THE ROLE OF CONTEXTUAL FACTORS IN THE UPTAKE AND CONTINUANCE OF MOBILE MONEY USAGE IN KENYA

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ABSTRACT
The use of mobile money, mobile payments and other related mobile financial transactions in Africa vary from one country to another. This can be attributed to the level of technology maturity, a country’s level of social-economic development and the financial transactions ecosystem. The study investigates usage patterns and adoption of mobile money in day-to-day person-to-person money transfers using mobile telephone, mobile payments and integration of mobile money in financial services in Kenya. The study explores the underlying contextual social and economic factors influencing successful use of mobile money in Kenya by probing the pre-usage (before mobile money) transfer of funds and the innovation attributes of mobile money that could have positively influenced this rapid uptake and continuance intentions. The study employs a survey questionnaire and two focus groups to collect data from mobile money users. The study result indicates that pre-usage methods of money transfers significantly influenced initial uptake of mobile money in Kenya while its technical attributes have sustained a positive influence on continuance intentions. Implications for research and practice are discussed.

Keywords: Mobile Money, Innovation Characteristics, Mobile Payments, Continuance Intention, M-Commerce

1. INTRODUCTION
Mobile money transfer is the exchange of monetary value using mobile cellular telephone services from a registered mobile money transfer service subscriber to the other. Over the years mobile telephones have been used mostly for voice and short message services. The capacity to offer additional advanced services such as money transfers, Internet access, managing bank accounts, receiving special offers and promotions and getting stock quotations as well as initiating purchase or sales transactions has increased the level of mobile telephone usage. Mobile money transfer services allow people to pay for goods and services as well access their money from their bank accounts. Mobile money transfer in Kenya was introduced on 6th March 2007 through M-Pesa by Safaricom. Today, the services of mobile money transfer are offered by six different service providers. These are: Safaricom’s M-Pesa services (http://www.Safaricom.co.ke); Tangaza Mobile Pay Limited’s Tangaza Pesa (https://www.tangaza321.com); Bharti Airtel’s Airtel Money services (http://www.africa.airtel.com); Essar Telecom’s YuCash (www.yu.co.ke); Orange Money’s IkoPesa (http://money.orange.co.ke) and MobiKash Afrika Limited’s MobiKash (http://www.mobikash.com). M-Pesa is believed to be Kenya’s most successful mobile money deployment with more than 14 million subscribers and over 27 thousand agents countywide (Safaricom, 2011). Even though mobile money transfer services were targeted at the majority of the unbanked Kenyans, the technology has continued to evolve allowing M-Commerce transactions and Kenyans keep on experimenting on making different kinds of payments using mobile money transfer services. Mobile Money in Kenya produced wonderfully unanticipated usage in Mobile Money Transfers for person-to-person transfers,
Mobile Payments and Mobile Loans. This has many academicians, researchers and financial inclusion experts such as Heyer and Mas (2011) to conclude that the Kenyan case was an improbable occurrence. Mobile money usage has created a network for storing and moving money in exchange of monetary value between individuals and businesses. To understand huge acceptance, uptake and performance of Mobile Money in Kenya one must look at contextual issues relating to mobile money pre-usage money transmittals, mobile money social level usage and to have an understanding of Kenya’s social and cultural processes. The assumption is that peoples’ behaviour with a technology is usually shaped by what is happening concurrently in their social domain.

1.1 Objectives of the Study
This study seeks to investigate pre-adoption factors and innovation characteristics that could have influenced the quick uptake of mobile money in day-to-day person-to-person money transfers using mobile telephone, use of mobile payments and the integration of mobile transactions in Kenyan economy financial services. It also explores mobile money users’ post-adoption perceptions and continuance intentions. Ngugi et al. (2010) did explore the role of early adopters in the adoption of mobile banking in Kenya and suggested that failure by the existing financial institutions to meet the needs of the unbanked population and the unmet need of the working and the businesses people to finding a simple and reliable method of sending money to rural individuals contributed greatly to rapid adoption of mobile money banking in Kenya.

1.2 Research Questions
The study was guided by the following four research questions.

1. What are the inherent contextual factors that influenced the quick uptake of mobile money use in Kenya?
2. What is the extent of use of Mobile Money in Kenya and what are the challenges therein?
3. What were the informal methods used in person-to-person transmittals of cash before mobile money and how did they influence the adoption of mobile money in Kenya?
4. What is the role the attributes of mobile money in its adoption and continuance intentions?

This study explores the contextual factors which could be used to explain the success of mobile money in Kenya. The motivation for this study was drawn from a look at the huge success of mobile payments and mobile money transfer services in Kenya as opposed to the low uptake of the same services in other countries such as Ghana, Mozambique and South Africa (Bhatia, 2013).

