
# FACTORS INFLUENCING ADOPTION OF MOBILE MONEY SERVICES AMONG INSTITUTIONS OF HIGHER LEARNING IN KENYA

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# FACTORS INFLUENCING ADOPTION OF MOBILE MONEY SERVICES AMONG INSTITUTIONS OF HIGHER LEARNING IN KENYA

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**ABSTRACT**

The objective of this study was to establish factors influencing adoption of mobile money services among institutions of higher learning. The specific objectives of this study were: to establish the influence of banking alternative quality on the adoption of mobile money services, and to determine the influence of financial reporting standards on the mobile money services at institutions of higher learning. The study adopted a descriptive research design. The target population of this study comprised of the senior management staff in finance and accounting department in institutions of higher learning within the Nairobi County. The study collected both primary and secondary data whereby primary data was collected using a questionnaire while secondary data was obtained from the strategic plan and other publications at the University. Data collected was analyzed by conducting a multiple regression analysis in order to establish factors influencing adoption of mobile money services in institutions of higher learning. The regression analysis was used to predict the value of the dependent variable on the basis of the independent variables. The study concludes that the banking alternative quality and the awareness of the mobile money transfer services influences the adoption of mobile money services to a great extent. The study also concludes that there is a significant relationship between financial reporting and the adoption of mobile money services to a great extent. This study therefore recommends that the finance departments of these institutions embrace mobile money transfer systems as they will be faster, easier and more convenient to the student. The study also recommends that the institutions of higher learning adopt financial reporting standards as a strategy for accountability and auditing of the institution finances so as not to miss out on those that were transferred from the mobile money services.

***Key words: Mobile Money Services, Institution of Higher Learning***

**INTRODUCTION**

Information and communication technologies (ICTs) have reduced the globe in digital networks, and none is as widespread as the mobile phone, a technology with more than five billion subscriptions globally (Wireless Intelligence, 2012). The convergence of telecommunication and banking services has created opportunities for the emergence of mobile commerce, in particular mobile banking and money transfers which have immense contributions to economic development (Vaughn, 2007). The combination of widespread cellular communication and the ability to transfer money instantly, securely, and inexpensively are together leading to enormous changes in the organization of economic activity, family relations, and risk management and mitigation, among other things. Jenkins (2008), defined Mobile Money as money that can be accessed and used via mobile phone. With an increasingly, widespread use of mobile phones by consumers in the emerging markets, mobile money transfer is not just a fad but a great phenomenon.

The mobile money transfer (MMT) service is an aspect of a broader concept emerging in the electronic payment and banking industry referred to as Mobile Money (Gencer, 2011a).

The advent of the mobile money transfer services has revolutionized the way the financial services industry conducts business, empowering organizations with new business models and new ways to offer 24 hour accessibility to their customers. The ability to offer financial transactions over the mobile phone has also created new players in the financial services industry, such as mobile phone service providers who offer personalized services. There are today four providers of mobile telephony; Safaricom, Orange, Airtel and Yu and their corresponding mobile banking service are called M-pesa, Airtel Money, Orange Money and yuCash. M-pesa is the predominant service for sending and receiving money and had more than 12.6 million registered users (CCK, 2010).

**Telecommunications Industry**

In the 21st Century, the telecommunication industry has evolved to become the fastest growing, competitive and the most vibrant industry in Kenya. Since the liberalization of the telecom sector in 1999, the Kenyan mobile sector has been witnessing tremendous development on the back of increasing competition among operators and investments in telecom infrastructure and 3G services. The mobile telephone technology entered the Kenyan market in the year 2000 with the award of GSM license by the government to Safaricom and later to Airtel; former Kencell to Celtel to Zain Kenya. Two other operators namely Orange Kenya and Essar Telecom (trading as YU) have since joined the mobile telephone market.

By the end of 2010, the number of mobile subscribers in Kenya had reached almost 22.9 million representing a penetration rate of around 63 percent. This is mainly after the introduction of the Mobile phone services in the year 2000. Safaricom and Airtel (then Kencell) were the first companies to venture into this business. The last decade has seen the birth of Essar's Yu and Orange companies in this industry.

