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Mobile Phone Banking and its Convenience in Making Transactions

The Case of M-PESA Customers in Kisii Couny, Kenya

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Abstract - The purpose of this paper was to determine the convenience of the M-banking in particular M-Pesa in the making of transactions in Kisii County, Kenya. The Technology Adoption Model (TAM) conceptualizes the use of the system. A quantitative research design was adopted and a sample of 272 respondents was selected. Data was obtained by the use of questionnaires and descriptive statistics were used to analyze the 230 questionnaires that were returned. The study established that the convenience that the M-Pesa system provides when making of different forms of payment is a great factor that has led to the adoption of the system. Mobile Network Operators should work towards increasing the systems convenience by ensuring that there is a network coverage in all areas, including remote areas. Furthermore there is also need to ensure customers security by using the platform.

Keywords - Mobile Phone Banking, Making Transactions, M-PESA, Kisii Couny.

I. INTRODUCTION

Banking services have been enjoyed in developed countries and developing countries for several years now, but it's not until recent years that a new form of banking using mobile phones has diffused rapidly both among unbanked populations (Bangens and Soderberg, 2008). M-banking, used in this study to refer to banking using mobile phones, has the ability to transfer money instantly, securely, and inexpensively and these are leading to enormous changes in the organization of economic activity, family relations, and risk management and mitigation, among other things.

M-Pesa, M for mobile and *Pesa,* a Swahili name for money, is a mobile-phone based transfer service in Kenya that was developed by mobile operator Vodafone and launched commercially by Safricom in March 2007 (Mas and Radcliffe 2010). (Mbiti and Weil, 2011).Sohel et al., (2011) noted that almost all the residents of Bangladesh have cellular phones and that this has enabled mobile phone clients to text their loan payment directly to the bank, saving them both travel time and money.

Sunil Gupta (2013), posits that banks are already investing in mobile technology and security, developing smartphone apps, adding new features such as remote deposit of checks, and educating consumers and that consequently and as a result, many banks are forging partnerships with mobile network operators (MNO's) for the benefit both parties – banks could reach a large and untapped market at low cost, and mobile network operators could improve retention rates of their customers. Several mobile payment trend studies (Ivatury, 2006; Bangens and Soderberg, 2008; Pegueros, 2012) have shown the potential of the use of mobile technologies for payment purposes.

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Subscribers can use their mobile phones to carry transactions such pay for goods and services, pay bills and do person to person transfers. Mobile banking offers the prospect of increasing efficiency of the payments system; and potentially, expanding access to financial services (Porteos, 2006). In Kenya, the use of mobile payment benefits users in the form of cost savings, efficiency, fraud and error reduction, client security and convenience (USAID, 2011). This study seeks to establish the convenience of mobile phone banking as a tool for making payments among Safaricom customers who use the M-Pesa system.

A. Research Hypothesis

H_0There is no influence of the convenience of the mobile phone banking system and making of payments

II. Literature Review

A. *Theoretical Framework*

The study is based on the Technology Adoption Model (TAM), which has captured great attention on how users come to accept and use a technology. It suggests that a number of factors influence their decision about its use (Mazhar, 2006). TAM model argues that user's motivation can be explained by factors such as ease of use, perceived usefulness and attitude towards the system.

B. *Convenience of making payments using mobile banking*

Convenience is an important factor that attracts business customers to use mobile payment (Ad-Adwan et al., 2013). Consumers will have different aspects of the convenience attribute in mind when they are considering making payments. Such include portability, flexibility, speed, ease of use, and ease of learning to use the payment method. In terms of portability, mobile payments will likely be more convenient than traditional payment methods, since it will eliminate the inconvenience of carrying multiple plastic cards in a physical wallet by enabling consumers to link those cards and also eliminate carrying of currency in notes and coins (Hayashi Fumiko, 2012).