2. Literature
Mobile money use and adoption in Kenya has been extensively researched within the financial inclusion and mobile telephony fields. Significant progress has been made in explaining mobile money in Kenya to deepen and promote financial inclusion (mobile money for the unbanked) in several studies (Hughes and Lonie, 2007; Morawczynski and Pickens, 2009; Donovan, 2012; Nduati, 2012; Buku and Meredith, 2013). Numerous studies also explore mobile money, mobile payments and mobile money transfer services (Suri and Jack, 2010; Wamuyu and Maharaj, 2011; Lachaal and Zang, 2012) while Ngugi et al. (2010) explores the role of early adopters in adoption of mobile money banking in Kenya. But Rogers (2003) indicates that technology adoption and diffusion is always a complex
phenomenon. This study seeks to understand mobile money usage in Kenya by exploring its users’ pre-usage, usage and post-adoption perceptions.

2.1 Contextual Factors
Mas and Radcliffe (2010) indicates that several country-level environmental factors are necessary for successful mobile money development. This study explores whether social environment features such as the demographic distribution of the population and cultural and traditional roles in the family could have contributed to the great success of mobile money in Kenya.

2.1.1 The Demographics
The demographics of the Kenyan population could have played a key role in the quick uptake of mobile money services. Kenya has a population of 38,610,097 million of which 68% live in rural areas (Kenya Census 2009). Most of the rural population relies on agriculture and depends on the crops they grow (subsistence farming) and the animals they keep (pastoralists) for their livelihoods and survival. Small-scale farming is their only source of income. As these agricultural activities are not self-sustaining, people in the rural areas have to depend on financial support from relatives in town for buying farm inputs such as seeds and fertilizer. This implies that most of the people in the rural areas regularly depend on financial support from their relatives working in urban areas. One way to get this financial support to the villages has been through informal means such as public transport or relatives travelling upcountry.

2.1.2 Cultural Practices
Some cultural practices have also put pressure on the available natural resources in rural areas. The time-honoured practice of subdividing productive land among children has resulted in small fragments of land. These small sized plots are neither viable for commercial farming nor do they yield enough to sustain families. Hence most young people and especially men tend to migrate to towns to look for employment. Statistics indicate that there are more women living in the rural areas than males (Kenya Census 2009), an indication that women are left behind take care of the elderly, children, farms and livestock. Mwangi (2008) indicates Women constitute 75% of the Kenyan rural agricultural workforce. In Kenya therefore, there has been a pre-existing need to frequently send money from urban to rural locations (Berman, 2011; Medhi et al., 2009) as most males migrate to urban areas for employment in cities while their families remain in the rural areas. The men are expected to consistently send financial assistance to their relatives in the rural areas as part of their social obligations. In the same manner, parents with children attending schools away from home send transport money to the children for them to travel home during the school holidays. Also in rural areas of Kenya there are many communal projects and functions that require support from the people living in urban areas and money has to be sent to the village. Therefore, sending money between different areas of the country using informal means was the norm for many years in Kenya even before the mobile money. These traditional aspects of life demanded that money is always sent from the urban areas to the rural areas. Even with mobile money, Morawcynski and Pickens (2009) did observe that compared to urban areas, there were overall larger remittances to rural areas.

2.2 Mobile Money Attributes
Part of the study objective is to explore how mobile money technical attributes influenced quick uptake of mobile money in Kenya. Rogers (2003), indicates that the decision to adopt or reject an innovation is subject to a wide variety of factors some of which relate to the

The Electronic Journal of Information Systems in Developing Countries
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characteristics of the technology itself. He identified five attributes of innovations that are viewed to determine the rate of technology adoption. He concluded that these perceived attributes are particularly influential in any innovation usage and adoption decisions. The five characteristics of innovations that significantly influence consumer attitudes are relative advantage; compatibility; complexity; observability; and trialability. Brief definitions of these five characteristics are given in Table 1.

<table>
<thead>
<tr>
<th>Technology Characteristic</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative Advantage (Perceived Usefulness)</td>
<td>‘degree to which an innovation is perceived as better than the idea it supersedes’</td>
</tr>
<tr>
<td>Compatibility</td>
<td>‘degree to which an innovation is perceived as being consistent with existing values, past experiences, and needs of potential adopters’</td>
</tr>
<tr>
<td>Complexity (not easy to use)</td>
<td>‘degree to which an innovation is difficult to understand and use’</td>
</tr>
<tr>
<td>Observability (Visibility)</td>
<td>‘the degree to which the results of the innovation are visible to others’</td>
</tr>
<tr>
<td>Trialability</td>
<td>‘the degree to which an innovation can be experimented on a limited basis’</td>
</tr>
</tbody>
</table>

Table 1: Characteristics of a technology that influences individual’s adoption decision

Source: Rogers (2003, 15-16)

This study uses the five attributes to evaluate the rapid uptake of mobile money and mobile payments in Kenya while considering mobile money as a technological innovation. Rogers (2003) indicates that any innovation which individuals perceive to have these five characteristics is likely to experience rapid uptake as compared to technologies that do not exhibit these characteristics. Some studies such as Tornatzky and Klein (1982), Leung and Wei (1999) and Wei (2001) have shown that some of these attributes contribute to rapid uptake of an innovation while other attributes do not necessarily have this positive impact on adoption.