Mobile money services refer collectively to a set of applications that enable people to use their mobile telephones to manipulate their bank account, store value in an account linked to their handsets, transfer funds, or even access credit or insurance products (Donner and Tellez, 2008). These financial transactions and services are sometimes referred to as mobile financial services and may or may not be linked directly to a bank account. Mobile money services describe the services that support or enable electronic

money transaction such as account access, money transfer, and mobile commerce over a mobile phone. The various definitions underscore the diversity of the usage of the term across the industry and in the literature (Ernst and Young, 2010). Mobile money is used to loosely refer to money stored using the Subscriber Identity Module (SIM) as an identifier as opposed to an account number in the conventional banking business (Lassaad and Zhang, 2012). Lassaad and Zhang further notes that mobile money can also be defined based on its functionality by observing that it includes all the various initiatives (long distance remittance, micro-payments, and in formal air-time) aimed at bringing financial services to the unbanked, as well as convenience for the banked, using mobile telephony technology. Mobile money refers to financial transactions and services that can be carried out using a mobile device such as a mobile phone or tablet.

**Statement of the Problem**

Mobile money transfer is a rapidly growing industry that has significantly influenced financial transactions all over the world. Statistics from China indicate that there were approximately 352.1 million mobile banking customers at the top four Chinese banks, (http://mobithinking.com). In Quarter four, 2013, Chinese mobile users made transactions worth 4.7851 trillion Yuan (US $768.8 billion). Statistics show that Kenya is the world leader in mobile money services. Of the 31.31 million mobile subscribers in Kenya, 83 percent (26.02 million users) are subscribed to mobile money services (CCK, 2014). These include paying utility bills, school fees, making in-store purchases, m-ticketing, phone top-ups, withdrawing cash from ATMs, sending money home from 45 countries overseas, people even have their wages and stock dividends paid into their mobile phone money account. This has made mobile money services an unavoidable payment mode thus forcing organizations to adopt the m-payment by opening a LIPA NA MPESA Account.

According to Communications Commission of Kenya (CCK), the number of mobile money transfer subscribers grew by 9.4 percent in the last quarter of 2012. The total deposits grew by 10.3 percent to 226 billion up from 205 billion recorded during the third quarter. Mobile money has over the years grown from a money transfer platform to a payment platform and now many more services are availed on mobile phones more less like those availed by commercial banks (CCK, 2013).

Several institutions in Kenya have now embraced the “LIPA NA MPESA” service being provided to corporates by Safaricom the largest mobile phone service provider by customer base (CCK, 2013).

Kenyan microfinance institutions (MFI) and insurance companies are increasingly using mobile money services for cash disbursement and repayment; businesses, government and NGOs are using it for cash transfers, procurement and salary payments among others.

With the growing trend of mobile money adoption by corporates, there is need for the same to be adopted by learning institutions to create efficiency and convenience in payment services within the institutions. This necessity has created a research gap that this study sought to fill by investigating the factors influencing adoption of mobile money services among institutions of higher learning in Kenya.

**Research Objectives**

The objective of this study was to establish factors influencing adoption of mobile money services among institutions of higher learning. The specific Objectives; to establish the influence of banking alternative and financial reporting standards on the mobile money services at

higher learning institutions.

**Research Questions**

i. How does banking alternative quality of mobile money influence its adoption at institutions of higher learning?
ii. What is the influence of financial reporting standards on the mobile money services at institutions of higher learning?

**Scope of the Study**

The study sought to find out the factors influencing adoption of mobile money services among institutions of higher learning in Nairobi County. The study targeted officers in Finance Department including the Chief Finance Officer or Finance Director, Senior Accountant, and other accounting officers and clerks. The study focused on officers at the accounts and finance office because this is the place where decisions regarding system adoption, change and migration are made. The study was conducted between the months of June-August 2014.

**Theoretical Review**

**a) Financial Intermediation Theory**

Financial intermediation is a process which involves surplus units depositing funds with financial institutions who then lend to deficit units. As observed by, Adrian (2009) financial intermediaries can be distinguished by four criteria: first their main categories of liabilities (deposits) are specified for a fixed sum which is not related to the performance of a portfolio. Second the deposits are typically short-term and of a much shorter term than their assets. Third a high proportion of their liabilities are chequeable (can be withdrawn on demand) and fourth their liabilities and assets are largely not transferable. The most important contribution of intermediaries is a steady flow of funds from surplus to deficit units.

The role of the financial intermediary is essentially seen as that of creating specialized financial commodities (Nicola, Benjamin and Lindsay, 2012). These are created whenever an intermediary finds that it can sell them for prices which are expected to cover all costs of their production, both direct costs and opportunity costs.

Financial intermediaries exist due to market imperfections. As such, in a 'perfect' market situation, with no transaction or information costs, financial intermediaries would not exist. Numerous markets are characterized by informational differences between buyers and sellers. In financial markets, information asymmetries are particularly pronounced. Borrowers typically know their collateral, industriousness, and moral integrity better than do lenders. On the other hand, entrepreneurs possess inside information about their own projects for which they seek financing (Liman, 2012). Moral hazard hampers the transfer of information between market participants, which is an important factor for projects of good quality to be financed.