Another convenience advantage that mobile payment methods present is flexibility. This is because it allows customers to send their money seven days in a week, and beneficiaries do not need to have a bank account to be paid as long as they are registered with the system. Mbogo (2010), in his study on success factors attributing to the use of mobile payments by micro-business operators, found that convenience of the money transfer system together with other factors like cost, support and security are related to behavioral intention to use and actual usage of the mobile payment services by the micro businesses to enhance their success and growth. Since the service can be used over a vast geographical area so long as it's covered with a mobile network, customers are saved from having to travel long distances to make payments. This means that one does not have to worry about the termination of supply of services due to the inability to travel physically to the company to make payment. A customer can pay his bill while working in the office, from the comfort of his home and even at odd hours when the recipient's offices are closed. This enhances one's efficiency as bills are paid in time and overrides the demerits of using cash for making payments at brick mortar stores, with the inconvenience of carrying. Exchanging, sorting and storage. Previous studies suggest that mobile banking offers customers additional value in terms of location-free access (Laukkanen & Lauronene, 2005). They provide consumers with ubiquitous purchase possibilities, timely access to financial assets and an alternative to cash payments. Convenience Users can pay for transportation tickets or car parking remotely without the need to visit an automated teller machine (ATM), a ticketing machine or a parking meter (Begonha et al., 2002; May 2001). Advantages of mobile payments compared with traditional payments are thus likely to pertain to time and location independent purchase possibilities. Karjauloto et al., (2003) puts it that with the help of the internet, banking is no longer bound to time or geography. Consumers all over the world have access to their accounts twenty-four hours per day, seven days a week. It has the advantage that the customer avoids travelling to and from a bank branch, saving time and money and providing convenience and accessibility. Since many banks have partnered with MNO's, Sunil Gupta (2013), it means that customers can transfer money from their back accounts at any time without having to visit their banks physically. The money once transferred to their mobile phone gadgets can be used to make payment to beneficiary accounts. Customers can manage their banking affairs when they want, and they can enjoy more privacy while interacting with their bank. Mallat (2006), explores consumer adoption of mobile payments and the findings suggest that the relative advantages of mobile payments are related to the specific benefits provided by mobile technology, and the possibility to avoid queuing and complement cash payments. The advantages are important when there is unexpected need for payment, time pressure, and lack of cash and loose change. The influence of service convenience cannot be underestimated. A number of studies point to existing relationship between convenience and

customer adoption of products and services. Ease of use and convenience has been found to affect customer adoption of internet payments (Shon and Swatman, 1998). The mobile payments are commonly expected to increase customer convenience by reducing the need for coins and cash in small transactions and increasing the availability of purchase possibilities (Coursars & Hassanein, 2002). Financial Sector Deepening (FSD), Kenya (2009), indicates that convenience is the most important factor for the majority of the users. Black et al., (2002), Gerrard and Cunningham, (2003) and Liao and Cheung, (2002) argue that convenience affects utilization of internet banking. The Federal Reserve Survey (2012), consumers find the mobile wallet compelling due to its convenience. From the survey, benefits in consumer mobile payments include saving of time, transactions can be done any time, one does not have to carry cash and can be done almost anywhere. The perceived convenience is a major reason that early adopters of the technology use it (Jack and Suri, 2010).

III. Methodology

A descriptive survey research design was adopted for the study and was conducted in Kisii County. The County has a high population which constitutes people from different parts of the country. The County has many M-Pesa agents (even in remote towns) who assist the subscribers in depositing money in their mobile phone accounts. This is an indication that it's a County with a high number of safaricom subscribers. Better still, the county is well covered with Safaricom network hence clients do not face difficulty in carrying out their transactions due to unavailability of network. The population is socially diversified in the sense that it has people who spend modestly and those who spend extravagantly, and the people are of different social, academic and economic class. There are both high and low income earners. This diversity provided a good heterogeneous population for the study. Information was sought from Safaricom M-pesa users in the County who were estimated to be 507,005. This estimation was from the fact that Safaricom enjoys about 80% of the market share of the total mobile subscribers. A sample of 272 respondents was selected for the study and primary data was collected using structured questionnaires. Data was analyzed by the use of descriptive and inferential statistics.

IV. Findings

A. *Response Rate*

272 questionnaires were administered to Safaricom customers who were using M-pesa in Kisii County and the response rate was 84.2% since 230 questionnaires were filled and returned. The response rate was considered sufficient for analysis and from which conclusions could be drawn.