Relative Advantage of an innovation is how well the new technology serves a purpose better than the past or existing technologies. Moore and Benbasat (1991) define relative advantage as the degree to which an innovation is perceived as providing more benefits than its predecessor. Relative advantage is indicated by increased efficiency, economic benefits and enhanced status (Rogers, 2003). Moore and Benbasat (1991) found that relative advantage of any innovation is positively related to its rate of adoption. Mobile money offers superior benefits such as security, convenience and low cost to its users (Wamuyu and Maharaj, 2011) hence savings in money, time and effort, which is a relative advantage over the traditional money transmittals.

Rogers (2003) indicates that compatibility can propel a rapid rate of adoption of an innovation as it relates to how the technology conforms to a user’s lifestyle and is consistent with the need of its potential adopters. Chen et al. (2004) explains compatibility as the degree to which a service is perceived as consistent with users’ existing values, beliefs, habits and present and previous experiences. When users of mobile money find it compatible with how they exchange monetary value, they tend to use it.

Complexity is defined as the extent to which an innovation can be considered relatively difficult to understand and use Cheung et al. (2000). Complexity is the reverse of ease of use which used to imply the users perception of the technology as easy to understand.
and operate. Therefore, users are not going to use mobile money if it requires extra mental effort, is more time-consuming or frustrating to use.

Rogers (2003) shows observability as the way in which the innovation is visible to the members of a social system, and its benefits can easily observed and communicated. It is what Moore and Benbasat (1991) refers to as innovation visibility and result demonstrability. If the users of mobile money find it working in most of situations that demand exchange of monetary value, then they would use it over existing methods.

Trialability refers to the opportunity to experiment with the new technology before adoption which minimises or even eliminates certain unknown fears from potential adopters. Tan and Teo (2000) suggest that if customers are given a chance to try an innovation, it minimizes certain unknown fears, and lead to adoption. With mobile money service providers offering public demonstrations on how to use mobile, most users were able to see and evaluate how it works. Users who witness such demonstrations tend to use and communicate how mobile money works. Any user who perceives these distinct attributes on mobile money, there is a high likelihood of use and adoption.

2.3 Mobile Money and Mobile Payments Usage

Mobile Money is the stored money value held on a cellular mobile device that could be used in paying for goods or services, sent to another subscriber or converted back to cash. Kenya Tanzania and South Africa share the Vodafone’s proprietary mobile money transfer product M-PESA. M-Pesa was launched in Kenya in March 2007 and in August 2010 in South Africa. M-Pesa Services have also been launched in other countries as indicated in Table 2.

<table>
<thead>
<tr>
<th>Country</th>
<th>Date Launched</th>
<th>Provider</th>
<th>Product name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenya</td>
<td>March 2007</td>
<td>Safaricom</td>
<td>M-PESA</td>
</tr>
<tr>
<td>Afghanistan</td>
<td>February 2008</td>
<td>Roshan</td>
<td>M-PAISA</td>
</tr>
<tr>
<td>Tanzania</td>
<td>April 2008</td>
<td>Vodacom</td>
<td>M-PESA</td>
</tr>
<tr>
<td>Fiji</td>
<td>June 2010</td>
<td>Vodafone</td>
<td>M-PAISA</td>
</tr>
<tr>
<td>South Africa</td>
<td>August 2010</td>
<td>Vodacom</td>
<td>M-PESA</td>
</tr>
<tr>
<td>Qatar</td>
<td>November 2010</td>
<td>Vodafone</td>
<td>VMT</td>
</tr>
</tbody>
</table>

Table 2: M-Pesa products offered globally Source: Vodafone Group Plc.

Mobile Money transfer services are offered through a network of agents each licensed by the service providers. By the end of 2011 there were 50,471 agents offering mobile money transfer services in Kenya (Central Bank of Kenya, 2012), Tanzania had 15,000, while the number of agents in South Africa by the same date was about 4,000 (Vodacom, 2012). Suri and Jack (2010) surveyed Kenyan households in December 2009 and found that Mobile Money Transfer Services (in particular M-Pesa) had reached a majority of Kenya’s poor, unbanked, and rural populations. This implies that the use of Mobile Money Transfer Services in Kenya defies Duncombe and Boateng’s (2009) argument that the overall level and pace of adoption of m-finance services in developing countries is relatively low and confined to more affluent users.