**b) Diffusion of Innovation Theory**

Innovation is any idea, object or practice that is perceived as new by members of the social system (Ahlstrom, 2010). Diffusion of innovation on the other hand is the process by which the innovation is communicated through certain channels over time among members of social systems. The Diffusion of Innovation Theory has received similar attention by scholars in explaining consumer behavior towards new technology. It is suggested that diffusion of innovation is achieved by how a social system accepts and begins to use (adopt) an idea or a technology (Ahlstrom, 2010). Rogers' Diffusion of

Innovation Theory seeks to explain how new ideas or innovations are adopted, and this theory proposes that there are five attributes of an innovation that effect adoption: relative advantage, compatibility, complexity, trialability, and observability. Relative advantage is the degree to which an innovation is perceived as being better than the idea it supersedes.

Rogers' theory suggests that innovations that have a clear, unambiguous advantage over the previous approach will be more easily adopted and implemented. Rogers asserts that consumers' adoption of certain tech-products depends on product characteristics, for instance, its perceived relative advantage - the degree to which the product is perceived as being better than the practice it supersedes. Therefore, adoption of mobile money services will depend on consumers' expected gains or losses from the service. Diffusion of innovation theory explain the mechanisms of how new inventions in this case internet and mobile banking is adopted and becomes successful (Rogers, 2008). However, not all innovations are adopted even if they are good hence it may take a long time for an innovation to be adopted.

Rogers (2008), identified five critical attributes that greatly influence the rate of adoption. These include relative advantage, compatibility, complexity, triability and observability. According to Rogers, the rate of adoption of new innovations will depend on how an organization perceives its relative advantage, compatibility, triability, observability and complexity. If an organization observes the benefits of mobile and internet banking they will adopt these innovations given other factors such as the availability of the required tools. Adoption of such innovations will be faster in organizations that have internet access and information technology departments than in organizations without access.

**Conceptual Framework**

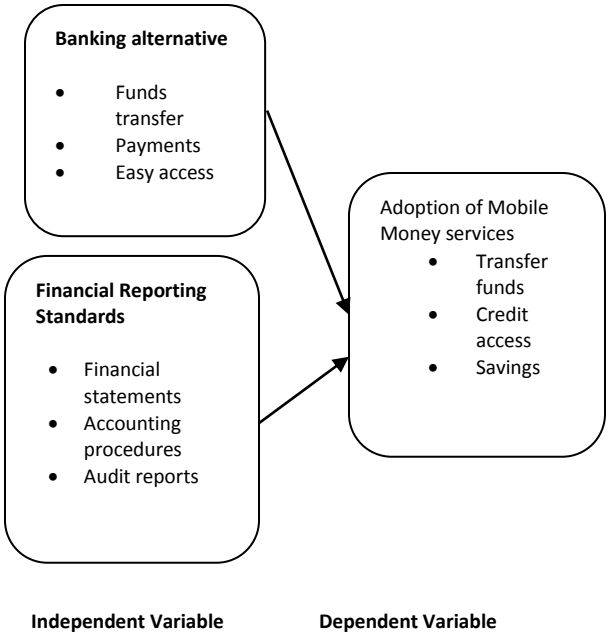


**Figure 1 Conceptual Framework**

**Empirical Literature**

**a) Banking Alternative**

Despite heightened enthusiasm for mobile financial services, relatively few people today in developing markets use them (The Mobile financial development Report, 2011). The report observes that only a few smaller countries have seen adoption of mobile financial services reach more than 10% of the adult population. Services deployed at scale in these countries are focused primarily on payments. As observed by, Pickens (2009), more than a billion people worldwide lack access to traditional financial services, particularly in emerging countries, although they have mobile phones, which leave them with the only available banking alternative which is usage of mobile money transfer. Sending and receiving money via friends and family remained the most

common delivery method while banks are still preferred as they are considered safer than mobile money.

Previous studies suggest that mobile banking offers customers additional value in terms of location-free access (Michael and Sarah, 2013). Similarly, mobile payments provide consumers with ubiquitous purchase possibilities, timely access to financial assets and an alternative to cash payments. The users can, for example, pay for transportation tickets or car parking remotely without the need to visit an ATM, a ticketing machine or a parking meter (Fridolin *et al*, 2011).

