IMPACT OF MOBILE BANKING ON FINANCIAL INCLUSION IN RURAL MWANZA REGION IN TANZANIA

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ABSTRACT

This study focused on the impact of mobile banking on financial inclusion in Magu district, Mwanza region. The objective of the study was to understand the determinants and effects of financial institution's penetration on the use of mobile accounts and services as opposed to in-branch official banking services. The study focused on three objectives which are to identify social-economic determinants of the use of mobile banking services compared to official banking services users only, to understand the impact of financial penetration of the institution on the use of mobile banking services, and to suggest recommendations that might be inevitable to increasing levels financial inclusion through use of mobile banking. The study used data sample drawn from the Magu district population from Kisesa Ward. The sampling procedure to be used is the random sampling that increases accuracy and precision of the data to be used. Findings showed that individuals mostly use mobile banking for sending and receiving money from one place to another, and it is not used for mobile banking payments such as buying airtime from a mobile bank account directly or payment of other bills. Furthermore, education level and the income status of the head of household, had a significant positive effect on financial inclusion.

Keywords: *Mobile Banking, Financial Inclusion.*

INTRODUCTION

Mobile banking is a service that is provided by banks and/or any other financial institutions from which it is provided at the interface between telecommunication companies and financial services. With such a financial innovation in the banking industry, it has been one of the remarkable vehicles towards financial inclusion of the unbanked population across the Africa and Tanzania specifically. The use of mobile devices to access financial services has been an important tool to facilitate financial inclusion for significant number of the developing world unbanked population (Kim, Zoo, Lee & Kang, 2018). A significant amount of the population in the developing world has been excluded in the traditional banking system especially the rural population. For instance, it is evident that by the year 2011 with the adult population of 5 billion people, only 2.5 billion owned bank accounts leaving the other half unbanked (Coulibaly, 2020). The large unbanked population is arguably attributed by prohibitive costs to open and operate bank branches especially in the rural areas and inability of the large rural population to be able to operate bank accounts due to minimum balance requirements and regular bank charges that seem unaffordable to the most of the rural population (Aron, 2017) The use of mobile devices in the banking sector has its roots way back before the rise and innovation of the smartphones. Financial services have been offered via mobile devices using short messages services (SMS), the rise of smartphones granted users more mobility and flexibility to use more and advanced

mobile phone applications to access more financial services (Sarker & Wells, 2003). Globally, there is an increase in the use of mobile money and branchless banking transactions that are taking place in the hands of many users. One of the successful mobile money services that has happened in the developing world is the M-PESA in Kenya under Safaricom which was introduced in 2006. Financial inclusion agenda was popularized in 2008 during the global financial crisis, the World Bank describes this idea of inclusion that every individual should have access to financial services and other financial products to meet their financial needs on transactions, bill and other payments, savings, credit and insurance (Girard, 2021). In about 15 years ago, the mobile phones were used for making calls, playing simple games and texting friends. Currently, mobile phones can be used to access the internet, make video calls, take photos, find your location on a map, purchase transport tickets, and even for banking services, through many other applications. Through advances in mobile technology and near-field communications, innovation in the area of financial services is changing the way we pay for goods or services or send money overseas, replacing the wallet with the smartphone.

Currently, in Tanzania there are a number of mobile money agents offering financial services like money transfer, bills payments and also offer banking agency for a number of both local and international bank. This study therefore is motivated to find out how financial technology in mobile banking has affected rural population financial inclusion by narrowing the exclusion gap in the use of financial services among the urban and the rural population.

Statement of the Problem

Mobile banking is a seen as an efficient vehicle for accessing banking financial services remotely away from bank branches giving account owners advantages in saving time, transport cost to visit branches etc. Mobile banking and money is an infrastructure that drives financial inclusion by offering a wide range of services to bank's customers in their finger-tips. This channel has in principle increased the use of mobile money and reduce cash in hands in some ways. People are now able to transfer, make payments, and pay utilities bills and businesses, government payments etc. without making a physical withdrawal. Therefore, with mobile banking providing ease to access financial services, the rural population that had largely remained unbanked is now brought closer by improved and innovative banking services like agency banking. Agency banking now provides bank-like services like account opening, deposits and withdrawal. Agency banking in principle was designed to overcome the cost barriers of setting up bank branches in remote areas or in outskirts. The purpose of this study therefore is to understand the impact of mobile banking on financial inclusion in the rural Tanzania, by highlighting socio-economic determinants of the use of mobile banking compared to official banking services and further explore financial penetration impact on the use of mobile money services.