Mobile payment is a wireless-based electronic payment system that supports payment for a transaction using one’s mobile devices such as cellular phones, smart phones, and personal digital assistants (Gao et al. 2005). Wilcox (2010, pg. 2) defines mobile payment as “payment for goods or services with a mobile device such as a phone, Personal Digital Assistant (PDA), or other such device” while the United States Federal Reserve\(^1\) defines mobile payment as...

\(^1\)http://www.bostonfed.org/economic/cprc/index.htm
mobile payments as purchases, bill payments, charitable donations, payments to another person, or any other payments made using a mobile phone.

United Nations Conference on Trade and Development defines M-commerce as buying and selling of goods and services using wireless hand-held devices (UNCTAD, 2004). This implies that mobile money facilitates M-commerce by providing the mobile payments ecosystem. Today mobile device users are increasingly interfacing and interacting with mobile commerce (m-commerce) systems (Wang and Liao, 2007). Table 3 gives the financial transactions and related services offered by the Kenyan six Mobile Money Transfer Services. The data was compiled from the respective service providers as at July 2012.

<table>
<thead>
<tr>
<th>Services and benefits</th>
<th>Bharti Airtel Airtel Money</th>
<th>Safaricom M-Pesa</th>
<th>Yu YuCash</th>
<th>Mobikash Mobile Pay</th>
<th>Tangaza Orange Money</th>
<th>IkoPesa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depositing money</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Sending money</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Withdraw Cash</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Buying Airtime</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>ATM Withdrawal</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Manage the Account</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Pay Bills</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Download money from the mobile account to a Bank account</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Top up the mobile account from a bank</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
</tr>
</tbody>
</table>

Table 3: Mobile Money Transfer Service offering in Kenya

In 2011, the Mobile Money transfer services moved Kenya Shillings 1,169.15 billion through the agents among 19.4 million registered customers (Central Bank of Kenya, 2012). While mobile payments have been very successful in Kenya most other markets are yet to record success (Pousttchi and Wiedemann, 2007; Bhati, 2013) with the exception of Austria, Spain, Italy and Scandinavian countries (Ondrus and Pigneur, 2007). In Asia Pacific, Japan and South Korea are leaders in the adoption of mobile payment; a phenomenon attributed to the close-knit relation between the stakeholders (Bradford and Hayashi, 2007) a contrast to the Kenyan social and economic landscape which is characterised by mistrust in information technology related services such as e-government (Musau et al. 2010). Carr (2011) attributes the difference between successful implementations of mobile payment services in the Asia Pacific region and failure in Europe and North America to the ‘payment culture’ of the consumers that are country-specific. On mobile financial transactions, Duncombe (2009) analysis on mobile device-based payments in Africa indicated that use of mobile payments is conditioned by non-market factors related to financial and technical literacy. This study aims at identifying the unique contextual attribute(s) that have led to mobile payments success in Kenya.
3. RESEARCH METHODOLOGY
The study used a combined qualitative and quantitative research approach. The quantitative part of the study was a survey using pre-tested questionnaires while the qualitative part of the study was done using focus group discussions.

The sample population for the study was composed of mobile money users from Embakasi area of Nairobi during the months of May and June, 2012. The sample was selected randomly from customers visiting M-Pesa agents in different shopping malls within Embakasi. The respondents were approached and informed about the purpose of the survey in advance before they were given the questionnaire. The questionnaire was to collect data on pre-adoption remittances, current transmittals and challenges encountered in daily use of mobile money. A total of 160 questionnaires were completed in five different locations over the study period.

Two focus group discussions were held with the aim of gaining insights into mobile money pre-usage and post-adoption perceived beliefs and the shared understanding of everyday usage of mobile money services. A focus group is a group of individuals selected and assembled by researchers to discuss and comment on the topic that is the subject of the research from their personal experience (Powell and Single, 1996). Zimmerman and Perkin (1982) indicates that focus groups allows the respondents, under the guidance of the moderator, to talk about the topic that is believed to be of special importance to the investigation, answering questions of how and why people behave as they do. Purposive sampling was used to select sixteen focus group participants from the 160 questionnaire respondents based on the number of years the individuals had used mobile money services. Only respondents who had used mobile money for at least five years were selected to participate in either of the two separate focus group discussions. Both focus groups were homogenous in terms of age, occupation, education and gender. Guidelines developed by Morgan (1988) were used in managing the focus group discussions. Each focus group discussion lasted for about two hours. The focus groups evaluated mobile money pre-usage and post-adopter usage beliefs using Rogers’s five attributes of an innovation which are considered to influence user’s adoption behaviour. The focus groups also did explore why mobile money users have continued to use the services and why they would quickly adopt any new mobile money payment product. While the questionnaire helped to ground the study problem, the focus group discussions helped to uncover the users’ perceptions on mobile money pre-usage, usage and continuance.