Advantages of mobile payments compared with traditional payment instruments are thus likely to pertain to time and location independent purchase possibilities. The compatibility of mobile payments with consumers' purchase transactions, habits, and preferences correspondingly influences the diffusion progress.

Limitations in mobile device features, however, diminish the usability and user-friendliness of mobile technologies (Siau *et al.*, 2008). Typical limitations include small displays and keypads, limited transmission speed and memory, and short battery life.

Structural weaknesses in the formal financial industry in Kenya, however, limit the access to money transfer services, especially in rural areas and for low-income people (Hughes and Lonie, 2007). This is because banks are concentrated mainly in urban centers and have conditions that constitute barriers to the use of their services (Biljon and Kotzé, 2008). The cost of transfer, usually charged as a percent of the amount sent, is considered expensive for small amounts for both local and international transfers and these probes the users to use other banking alternatives (Au and Kauffman, 2008).

Mas and Morawczynski (2009), other transactions have been introduced across different networks making the use of mobile banking easy. They however noted that these transactions are yet to catch on like payment of cable television bills (DSTV) and payment of school fees or tuition. A study in Uganda found out that despite the ease of paying school fees using mobile money services, there is congestion at banks as parents and students rush to meet payment deadlines, usually before the start of examinations. Technology Acceptance Model (TAM) postulates that perceived ease of use has a positive influence on perceived usefulness. Furthermore, perceived usefulness and perceived ease of use have a positive influence on attitude. In addition, perceived usefulness and attitude both have a positive influence on the behavioral intention (Mas and Morawczynski, 2009).

Mas and Kumar (2008), note that there has been high penetration of mobile phone services across the world due to the increased mobile phone user base. The increasingly large mobile phone user base provides a platform that could potentially be leveraged to service the financial needs of the poor (Morawczynski, 2009). In the developing world, where the reach of banking infrastructure is severely limited, this is a big deal especially if we can reach more people faster and cheaper. Secondly, others believe that successful mobile money has the ability to enable and catalyze the development of mobile commerce (Hu, Li *et al.*, 2008), particularly in the developing world. Lyman and Pickens (2008), argued that most of the business transactions could be easily supported within the current mobile money framework and hence facilitating the penetration of the mobile money services.

**b) Financial Reporting Standards**

Financial reporting is the presentation of financial data of a company's operating performance,

position and funds flow for an accounting period by use of financial statements (Cohen *et al.*, 2008). Cohen *et al.* further notes that financial statements alongside related information or documents may be contained in various forms mainly for external party use such as in the annual report. Financial statements outline the financial activities of a business, an individual or any other entity. Financial statements are meant to present the financial information of the entity in question as clearly and concisely as possible for both the entity and for readers. Financial statements for businesses usually include: statement of profit and loss and other comprehensive income, statement of financial position, statements of cash flows, as well as other possible statements (Cohen *et al.*, 2008).

There exists a set of international accounting standards stating how particular types of transactions and other events should be reported in financial statements. International Accounting Standards (IAS) are accounting principles, rules, methods ('standards') issued by the International Accounting Standards Board (IASB), an independent organization based in London, U. K. They purport to be a set of standards that ideally would apply equally to financial reporting by organizations worldwide.

International Financial Reporting Standards (IFRS) are issued by the International Accounting Standards Board. When IFRS are adopted in a given jurisdiction, they become part of existing laws and regulations (Yang, 2009). However, the provisions of relevant national laws and regulations might not be amended in due time to recognize the introduction of IFRS.

In some cases, situations arise where IFRS requirements contradict applicable provisions in national laws and regulations. In a report on IFRS, PWC (2009), notes that relevant institutions needed for ensuring a smooth transition to a global set of financial reporting standards might be inexistent or weak. Rigorous enforcement of such global standards at the national level poses practical challenges due to absence of adequately resourced enforcement institutions and lack of adequate coordination mechanisms among relevant institutions (PWC, 2009).

It is a standard practice for businesses to present financial statements that adhere to generally accepted accounting principles (GAAP), to maintain continuity of information and presentation across international borders. As well, financial statements are often audited by government agencies, accountants, firms, etc. to ensure accuracy and for tax, financing or investing purposes. Financial statements are integral to ensuring accurate and honest accounting for businesses and individuals alike (McGoldrick, Keeling and Doherty, 2008).