The primary objective of this study was to understand the determinants and effects of financial institution's penetration on the use of mobile accounts and services as opposed to in-branch official banking services.

LITERATURE REVIEW

The Need for Theory on Financial Inclusion

It is important to understand the theoretical underpinnings about financial inclusion in order to get a comprehensive synthesis about the financial inclusion objectives and its processes and outcomes. Theories provides a network of ideas that articulates all the objectives, process and the outcome of financial inclusion and principles guiding its understanding. There are numerous theories ranging from financial inclusion beneficiary, delivery, and funding(Ozili, 2018).

Theories of financial inclusion beneficiary

These are theories that describes the primary beneficiary of financial inclusion, and literature show diverse arguments as to who benefits from financial inclusion. Some studies show that the poor are the

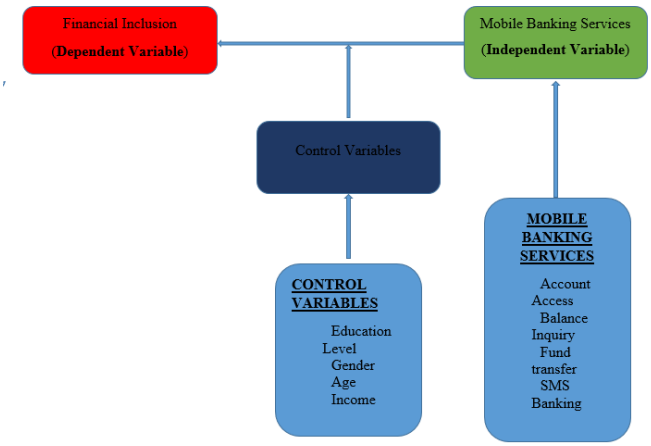
primary beneficiaries of financial inclusion (Bhandari, 2018), some literature argue that women are the key beneficiaries, some say it's the economy and the financial system (Swamy, 2014);

According to Ozil (2020) the financial inclusion theories as follows: Firstly, the public good theory of financial inclusion asserts that providing financial services should be treated as public good and all formal financial services be public goods such that they should be non-excludable and non-rival (should be made available such that access to one should not reduce its availability to others. The theory further argues that these services should be free of charge and all costs of providing financial services should be borne by financial institutions as sunk costs (Ozil, 2020). Secondly, the dissatisfaction theory of financial inclusion which argues that financial inclusion programs should target the group that was dissatisfied with the financial sector and had left the sector due to inconveniences encountered. For instance, some users may have encountered unpleasant experiences like long waiting hours, financial fraud, delays in payment clearance, excessive and high transactions costs and bank charges. The theory further suggests that it is easier to deal with voluntary financial inclusion since it will be easier to bring back the dissatisfied users back to the program.

Unified Theory of Acceptance and the Use of Technology (UTAUT)

This theory was developed by (Venkatesh, Morris, Davis, & Davis, 2003), the theory was used to study the mobile adoption theory, it is based upon performance expectation, social influence and perceived trust, and all these determined the behavioral intention of using the mobile money among the poor. Conditions of usage and cost for usage of mobile money service, was the driving force for the individuals to engage in using or adopting the service. Other factors included age, gender, education, and risk moderate the relationship between the behavioral intention and actual usage (Njenga, Retondo, and Omwansa, 2016).

The Conceptual Framework



METHODOLOGY

Research Design: This study used mixed research approach that had enabled the obtaining of both quantitative and qualitative information from the field. The information is useful for the study as it had enabled to undertake the analysis, come up with findings, conclusion, and policy recommendations.

Target Population sample :

The study had targeted the adult population aging from 18 years and above which is the considered age for adulthood basing on the constitution of the United Republic of Tanzania. The targeted population was obtained from the area of the study which was at Kisesa Rural Ward in Magu district. Kisesa is one of the wards in Magu district among other 22 wards.

This study used the sampling method by (Krejcie & Morgan, 1970). Basing on the sample size determination table (Bukhari, 2021), is a ready calculated sample size using the Microsoft excel basing on the formula by Daniel 1999. Basing on the administrative regional report of Mwanza, it has the total population of 27,379 total individuals according to National Census of 2022.

RESULTS AND DISCUSSION

Descriptive Summary Statistics

The descriptive summary statistics includes the mean, standard deviation, minimum, and maximum values relating to the variables. These are displayed in Table 4.1.