To evaluate whether the data collection and analysis were answering the required study questions, the first focus group discussion was held a week before the second focus group discussions. This was also to give time to check which key aspects of the study questions needed emphasizing during the second focus group discussion so as to ensure that the discussions generated adequate and rich data. Data analysis was guided by the three stages procedure outlined by Strauss and Corbin (1998). During the first focus group discussion, which took the form of an open discussion, deliberations were recorded and open coded according to broad themes using the constant comparison approach. They were also audiotaped and transcribed. In preparation for the second focus group meeting, the first group discussions were further analysed through axial coding and selective coding. This helped in streamlining the discussions in the second focus group. The moderator kept a reflective diary and compiled observational notes immediately after each focus group discussion.

4. RESULTS AND ANALYSIS
The survey results helped identify the extent of mobile money transfer services usage while the focus group discussions helped uncover the characteristics of Mobile Money that influences its initial adoption and the users’ intentions to continue using it.
4.1 Before Introduction of Mobile Money Services
Kenya has a diverse and mature mobile money transfer services and mobile payment acceptance is high. Before mobile money transfer services were introduced in Kenya, people conducted their transactions using cash and if there was any need to send money between two different locations especially between urban and rural areas this was only possible through other people, public transport or the Post office. The study respondents’ means of sending money prior to mobile money is indicated in Figure 1. These are the informal methods used in person-to-person transmittals of cash before mobile money.

![Figure 1: Money transfer services before introduction of mobile money services](image1)

4.2 Mobile Money Usage
From the study, the respondents indicated that they use mobile money for various payment transactions. The services ranges from person-to-person transfers, bill payments and buying goods (see Figure 2), which indicates the extent of Mobile Money and Mobile Payments usage in Kenya as at July 2012.

![Figure 2: Mobile Money Services Accessed](image2)
Person-to-person money transfers had the highest usage which supports Guy and Cohen (2011) that mobile money in Kenya is predominantly used for sending money with a few users using it for savings. The use of customer initiated payments such as buying of goods and paying bills is also widely used by many of the study respondents. Buy goods is usually a face-to-face type of payment made by the customer for immediate purchase of goods within the business premises as a form of C2B payments while pay bill is non-face-to-face payment made by the customer for utility or services using mobile money. The pay bill customer must have a prescribed account number with the service provider for the receiving organisation to identify the remittances. The basic assumption is that the users of mobile payment loads money on their mobile accounts for immediate or anticipated transactions and loads again for another transaction.

The study results indicate that all the 160 study participants had used mobile money for at least one type of a transaction. This shows that most Kenyans, poor and rich, banked and unbanked fully embrace the use of Mobile Money Transfer Services. The focus group members attributed this to Mobile Money Transfer Services offering cheaper and secure alternative to the pre-usage informal money transfer channels.

Some of the study respondents were also using their mobile accounts as a digital wallet. 86% of the respondents were using mobile money to hold money for emergency payments while 38% were using their mobile money to keep their savings as indicated in Figure 3.

![Figure 3: Use of Mobile Money as a Digital Wallet](image)

### 4.3 Integration with Financial Systems of the Country

The study results indicate that the use of mobile money to access banks account has also taken root in Kenya with 54% of the respondents indicating that they have used their mobile telephones to access their bank accounts. Card-less transactions at the ATMs has the highest number of users compared to the other two methods of accessing mobile money through the banks. It is an indication that many participants prefer to withdraw their mobile money using banks ATMs as indicated in Figure 4. The focus group members indicated their preference of using ATMs for their withdrawals especially when withdrawing huge amount of money from their mobile accounts or in situations where agents may not be having enough float. The number of users indicated in figure 4 does not include the users of M-Kesho, which is a mobile account jointly managed by the Equity Bank and Safaricom or M-Shwari, which is a M-Pesa product jointly managed by Safaricom and Commercial Bank of Africa, that allows M-Pesa users to own a mobile bank account where they can save, earn interest or borrow.
money on their savings. It does not also include the transactions done through any of the fourteen banks in Kenya which allow their customers to conduct banking transactions from their mobile telephones through a mobile banking platform.

4.4 Challenges
Use of mobile money has its own unique challenges in conducting transactions as well as the risks associated with holding money in a mobile account. The respondents indicated that delays caused by outages and fraud are some of the challenges in using mobile money services. As shown in Figure 5, 57% of the respondents felt that use of mobile money transfer services was expensive while 24% of the respondents have either lost their money through fraud or did send the money to the wrong number. 20% of the respondents indicated that they have registered in more than one mobile money transfer services in order to overcome challenges brought about by outages which result to delays in transaction completion. Focus group discussions showed that even if using mobile money may seem to be expensive, it is the best alternative for making most of the payments which require one to travel and queue at the pay points or even when one has to carry a lot of money.
4.5 Focus Group Results

The focus group discussions were informed by the users’ perceptions of pre-usage transmittals, their post adoption beliefs and the Rogers’ five characteristics of innovation in answering the study questions 3 and 4

3. What were the informal methods used in person-to-person transmittals of cash before mobile money and how did they influence the adoption of mobile money in Kenya?