According to Standards and Practices Report for Electronic and Mobile Payments (2012), while global standards and leading practices are still emerging, there are some examples in the market of successes in interoperability for mobile payments. For example in Kenya, M-Pesa allows consumers to send money to any phone, even outside of the Safaricom network (which is M-Pesa's exclusive partner). Non-Safaricom payment beneficiaries are sent a voucher with a one-time PIN, which they can take to Safaricom agents to withdraw cash. This is not a technology solution to interoperability, but it does allow for mobile payment execution across networks. A barrier to adoption of mobile money services is in financial reporting and presentation of the flow of funds transacted via mobile phone.

**Critique of Literature Review**

The study carried out by, Laukkanen and Lauronen (2005), suggest that mobile banking offers customers additional value in terms of

location-free access. Mobile payments provide consumers with ubiquitous purchase possibilities, timely access to financial assets and an alternative to cash payments. The study, however relevant, was carried out in Finland which present completely different operating environment framework compared to that in Kenya.

Similarly, Merritt (2010), observes that many mobile users lack of awareness and are limited to mobile money service awareness. According to the Tanzania mobile money tracker study (2013), awareness significantly influences the adoption of online and mobile money service, while consumer awareness is effectively increased through mass media rather than word-of-mouth communications. These studies were done in the context of Portugal which also presents a different economic setting from that in Kenya and more specifically institutions of higher learning.

Ongwenyi (2012), studied the influence of mobile phone banking on traditional banking transactions; a case of banking institutions in Nairobi Central Business District. This study, which is very relevant to the prevailing phenomenon, was however done on the banking institutions which are involved in the financial intermediation process.

**Research Gap**

Mobile money transfer services have been identified as the future of payment systems in Kenya especially following the rapid developments in information, communication and technology. This development is also in line with the Vision 2030 which aims at opening up Kenya to the rest of the world. In terms of innovations in mobile money, Kenya has proven to be a very fertile and supportive location. This potential has been contributed by its high literacy rate and a strong culture of entrepreneurship, Government's stand on allowing the mobile money sector to flourish and the considerably large underserved market has meant a large opportunity and welcoming environment within which to operate for service providers and information and communication technology.

Institutions of higher learning are great influencers of society as they impart knowledge and skills which are relevant for the corporate sector in general. In order to bridge this gap, this study seeks to establish factors influencing adoption of mobile money services among institutions of higher learning.

**RESEARCH METHODOLOGY**

**Research Design**

Research design refers to the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in the procedure (Yin, 2009). The study adopted a descriptive research design. According to, Creswell (2008), a descriptive study is concerned with finding out the what, where and how of a phenomenon. Descriptive research design was chosen because it can enable the researcher to generalise the findings to a larger population.

Surveys allow the collection of large amount of data from a sizable population in a highly economical way. It allows one to collect quantitative data which can be analyzed quantitatively using (describing the data using charts and tables in an executive summary) and inferential statistics (testing the drawing conclusions about the population, based on the sample). Therefore, the descriptive survey has been deemed the best strategy to fulfill the objectives of this study (Creswell, 2008).

**Target Population**

The target population refers to a group of individuals, objects or items from which samples are taken for measurement (Mugenda and

Mugenda, 2008). Target population is the specific population about which information is desired. The target population of this study comprised of the senior management staff and staff in finance and accounting department of selected institutions of higher learning. This will translate to a target population of 120 since the study will target 5 employees from each university in the departments. These individuals were selected because of their key role in strategic management as concerns whether to adopt mobile money strategy or not, and for the finance staff, it mainly touches on their day to day work (Mugenda and Mugenda, 2008). The target population for this study was the different institutions of higher learning in Kenya.

**Sample Design and Sampling Technique**

A sample is a sub-set or part of the target population; sampling is a process of selecting subjects or cases to be included in the study of the representative of the target population (Mugenda and Mugenda, 2008). This study employed stratified and probability sampling design and method. In stratified sampling, the population is divided into homogenous subgroups before sampling. Therefore the universities were divided into strata based on counties, and the stratum selected was Nairobi County. In probability sampling each member of the population has a known probability of being selected to be part of the sample. Sampling technique involve the procedures applied to get the representative sample from the target population. The sample size was equal 96 respondents.

**Research Instruments and data collection procedures**

Data collection tools are the instruments which are used to collect the necessary information needed to serve or prove some facts (Mugenda and Mugenda, 2008). The study collected both primary and secondary data. Primary data was collected using a questionnaire while secondary data was obtained from strategic plan and other publications at the university. The questionnaire designed in this study comprised of two sections.

The first part was designed to determine fundamental issues including the demographic characteristics of the respondent, while the second part consisted of questions where the three variables are focused. The questionnaire has been designed in line with the objectives of the study.

