimed that their husbands would become lonely and find a city wife if they visited home less often. However, the ease of sending and receiving rescue money had strengthened friendships and increased social interaction. Overall, Mpesa is a network in the sense of interconnected group of people linked in a way that makes them capable of beneficial cooperation which can take various forms including the exchange of goods and ideas.

Recommendations

In order to fully tap the benefits of Mpesa in the area, its services should be extended to all parts of Sub County.

Although, Mpesa users can access small loans from Mswari, Mpesa agents operating bank services also needs to start extending credit facilities to customers in addition to providing saving and withdrawal services.

Increased usage of Mpesa had resulted in a decrease in the number of home visits made by the urban migrants from the area. This had made some of rural wives to worry that their husbands would stray. Therefore, it should not be used to the extent of compromising personal contact.

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