4. What is the role the attributes of mobile money in its adoption and continuance intentions?

4.5.1 Theme: Influence of informal methods of person-to-person transmittals to the uptake of mobile money

Members: The focus group members were asked to interrogate the informal methods used to send money and whether they still use these kind remittances. They were also asked to comment on features of the informal remittances and how they could have influenced quick uptake of mobile money. The critical discussion that followed also reflected on some of the challenges of using the informal methods of sending money and how mobile money addresses these challenges. From the members’ perspective money delivery using any of the informal channels was not immediate neither was the feedback. This would result to hours of anxiety as one waits for confirmation that the money was safely delivered. Some of the participants had lost money when the buses they had used to send money to the rural areas were involved in accidents or when the people were robbed on the way. The participants also felt that sending money using public transport was expensive as charges were based on a fixed charge plus a percentage of the money sent.

Analysis: The participants’ concerns on informal transmittals focus heavily on cost, speed and security. Mobile money services offered a solution to these challenges by allowing instant delivery, low costs per transaction and secure and direct delivery to the receiver from the sender. Mobile money services were also easier to implement as most participants were already users of mobile telephones. Therefore, the challenges associated with informal transmittals positively influenced quick uptake of mobile money.

4.5.2 Theme: Mobile Money Characteristics that influences its initial adoption

The group members were asked to critically analyse the characteristics of mobile money that could have influenced their choice to adopt based on the Rogers’s five innovation characteristics. These are Relative Advantage, Compatibility, Complexity, Trialability and Observability. In the discussions that followed, the participants expressed how mobile money transfer services vividly fit these five characteristics and how this influenced their decision to adopt.

Relative Advantage of a new technology is how well this new technology serves a purpose over past or existing technologies.

Members: Members were guided by the statement: “How is using mobile money better than using the informal transmittals”. Members indicated that using mobile money reduced inconveniences associated with informal transmittals; availed new ways of making payments and accessing their money; more efficient and at a cheaper cost.

Analysis: The Mobile money services have relative advantage over the three traditional ways of sending money as it is more convenient, safer and affordable way of sending money.
users can be able to load or withdraw money from easily accessible agents and at any time of the day. The users are also able to buy airtime and pay their utility bills without the hustles or waiting on long queues found in most service providers’ cash payment offices. Users of mobile money can transfer money from their bank accounts to their mobile account reducing the inconveniences of travelling to where the banks are as well as having the advantage of accessing their funds outside banking hours. Convenience of using mobile money is illustrated by Dahlberg et al. (2003) that mobile payment services can be used anytime and virtually anywhere. This attribute allows faster uptake of mobile money as the greater the perceived relative advantage of an innovation, the more rapid its rate of adoption is (Vishwanath and Goldhabe, 2003)

**Compatibility** of a new technology is how easily an individual can incorporate the new technology into their life.

**Members:** Members were guided by the statements: “Mobile money is compatible with my personal values; mobile money is useful and credible”. Members appreciated the fact that mobile money services easily integrate with an individual’s life as a mobile wallet; eases how one buys airtime, goods and services and is easily acceptable by most people and business as a way of making payments or receiving money.

**Analysis:** Members highlighted that instead of carrying liquid cash for their daily transactions, which is risky, mobile money services give them a secure alternative way of having their money with them. Mobile money is also compatible with the culture of sending money especially to relatives living in rural areas thus being well-suited with the users’ experience. The culture of sending money between rural and urban people in Kenya matches mobile money transmittals hence fast uptake of mobile money as innovations compatible with existing values and norms are adopted more rapidly than innovations that are not (Vishwanath and Goldhabe, 2003)

**Complexity** of a new technology is how easily an individual can understand and learn to use the new technology.

**Members:** Members were guided by the statements: “Mobile money is easy and simple to use; mobile money software and related operations are clear; application services offered by mobile money are relevant”. From the members’ perspectives, it is easy to use mobile money as it does not require advance knowledge or a sophisticated mobile device. The focus group members indicated that they find operating mobile money applications and related services easy.

**Analysis:** This perceived ease of use is defined by Davis et al. (1989) as the degree to which a person believes that using a particular system would be free of effort. Members agreed that the menu options provided for transacting with mobile money are usually easy and straightforward and less in complexity. Members’ responses also highlighted that it is easy to understand how mobile money works and using it. In most cases, the use of mobile money is spontaneous, simpler to understand and does not require the user to learn a complete set of new skills.