This study collected quantitative data using a self-administered questionnaire through drop and pick later method where the researcher delivered the questionnaires in person at the respondents' places of work.

**Data Analysis and Presentation**

In order to analyze collected data, Mugenda and Mugenda (2008) observed that a researcher needs to have the following information about the statistical data analysis tools namely: descriptive, inferential and test statistics. Before processing the responses, the completed questionnaires were checked for completeness to ensure consistency. The data was then coded to enable the responses to be grouped into various categories.

Data collected was qualitative and quantitative and was analyzed by descriptive analysis and inferential statistics through multiple regression analysis to describe the factors influencing adoption of mobile money services in institutions of higher education. The findings were presented using tables and charts. The Likert scale was used to analyze the mean score and standard deviation. Percentages, tabulations, means, and other measures of central tendencies were used to present the data. In addition, the researcher conducted a multiple regression analysis in order to establish factors influencing adoption of mobile money services. Regression analysis was

used to predict the value of the dependent variable on the basis of the independent variables.

Regression analysis is concerned with the study of the dependence of one variable, the dependent variable, on one or more other variables, the explanatory variables, with a view to estimating and/ or predicting the population mean. The multivariate regression equation is:

$$\mathbf{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon}$$

Whereby:

Y = Adoption of Mobile Money services

$X_1$ = Banking alternative

$X_2$ = Financial reporting standards

$\varepsilon$ = Error term/Erroneous variables

$\beta_0$ = the minimum change in Y when the rest of the variables are held at a constant zero

$\beta$ = measure of the rate of change i.e. $\beta_1$ measures the rate of change in Y as a result of a unit change in $X_1$.

## FINDINGS AND DISCUSSION

### Response Rate

The study targeted 72 respondents. Out of these, 48 members of staff returned questionnaires giving a response rate of 67%. This response rate was excellent and conforms to, Mugenda and Mugenda (2003), argument that a statistically significant response rate should be at least 50%.

### Reliability and Validity

Reliability refers to the extent to which a measuring instrument contains variable errors that appear inconsistent from observation during any one measurement attempt or that vary each time a given unit is measured by the same instrument. Construct validity is established by relating measuring instruments to a general theoretical framework in order to determine whether the instrument is tied to the concepts and theoretical assumptions they are employing (Nachmias and Nachmias, 2008). Easy Reg International a statistical programme was used as the tool of analysis to test the relationship between the dependent variable and the four independent variables as indicated in the table below.

Cronbach's alpha of well above 0.7 implies that the instruments were sufficiently reliable for the measurement. As most item total correlations were reasonably high, the construct validity of the instruments was considered reasonable (Brown, 2000).

**Table 1: Reliability Test**

| Variable/Construct description | Item Means | Coefficient Alpha Reliability |
|---|---|---|
| Banking Alternative | 7 | 0.793 |
| Financial Reporting Standards | 6 | 0.764 |

### Demographic Information

### Gender Distribution

The study sought to establish the gender of the respondents. From the findings 58% of the respondents were male while 42% were female. The study involved both men and female respondents although the majorities were the male respondents.

### Level of education

The study sought to determine the highest level of education of the respondents. From the findings 13% of the respondents were certificate holders, 19% were diploma holders, 37% were degree holders and 23% had masters' degrees. Those who were PhD holders formed 8% of the respondents. The study involved respondents who had various academic qualifications and thus each

brought different levels of expertise in the study.

**Years Worked in the Organization**

The study sought to establish the number of years the respondents had worked in the organization. From the findings, 17% of the respondents had worked for less than 5 years in their respective organization, 25% for between 5-10 years, 19% for between 11-15 years, 25% for between 16-20 years and 15% had worked for over 20 years. The respondents had worked in their organization for different span of years and thus each brought different level of experience in answering the questions of the study.

**Department Working in**

The study sought to establish the departments the respondents worked in. The responses showed that all the respondents worked in the finance and accounting departments of their respective institutions of higher learning. The study interviewed employees from the finance and accounting department since they dealt with money matters and thus were better placed to participate in the study.

**Position in the Organization**

The respondents sought to establish the positions the respondents held in their respective organizations. The findings revealed that majority were accounts clerks. Other respondents included in the study were the head of finance department, finance managers, financial controllers, credit controllers and finance officers. The different positions held by the respondents ensured that the study got the different perspectives of the respondents based on their responsibilities in the work place.

**Banking Alternative on the Adoption of Mobile Money Services**

The study sought to establish the extent to which the respondents agreed on the statements on the influence of banking alternative on the adoption of mobile money services.