Table 4.1: Descriptive Summary Statistics Results

Variable	OBS	Mean	Std. Dev.	Min	Max
FI	181	0.76	0.34	0.00015	1
Account Access	181	.77	.72	0	3
Balance Inquiry	181	1.22	.94	0	6
Fund Transfer	181	.88	1.51	0	5
SMS Banking	181	.18	.51	0	3
Edu	181	6.83	3.90	0	16
Age	181	44.00	11.95	25	70

Source: Researcher, 2024
Key: OBS = Observations

From the table above, the demographic information of the respondents' household sample size was as follows: An average of 6.83 of respondents was the education level of the head of household in Kisesa rural ward, which meant that most heads of household had approximately 7 years of schooling, whereby the head of household with the most years of schooling attended for 16 years and the one with less didn't go to school. Moreover, the average age of the respondent's heads of household in this study was 44.00, whereby the oldest head of household was 70 years old, and the youngest head of household was 25 years old.

On the issue of financial inclusion, the descriptive summary was that from the total sample of 181 heads of households, the financial inclusion index was at an average of 0.76, whereby a head of household with a high financial inclusion index had an index of 1. While a head of household with a lower index had an index of 0.0001502. The average frequency of account access services by the head of household in Kisesa was 0.77 within a month. An average frequency usage of balance inquiry service by the head of household in Kisesa was 1.22 within a month. An average frequency usage of fund transfer service by the head of household in Kisesa was 0.88 within a month. The average frequency of usage of SMS banking services by the head of household in Kisesa was 0.18 within a month.

Correlation Coefficient Test Results

This test was intended to show the correlation between two variables. It was intended to show the relationship between each variable and another variable. The results showed the relationship between the dependent variable and each independent variable, as well as the relationship between every independent variable and another independent variable.

Table 4.2: Correlation Coefficient Matrix Results

	Fiindex	AccountAccess	BalanceInquiry	FundTransfer	SMSBanking	Edu	Income	Age	Gender
Fi-inde	1								
AccountAccess	0.65	1							
BalanceInquiry	0.67	0.58	1						

Fund Transfer	0.39	0.59	0.40	1					
SMS Banking	0.22	0.51	0.37	0.59	1				
Edu	0.51	0.49	0.47	0.47	0.34	1			
Income	0.28	0.16	0.10	-0.02	0.04	0.16	1		
Age	-0.20	-0.23	-0.16	-0.37	-0.17	-.27	-0.21	1	
Gender	0.15	0.10	0.08	0.17	0.06	0.14	0.10	-0.07	1

Source: Researcher, 2024

The above Table 4.2 shows the correlation coefficient between the two variables; it shows the correlation between the dependent and each independent variable, but it also shows the correlation coefficient between every independent variable against another independent variable.

Normality Test

This test was done before the computation of the regression analysis to see whether the variables were normally distributed or not.

Table 4.3: Normality Test Results

Variable	Obs	Pr (Skewness)	Pr (Kurtosis)	Adj chi2 (2)	Prob>chi2
Fi-index	181	0.00	0.89	23.52	0.00
Account Access	181	0.00	0.14	13.91	0.00
Balance Inquiry	181	0.00	0.00	27.93	0.00
Fund Transfer	181	0.00	0.14	31.85	0.00
SMS Banking	181	0.00	0.00		0.00
Edu	181	0.79	0.29	1.17	0.55
Income	181	0.00	0.00		0.00
Age	181	0.27	0.00	40.65	0.00
Gender	181	0.00	0.00		0.00

Source: Researcher, 2024

Table 4.3 shows the normality results. From the results above, it showed the variable education was normally distributed. The researcher thus decided to continue with the variables even though not all were normally distributed since Wooldridge (2013) pointed out that normality plays no role in the issue of the unbiasedness of the ordinary least squire, but it also does not affect the conclusion that the ordinary least squire is the best linear unbiased estimator under the Gauss-Markov assumptions, which say that ordinary least squire estimators are asymptotically normally distributed. Moreover, Gujarati and Porter (2009) and Wooldridge (2013) added that variables are normally distributed at approximately large samples.

Regression Analysis

Under the regression analysis, the study showed the change in one variable due to the change in another variable. It showed the unknown effect of a change in one variable because of a change in another variable. Under the regression analysis, the dependent variable (financial inclusion) was kept in the index, specifically the composite financial inclusion index, which was formed based on three dimensions

of financial inclusion: access, usage, and availability.