**Trialability** of a new technology is how easily an individual can use it as they begin to adopt it into their life.
Members: Members were guided by the statements: “Mobile money can be experimented without experiencing any financial loss; mobile money can be adapted to suit my own needs”. Most focus group participants indicated that they first received money from friends and relatives before they were registered with any mobile money service provider. This gave them the experience of how mobile money services works. They then took the initial steps by buying airtime (limited uses) before eventually comfortably paying for goods and services. This concurs with Ngugi et al. (2010) which indicates the working members of the society and the business people initiated their remote location employees, parents and relatives to mobile money banking.

Analysis: Because mobile telephone SIM card comes with a preinstalled mobile money menu, it is easier for a user to look at it, try using it and understand its working hence reducing fear of using the technology. The early adopters of mobile money were quick to introduce their relations to the mobile money usage through direct mobile money transfers.

Observability of a new technology is how often an individual sees others using the technology, and the positive or negative outcomes of the observed use.

Members: Members were guided by the statements: “The benefits of using mobile money in transferring money, buying items, and paying for goods or services are obvious or visible; the advantages of using mobile money in day-to-day transactions are well-known”. Participants agreed that the successful use of mobile money services in person-to-person money transfer services has continued to elicit new and innovative ways of using mobile money services.

Analysis: It all started by allowing users to conveniently send money to the relatives in rural areas which created positive reactions and now the participants believes that mobile money can be appropriated for any kind of monetary transaction. Mobile money services are now common and people can attest to its benefits. Observability can be related to what Suri and Jack (2010) refers to as latent demand of financial services in Kenya that a majority of the population can identify with.

From the study group discussions, it shows that all the five characteristics of an innovation as outlined by Rogers (2003) had a hand in spurring the adoption and diffusion of mobile money in Kenya.

4.5.3 Theme: Mobile Money Continuance Intentions
The focus group discussions were also used to gauge the user’s satisfaction with the mobile money services based on their initial expectations on the services and the actual performance of the mobile money services after they had adopted the services. Bhattacherjee (2001) indicates that users’ continued Information Technology usage is usually different due to experiences gained from using the technology as compared to the expectations before using the technology. Bhattacherjee (2001) conclusion is that continued usage of any Information Technology is determined by user satisfaction and perceived usefulness. Anderson et al. (1994) defines consumer satisfaction as the result of a process of post-purchase evaluation and comparison, which affects his or her intention for future repurchase. Therefore, mobile money continuance intention is an individual’s intention to continue using the technology when more benefits of using the technology are realized.

Members: The group members were asked to critically analyse their intention to continue using mobile money services based on its innovation characteristics. They were guided by the
following statements: “In the future, I will not hesitate to use mobile money; I will always consider mobile money to be my first choice when sending money; I intend to increase my use mobile money”. The critical discussion that followed reflected on why the users would continue using mobile money. Members highlighted that mobile money is very useful as a mobile wallet as the user does not have to carry liquid cash for emergency payments. They also indicated that mobile money as a mobile wallet does facilitate micro-payments in micro-trading. A member of the focus group working in Nairobi city council Wakulima Market pointed out that mobile money was very helpful in making micro payments within the market. Members indicated that the relative advantage of mobile money is not comparable to its precursor (informal transmittals) and therefore had positive impact on continuance intentions. The focus group participants concluded that they intend to increase their use of mobile money in future as new product offerings are added as well as continue to use the services for its original intent of person-to-person money transfers.

Analysis: The focus group participants perceived mobile money to be useful, as it makes their life easier by allowing them to accomplish monetary transactions safely, quickly, anywhere at any time. Any user who perceives the relative advantage of mobile money services will continue to use it. The focus group participants experience with mobile money was better than their initial expectations in terms of service levels, affordability and convenience. The focus group participants overall experience was very satisfying, very pleasing and absolutely delighting especially when paying electricity bills, transferring money to and from their bank accounts, and when paying for goods and services. Continued usage intention is as an individual’s intention to continue using a technology in contrast to initial use or acceptance (Bhattacherjee, 2001) as more benefits of using the technology get realized later. This agrees with Duncombe (2009) which attributes success of mobile payments to the ability to transfer small denominations incorporating low transaction costs and the ability to operate cash-in and out systems.