On whether mobile money transfer is the most common delivery method, the respondents disagreed with a mean of 2.341. According to the mobile financial development report, (2011), relatively few people today in developing markets use mobile financial services despite the heightened enthusiasm. On whether transfer of cash through banks is safer than mobile money transfer the respondents were neutral with a mean of 3.214. The respondents agreed that mobile banking offers customers additional value in terms of location-free access with a mean of 4.352. This findings support those of, Michael and Sarah (2013), who established that mobile banking offers customers additional value in terms of location-free access.

On whether mobile payments provide consumers with ubiquitous purchase possibilities, the respondents agreed with a mean of 4.251. Asked whether mobile money payments are faster and timely, the respondents strongly agreed with a mean of 4.563 and also strongly agreed that mobile money payments systems are convenient with a mean of 4.689. The respondents were neutral on whether access to money transfer services, especially in rural areas is a challenge with a mean of 3.421. The respondents were also neutral on whether the cost of mobile money transfer, usually charged as a percent of the amount sent, is considered expensive for small amounts for both local and international transfers with a

mean of 3.145. The respondents agreed that introduction of other transactions across different networks has made use of mobile banking easy with a mean of 3.986. The responses are shown in the table 2 below.

**Table 2: Banking Alternative**

| Statements | Mean | Std. Dev |
|---|---|---|
| Mobile Money transfer is the most common delivery method | 2.341 | 0.021 |
| Transfer of cash through banks is safer than mobile money transfer. | 3.214 | 0.321 |
| Mobile banking offers customers additional value in terms of location-free access | 4.352 | 0.452 |
| Mobile payments provide consumers with ubiquitous purchase possibilities | 4.251 | 0.652 |
| Mobile money payments are faster and timely | 4.563 | 0.421 |
| Mobile money payments systems are convenient | 4.689 | 0.320 |
| Access to money transfer services, challenge especially in rural areas | 3.421 | 0.189 |
| The cost of mobile money transfer, considered expensive for small amounts for both local and international transfers | 3.145 | 0.009 |
| Introduction of other transactions across different networks has made use of mobile banking easy | 3.986 | 0.326 |

**Extent of Influence of Banking Alternative**

The respondents were asked to what extent availability of banking alternatives influenced the adoption of mobile money services in their institutions of higher learning. Those who said that banking alternative influenced the adoption of mobile money services to a very great extent were 40%, 38% said to a great extent, 13% said to a moderate extent, 4% to a less extent and 6% to no extent at all. The responses are shown in table 4.5 below.

**Table 3: Extent of Influence of Banking Alternative**

| | Frequency | Percentage |
|---|---|---|
| To a very great extent | 19 | 40 |
| To great extent | 18 | 38 |
| To a moderate extent | 6 | 13 |
| To a less extent | 2 | 4 |
| To no extent | 3 | 6 |
| Total | 48 | 100 |

**Financial Reporting Standards**

The study sought to establish whether financial reporting standards influence the adoption of mobile money services at institutions of higher learning. From the figure above 81% said that financial reporting standards influence the adoption of mobile money services at institutions of higher learning while 19% said it did not.

The responses are shown in the figure 3 below.

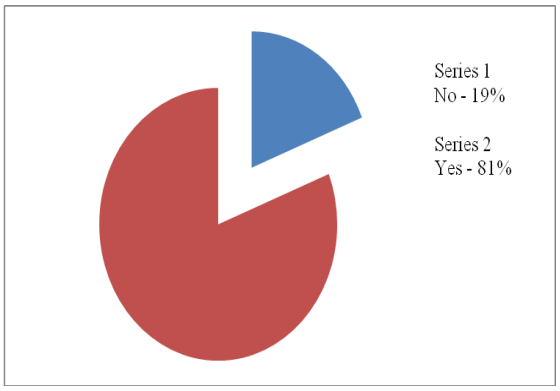


**Figure 1: Financial reporting standards and adoption of mobile money services**

The respondents further stated that financial reporting influences the adoption of mobile money services by presenting information that the respondents said enables accountability. The respondents also cited that financial reporting was a key tool for the management to monitor the progress and

thus its key in influencing the adoption of mobile money services. Cohen *et al.* (2008), defined financial reporting as the presentation of financial data of a company's operating performance, position and funds flow for an accounting period by use of financial statements. He further argued that financial reporting is key in monitoring and auditing of the organizations finances.

The respondents also cited that financial reporting is key for the accounting department in auditing and thus reduces the chances of corruption and errors.