Table 4.4: Regression Analysis Results

Fi-in-dex	Coef.	Std.Err.	t	P>|t|	[95% Conf. Interval]	
Account Access	0.19	0.03	5.70	0.000	0.12	0.25
Balance Inquiry	0.15	0.02	6.85	0.000	0.10	0.19
Fund Transfer	0.01	0.02	0.73	0.47	-0.02	0.04
SMS Banking	-0.14	0.04	-3.50	0.001	-02.22	-0.06
Edu	0.01	0.005	2.47	0.014	0.003	0.02
Income	0.22	0.07	3.28	0.001	0.89	0.36
Age	0.0006	0.001	0.38	0.701	-0.002	0.004
Gender	0.03	0.04	0.95	0.34	-0.04	0.10
_cons	0.106	0.11	0.98	0.327	-0.11	0.32

Source: Researcher, 2024

The results in Table 4.4 show the probability of F was 0.0000, which shows the reliability of the independent variables in predicting the dependent variable. Thus, from the regression results above, the probability of F was less than 0.05, which showed that the model was statistically significant since the dependent variable was predicted by the independent variables.

The R-squared value was 0.62, which showed that about 62 percent of the variation in the dependent variable was well explained by the variation in the independent variables, while the rest of the percentage was explained by the error term. The root MSE is the root mean standard error; it represents the standard error of the regression. It showed the average distance of the estimator to the mean. The regression results showed that the root MSE value was 0.2126, which meant that the distance of the estimator to the mean was near zero, and so it showed the model has a good fit.

Estimated Model Results

The estimated model of the study was:

$$FI_i = 0.106 + 0.19\ AA_i + 0.15BI_i + 0.01\ FT_i - 0.14\ SB_i + 0.01\ EDU_i + 0.03\ DMALE_i + 0.22\ INCOME_i + 0.0006\ Age_i$$

Std. Error:

β_0	β_1	β_2	β_3	β_4	β_5	β_6	β_7	β_8
(0.11)	**(0.03)**	**(0.02)**	**(0.02)**	**(0.04)**	**(0.005)**	**(0.07)**	**(0.001)**	**(0.04)**

The constant, β_0 which is 0.106, shows the intercept of our fitted regression line. It showed that when the head of household is a female of low age, not educated, and not engaged in any economic activity, that means she is not employed, and so she does not use any mobile money services within a month. The financial inclusion index was less than 0.106, and it was not statistically significant at the 95 percent confidence level since the p-value was greater than 0.05 and its p-value was 0.000.

The coefficient β_1 was 0.19. It meant that, keeping other variables constant, an increase in frequency of Access Bank Account using mobile phone (AA) service usage within a month per head of household led to an increase in the index of financial inclusion of a head of household by about 0.19 units, and it was statistically significant at the 95 percent confidence level since its p-value was less than 0.05 and its p-value was 0.000.

The coefficient β_2 was 0.15. It was interpreted as follows: keeping other variables constant, an increase in Bank Inquiry (BI) service usage by a head of household within a month led to an increase in the index of financial inclusion of a head of household by about 0.15 units, and it was statistically significant at the 95 percent confidence level since its p-value of 0.000 was less than 0.05.

The coefficient β_4 was -0.14. It was interpreted as follows: keeping other variables constant, an increase in SMS Banking (SB) service usage by a head of household within a month led to a decrease in the index of financial inclusion of an individual to about 0.14 units, and it was statistically significant at the 95 percent confidence level since its p-value of 0.000 was less than 0.05.

The coefficient β_5 was 0.01. It was interpreted as follows: keeping other variables constant, an increase in the number of years of schooling of an individual led to an increase in the index of financial inclusion of a head of household to about 0.01 units, and it was statistically significant at the 95 percent confidence level since its p-value was 0.039, which was less than 0.05.
The coefficient β_7 was 0.22; it was interpreted as follows: keeping other variables constant, the head of household being employed increased the index of financial inclusion by about 0.229 units compared to not being employed, which was a reference category, and it was statistically significant at the 95 percent confidence level since its p-value was 0.001, which was less than 0.05. Which meant when a head of household was employed, it increased the financial inclusion index.

Therefore, from the above regression results, it showed that variables including access account, bank inquiry, SMS banking, education and income had a significant effect on the financial inclusion of the head of household in Kisesa rural ward, while variables including fund transfer age, and gender had no significant effect on financial inclusion.