5. DISCUSSION

The success of mobile money services in Kenya is always attributed to the unbanked and rural-urban money transmittals as the services have been successful in providing a quick, convenient and secure way of sending money to relatives and friends. This initial usage fit very well with the tradition of sending money in Kenya and with the added benefits of low cost, convenience and security. In Kenya the banking services were very expensive in early 2000 and mobile wallet seemed a great idea for the unbanked population then. But over the last few years, the Kenyan market has witnessed the introduction of low-cost bank accounts targeting the low income market. This has affected the use of mobile wallet for savings as most only people prefer to have money on their mobile wallet for emergency payments over the savings. From the study all the respondents have conducted at least one financial transaction using their mobile telephones. This is high compared to Ghana where only 7% of its mobile users have used mobile money transfer services (Frempong, 2009) and South Africa where only 43% of mobile phone users have made a financial transaction via their phone (Rao, 2011). In South Africa, Rao (2011) points out that consumers are only able to purchase digital goods such as music, ringtones, games and wallpapers as well as carry out mobile banking. The biggest beneficially of mobile payments are the micro-traders who are able to conduct secure transactions in busy and congested open air markets and council retail markets in Kenya. This concurs with Esselaar et al. (2007) which indicates that micro-traders can capitalize on the services availed through mobile phones by conducting affordable micro-transactions by going the mobile payment way.
Mobile money transfer services have enhanced banking services through interchange of monetary transactions between the mobile wallet and the bank accounts. This is an indication that mobile money transfer services complement the banking services. The low number of users who transfer money between the bank and their mobile money accounts is an indication that it is not only about the innovation but any technology must complement all aspects of people life. Mobile money transfers have also solved most of the hassles people go through when paying for services that require one to carry cash or looking for low denomination currency when making payments. 57% of the respondents indicate that the use of mobile payments services is expensive which contradicts Hughes and Lonie (2007) that mobile money transaction fees are usually less than most of the other payment options when making small payments. The focus groups participants indicated that the cost of using the service is usually diminished by mobile money convenience and security attributes. However, the study respondents indicated that when transacting large sum of money the cost of transaction using mobile money services is higher than the other available options hence limiting its usage. This is similar to Malaysia where perceived cost is reported to be a barrier to mobile commerce adoption (Wong and Hiew, 2005) but in Kenya, Wamuyu and Maharaj (2011) shows that affordability does not significantly affect the intention to use mobile payments.

6. Conclusion
The success of mobile money in Kenya can be attributed to the two contextual factors associated with the Kenyan population demographic characteristics and the cultural practices of the Kenyan people which over the years demanded person-to-person money transmittals. It could also be attributed to its appropriateness to micro-payments in micro-trading as well as its attributes. The development of any new mobile money and mobile payment products should always consider the social and economic environment of the application as adoption is closely related to other societal issues and values.

6.1 Trustworthiness of the Study
To ensure trustworthiness of this study, the study employs the four concepts of qualitative research trustworthiness as identified by Lincoln and Guba (1985). The four components are credibility, transferability, dependability, and confirmability.

Credibility of a study is the degree to which the findings represent the accurate meanings of the descriptions of the primary participants (Lincoln and Guba, 1985). To achieve credibility a qualitative study must manage the risk of either the researcher introducing own bias or the procedures influencing the participants hence changing the study findings (Padgett, 2008). Lietz et al. (2006) indicate that a researcher’s bias involves preconceived ideas that may shape the way they design the study and engage in analysis and thereby potentially leading to misrepresentation of the data. To ensure the study credibility triangulation and member checks were used. Lincoln and Guba (1985) indicate that triangulation is the corroboration of results with alternative sources of data or multiple sources of data (Padgett, 2008). Creswell and Miller (2000) indicate that triangulation could also be achieved by using varied data collection strategies such as interviews, focus groups, or observations. The study achieved this by using three methods of data collection including a survey, two focus groups, and document analysis. This also confirms the transferability of the study since use of multiple data collection methods strengthens the study’s usefulness for other settings.

Member checking involves corroborating the research findings by seeking feedback from the study participants (Creswell and Miller, 2000; Padgett, 2008). It involves taking interpreted data back to participants to see if they members feel that the analysis reflects their views at the time of the interview. To complete member checking the study results and were
given to the study participants for a review of accuracy of the interview content and to ensure that the study results and analysis reflects their views. The participants agreed that the analysis is a true reflection of their views.

Transferability is the readers’ ability to transfer the findings to other similar settings. It is the extent to which the study findings can be useful to similar groups or situations (Parahoo 2006). The study results were presented to ten other Mobile money users in the rural town of Nyeri who agreed with the study findings. This also confirms the dependability of the study as it is an indication that study findings can be replicated if undertaken with similar participants in a similar context.

Confirmability refers to strategies used in limiting biases by ensuring that the data represents the information participants provided. Four of the study focus group participants were given the study results, analysis and discussions in an effort to confirm the study findings and to establish the trustworthiness of its conclusions. The participants agreed that there were no biases or subjectivity in the study results and their interpretation which agrees with the suggestion by Polit and Beck (2010) that study findings must represent the participants’ voice.

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