B. *Demographic characteristics of respondents*

1. Demographic Characteristics of Respondents

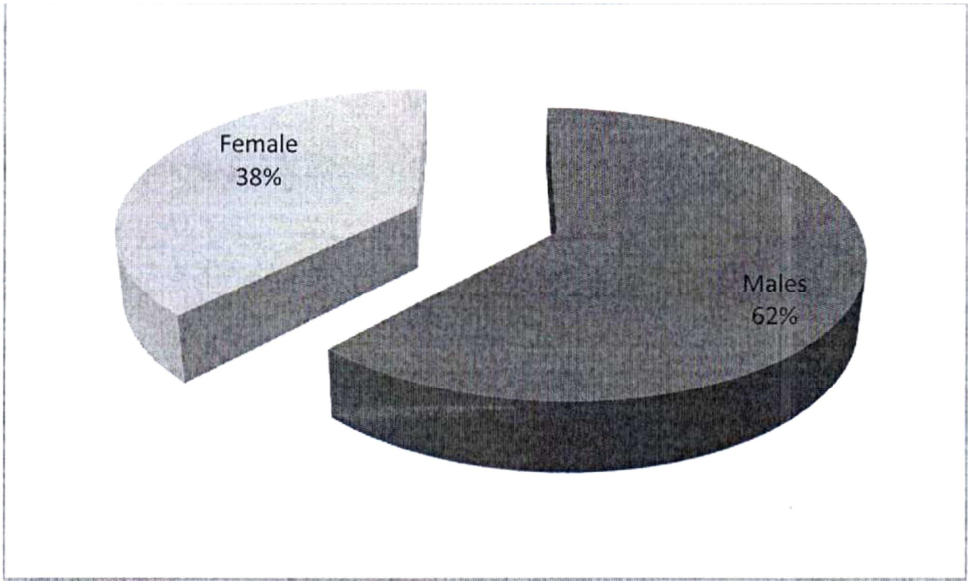

Figure 1: Demographic characteristics of respondents

The gender distribution of respondents is presented in figure 1. Majority (62.1%) of the total customers were males than females who were 37.9% of the total customers included in the survey. This could probably reveal that male customers use the M-Pesa bill payment system more in making their payments. The study further revealed that most of the respondents (34.4%) appeared to have certificate or diploma level of education; 32.6% of the respondents had secondary level of education while only 7.9% of the respondents had an education level of up to postgraduate. The study went further to articulate that 55.1% of the respondents belonged in the age bracket 31-50 years (figure 3); 33% were less than 30 years old while only 11.9% of the respondents were over 50 years.

2. Perceived Levels of Convenience of the Making Payments using Mobile Banking

The objective was to establish the convenience of using mobile banking in making payments. It was necessary therefore to examine customer perceptions on what constitutes service convenience. Responses were elicited on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). Table 1 represents the results of this examination.

Table 1. Perceived Levels of Convenience of the Making Payments using Mobile Banking in Kisii County

Convenience Variables	Mean	Std. Deviation
I find the M-pesa system of payment timely	4.26	.628
The M-pesa system of payment is very flexible	4.14	.590
The M-pesa system of payment allows me to pay bills any time of the day	4.13	.549
The M–pesa system allows me to buy airtime anytime of the day	4.12	. 571
I find the M-pesa system of payment easy and convenient to use	4.12	.440
Am not worried about not having to pay bills because it's a weekend or holiday when offices are closed	4.08	.486
The network is reliable and I can make my transactions with ease	4.12	.727
The payment system is real time and there are no delayed payments	4.07	.723
The M-Pesa payment system is available any time I need to transact	3.95	.564
I can transfer money from bank account anytime to enable me make payment	3.79	.564
There are M-pesa agents even in remote areas that I can access to enable me make payment	3.77	.789

On the overall the respondents in the study perceive the M-Pesa paybill system as convenient. They agree that they find the mobile banking system of payment using M-pesa is timely (M=4.26, SD=.628) that the system is flexible (M= 4.14, SD= .590), that the system allows one to pay bills any time of the day (M=4.13, SD=.549) and that one can buy airtime anytime of the day using the mobile phone (M=4.12, SD =.571). They further agree that the system of payment is easy and convenient to use (M=4.12, SD = .440), whether its weekends or holiday when recipient's premises are closed (M= 4.08, SD = .486), and the network is reliable and transactions can be made with ease (M= 4.12, SD = .727). Besides, the system is real time and payments are received as soon as they are paid (M=4.07, SD=.723), customers can transfer money from their bank accounts to facilitate payment (M= 3.79, SD = .564) and there are agents even in remote areas to facilitate making of payment (M = 3.77, SD .789)

These results show high level of agreement among customers in the study area regarding convenience of the mobile banking system in making payments. There is consistency in the given responses since the standard deviation from all the responses given is small.