Homoscedasticity Test

This test was performed to prove the assumption of the classical linear regression model that the variance of each disturbance term u_i condition on chosen values of the explanatory variable was constant and equal to ^{2}. Table 4.5 below shows the heteroscedasticity test results.

Table 4.5: Homoscedasticity Test Results

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity Ho: Constant variance Variables: fitted values of fiindex		
chi2(1)	=	0.08
Prob > chi2	=	0.7798

H_0: Constant Variance

Source: Researcher, 2024

From the above result, the study fails to reject the null hypothesis (H0), which says constant variance. The study has accepted the null hypothesis since the probability of a chi-square was 0.7798, which was greater than 0.05. Therefore, the data have a constant variance and have no problem with heteroscedasticity.

Multicollinearity Test Results

The test tended to show that the independent variables were not perfect collinear, which meant one variable was not a linear function of another variable. This was one of the assumptions of the classical linear regression model. Table 4.6 below presents the multicollinearity test results.

Table 4.6: Multicollinearity Test Results

Variable	VIF	1/VIF
Account Access	2.34	0.43
Balance Inquiry	2.15	0.47
Fund Transfer	1.67	0.59
SMS Banking	1.64	0.61
Edu	1.59	0.63
Income	1.15	0.87

Age	1.25	0.80
Gender	1.06	0.95
Mean VIF	1.60	

Source: Researcher, 2024

Table 4.6 shows the multicollinearity test results. From the results above, it showed that the independent variables were not perfect collinear, which means that no variable was a function of another variable by considering the mean VIF, which was 1.59 and was less than 10.

Findings from the Focused Group Discussion

Two groups were involved in a focus group discussion with about 12 participants, whereby the first group consisted of males and the second group consisted of females who possessed mobile phones and used mobile money services. The discussion was held on different days, whereby each day had a specific single group for discussion. The discussion aimed at discussing the effect of mobile banking service usage on financial inclusion in Kisesa rural ward but also the challenges that rural wards face in using mobile money services that could block their enjoyment of the services. During the discussion, the points were written down on a notebook by the researcher.

Details for the First Group Participants in the Focus Group Discussion

The first group had six male adult members from Kisesa rural ward who had a mobile phone. Moreover, all the participants had at least a formal education.

Employment Status

Their employment status was as follows:
One participant out of six, equivalent to 16.67 percent, was unemployed; five participants out of six, equivalent to 83.33 percent, were employed in agricultural activities that involved both farming and livestock keeping.

Frequency of Using Mobile banking Services

Four individuals out of six, equivalent to 66.67 percent, used mobile banking at least once within a month, while two individuals out of six, equivalent to 33.33 percent, used mobile banking services at least once after 2-3 months, sometimes even more.

Details for the Second Group Participants in the Focus Group Discussion

The second group discussion had six female adult members who were all from Kisesa rural ward. The members all possessed mobile phones. Moreover, not all members were educated since one member didn't attend school while the other five members did.

Employment Status

All the participants were engaged in agricultural activities such as farming and livestock keeping.

Frequency of Usage

Two individuals out of six, equivalent to 33.33 percent, used mobile banking at least once within a month, while three individuals out of six, equivalent to 50 percent, used mobile banking services at least once after 2-3 months, sometimes even more, and only one individual out of six, equivalent to 16.67 percent, didn't know how to use the mobile banking service.

Key Findings

From the focused group discussion based on the first group of six members, the participants pointed out how mobile banking service usage had an effect on financial inclusion in Kisesa ward. They said the mobile banking service usage had helped them to improve their saving techniques because, in the past, they used to save their money in two ways: either in their homes or by buying animals such as cattle or farms. But now, although not all people do so, some do save their money in their mobile banking accounts. Moreover, we farmers were visited by people from the National Microfinance Bank who were brought by the authorities to motivate us on opening bank accounts and teach us how to use them. The plan failed as it was hard to use the bank for some of us, and so mobile banking has helped us a lot to be financially included.

Even though mobile banking services have enabled people to be financially included, there are things that require assistance from the authorities so that people can keep enjoying using mobile banking services. These things are such as lack of network, which results in an individual walking here and there just to get network. Another issue is that we need more education on how to use mobile banking services to cure the issue of theft, which is due to the assistance we seek from the people who know as a result they steal for us because we even provide them with our mobile bank account password. Therefore, we need assistance to keep enjoying the services, but all in all, the mobile banking service usage has created a good financial environment in our rural ward.