Testing the convenience of the mobile phone banking system on making payments

The research hypothesis Ho postulated that there is no influence of the convenience of the mobile phone banking system and making of payments. The results in table 2 show that the standardized coefficient for convenience revealed that service convenience is a positive and significant predictor on making payments (β=0.133, $p<0.05$). For this reason, the hypothesis that convenience of the mobile phone

system has no influence on making payments was rejected. It was concluded therefore that convenience has a direct effect on making payments using the system. An increase of 1 standard deviation in service convenience will result in an increase of 0.133 standard deviations in making payment.

Bills paid using the Mobile phone banking System: Payments that are made through the use of mobile phone banking system were assessed and ranked. According to the mean response scores of the respondents. Results of this assessment are shown in table 2.

Results show that seven major services are paid for using the M-Pesa bill payment system among the Safaricom customers in the country. Ranked first among these services is payment of goods purchased (M=4.21, SD=0.651); this is followed by payment of electricity bills (M=4.12, SD=0.587); payment of water bills (M=4.12, SD=0.637); payment of NSSF contributions (M=4.00, SD=0.431); payment of other services (M=3.99, SD=0.404); payment of insurance premiums (3.93 SD=0.451); payment of NHIF contributions (M=3.79, SD=0.663); and payment of school fees (M=3.72, SD=0.56) in that order. These results imply that the Mpsea bill payment system has been embraced by Safaricom customers in the country. Key services whose bills are paid through this system are goods purchased mainly from supermarkets and payment of electricity and water bills.

Table 2. Bills paid using M-pesa bill payment system ranked by order of preference

Rank	Bill Paid	Mean	Std. Deviation
1	Payment for goods purchased	4.21	.651
2	Payment of electricity bills	4.12	.587
3	Payment of water bills	4.12	.637
4	Payment of NSSF contributions	4.00	.431
5	Payment for other services	3.99	.404
6	Payment of insurance premiums	3.93	.451
7	Payment of NHIF contributions	3.79	.663
8	Payment of school fees	3.72	.560

V. Discussion

Results from the study revealed that customers in Kisii County perceive the mobile phone banking system as a convenient way of making their payments. The convenience is a significant predictor of use of the system. These findings are supported by the findings of others. According to Al-Adwan et al.,(2013), convenience is the most important factor that attracts customers to use M-payments. In line with the same school of thought, the mobile phone payment system eliminates the inconvenience of carrying multiple cards in a physical wallet (Hayashi Funiko, 2012) observes that conveniences of the money transfer technology plus its accessibility are related to behavioural intention to use the mobile services. The study found out that the service provider's agents are spread all over the country and even in the remote areas. This in essence makes the service easily accessible. The accessibility makes of the system points a significant predictor of the use of the system in making payments. These findings are consistent with studies. Kendall et al., (2011) says that integrating with mobile money increases the density of access points and the ease to reach access points in new areas, transforming the geographic distribution of channels. Ng'ang'a and Mwachofi (2013) concur with the need to access services. In their study on technology adoption and banking agency in rural Kenya, they found out that though a variety of mobile and agency baking services are on offer, it is only a small portion of customers who access it and this constraints ability to adopt the particular technology. It means that its accessibility will lead to adoption.

VI. Conclusion

An important finding of the study reveals that there is an effect of convenience in determining the use of the mobile phone banking payment system. The system is accepted because of its convenience and this is central to the proportion of people using the system in making different forms of payments. With an increase in technology, there is an indication that more customers are likely to adopt mobile phone banking as the mode of making payments and that beneficiaries too will accept it as the fast convenient mode. There's also need to enhance the security of mobile banking such that the customers does not lose money as a result of the fraudsters by performing more public education on the

importance of keeping their passwords details without disclosing to any party. The MNO's should further endeavor to ensure that all remote areas have internet connection so that the system can be fully adopted.

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