From the focused group discussion based on the second group of 6 members, mobile banking financial services have brought individuals very close to the financial system as individuals are able to send money to their children in school via mobile phone and the children receive money; moreover, we also receive money from our children and relatives from wherever they are, and the money reaches us through mobile phone.

Mobile banking services are helpful in making people financially included. The only problem that we face is the conning that is done by people who steal money from us by claiming that they have sent some money, and so to avoid disturbances, we divide the money in half, which means half of the money claimed to have been sent should remain with me and the other half should be sent to that person. As a result, our money is stolen in that way, so it discourages us from using mobile banking services because we fear that incident.

Discussion of the Findings in Comparison to Other Studies

The level of mobile banking service access, usage, and availability play a significant role in influencing individuals to be financially included; moreover, the social characteristics of the population may play a significant role in influencing the financial inclusion of an individual. However, depending on geographical location, some services may be significant, and some services may not be significant. The same applies to the social characteristics of individuals; some may influence financial inclusion, and some may not. The study done in Kisesa rural ward has discovered that the mobile banking services that had a significant effect on the financial inclusion of a head of household were account access, balance inquiry, sms banking, education and income had a significant effect on the financial inclusion of the head of household in Kisesa rural ward, while variables including fund transfer age, and gender had no significant effect on financial inclusion.

However, the study discovered that only two control variables, which were education level and the income status of the head of household, had a significant positive effect on financial inclusion, while other control variables had an insignificant positive effect on financial inclusion for the head of household in Kisesa rural ward.

Therefore, in Kisesa rural ward, the heads of household mostly use mobile banking for sending and receiving money from one place to another, and it is not used for mobile banking payments such as buying airtime from a mobile bank account directly or payment of other bills.

However, these results aligned with the results from other studies done in other places other than Kisesa, such as (Akinyemi & Abbyssinia, 2020); Bongomin et al., 2017; (Chamboko, 2022); (Kaligis, Tewal, Maramis, & Mangantar, 2018); (Mhella, 2020)). Moreover, the study differed in the results obtained by Coulibaly (2020) on the issue of control variables that had an effect on financial inclusion.

CONCLUSION AND RECOMMENDATIONS

Summary

The heads of household were interviewed using a structured questionnaire and focused group discussions. Under the questionnaire, the study used both

open-ended and closed-ended questionnaires to obtain the information for analysis. The study used Kobo Collect to save its questionnaires and administer them to the respondents. Under the focused group discussion, the study selected two groups with six members each, for a total of 12 respondents. The first group of six respondents was composed of males and the second group of six respondents was composed of females. Each group was held for discussion on separate days. The group was randomly selected from a total of 129 males and 56 females. The first group was randomly selected using the random number generator and the second group was randomly selected using the random number generator.

The estimation results show positive and significant coefficients on account access, balance inquiry, SMS banking, education and income had a significant effect on the financial inclusion of the head of household in Kisesa rural ward, while variables including fund transfer age, and gender had no significant effect on financial inclusion.
Moreover, the study had control variables that influenced independent variables to influence the outcome of the dependent variable. The control variables were gender, age, education level, and income status of the individual head of household. The study found that the income status of the head of household and the education level of the head of household were the only variables that had a significant positive effect on financial inclusion.

Conclusion

The study concludes that in Kisesa rural ward, account access, balance inquiry, sms banking, education and income had a significant effect on the financial inclusion of the head of household in Kisesa rural ward, while variables including fund transfer age, and gender had no significant effect on financial inclusion. Moreover, the study concluded that in Kisesa rural ward, the income status of the head of household and the education level of the head of household had a significant positive effect on financial inclusion.

Policy Recommendation and Implication

The study recommends policies aimed at increasing education and awareness of mobile financial services. The government should enhance the availability of infrastructure that facilitates mobile banking usage, access, and availability by putting in place policies that encourage private investors in rural areas. Moreover, the government should promote self-employment and education facilities, as they are seen to influence mobile banking use and financial inclusion. Also, special awareness campaigns from financial institutions should be encouraged.

Areas for Further Research

The study provides insight for further studies relating to the effect of mobile banking service adoption on financial inclusion, especially in rural areas, so as to understand whether individuals who use mobile banking services can be more financially included. It should also focus on logistic regression on the relationship between financial inclusion and mobile money services. The study provides an insight into studying the effect of mobile money service usage on financial inclusion in other rural areas of other regions.

DECLARATION

We (Joance & Wesley) confirm that this is my sole research and hasn't been submitted for any examination. We did self-funding and data collected are available.

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