**International Accounting Standards Board (IASB)**

The respondents were asked whether in determining the means of payments to be adopted, whether considerations are made on the capability of the means to meeting the standards set by the International Accounting Standards Board (IASB) and other financial reporting standard governing boards. From the figure below, majority i.e. 98% of the respondents agreed that considerations are made on the capability of the means of payments to meeting the standards set by the International Accounting Standards Board (IASB) and other financial reporting standard governing boards while only 2% said no. There exists a set of international accounting standards stating how particular types of transactions and other events should be reported in financial statements as a standard practice for businesses to present financial statements that adhere to generally accepted accounting principles (PWC, 2009).

**Financial Reporting Standards on the Mobile Money Services**

The study sought to establish the influence of financial reporting standards on the adoption of mobile money services. The respondents were asked to rate the extent to which they agreed on the statements.

On whether mobile money transfer financial statements present the financial information as clearly and concisely as possible for both the entity and for readers, the respondents agreed with a mean of 4.123, and also agreed with a mean of 4.125 that financial statements provided include income statements, balance sheet, statements of retained earnings and cash flows. According to, PWC (2009), it is a standard practice for businesses to present financial statements that adhere to generally accepted accounting principles (GAAP), to maintain continuity of information and presentation across international borders. Asked whether your institution follows international accounting standards stating how particular types of transactions and other events should be reported in financial statements, the respondents agreed with a mean of 4.023. Financial statements for businesses usually include: income statements, balance sheet, statements of retained earnings and cash flows, as well as other possible statements (Cohen *et al.*, 2008). The respondents were neutral on whether institutions need for ensuring a smooth transition to a global set of financial reporting standards are weak with a mean of 2.632, rigorous enforcement of global standards at the institutional level poses practical challenges due to absence of adequate resources with a mean of 3.210 and there is lack of adequate coordination mechanisms among relevant institutions as far as financial reporting is concerned with a mean of 2.985.

Financial statements are integral to ensuring accurate and honest accounting for businesses and individuals alike and thus organizations should ensure that they adhere

to the global standards (McGoldrick, Keeling, and Doherty, 2008). The responses are shown in the table 4.8 below.

**Table 4: Financial Reporting Standards**

| Statement | Mean | Std. Dev |
|---|---|---|
| Mobile money transfer financial statements present the financial information clearly and concisely for both the entity and readers | 4.123 | 0.001 |
| Financial statements provided include income statements, balance sheet, statements of retained earnings and cash flows | 4.125 | 0.302 |
| Your institution follows international accounting standards stating how particular types of transactions and other events are reported | 4.023 | 0.214 |
| Institutions needed for ensuring a smooth transition to a global set of financial reporting standards are weak | 2.632 | 0.652 |
| Rigorous enforcement of global standards at the institutional level poses practical challenges due to absence of adequate resources | 3.210 | 0.113 |
| Lack of adequate coordination mechanisms on financial reporting among relevant institutions | 2.985 | 0.521 |

### Extent of Influence of Financial Reporting Standards

The study sought to establish to what extent financial reporting standards influences the adoption of mobile money services at institutions of higher learning. From Table 4.9, those who said that financial reporting influences the adoption of mobile money services to a very great extent were 46%, 31% said to a great extent, 10% said to a moderate extent, 4% said to a less extent and 8% to no extent at all. According to, McGoldrick, Keeling, and Doherty (2008), financial reporting is integral to ensuring accurate and honest accounting for businesses and individuals alike.

The findings are shown in the table below.

**Table 5: Extent of influence of Financial Reporting**

| | Frequency | Percentage |
|---|---|---|
| To a very great extent | 22 | 46 |
| Great extent | 15 | 31 |
| Moderate extent | 5 | 10 |
| To a less extent | 2 | 4 |
| To no extent at all | 4 | 8 |
| Total | 48 | 100 |

### Regression Analysis

This section presents a discussion of the results of inferential statistics. The study conducted a multiple regression analysis so as to investigate the factors influencing adoption of mobile money services among institutions of higher learning in the Nairobi County. The study applied regression analysis because it is less expensive in terms of time and the information to make the predictions was readily available.

Before describing the details of the modeling process, however, some examples of the use of regression models will be presented. The study applied the statistical package Version 20 to code, enter and compute the measurements of the multiple regressions for the study. Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable (adoption of mobile money services) that is explained by all the 4 independent variables (banking alternative, financial reporting standards,).

**Table 6: Regression coefficients**

| Model | Un-standardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 1.717 | 0.297 | | 5.781 | 0.000 |
| Banking alternative | 0.801 | 0.087 | 0.288 | 9.207 | 0.023 |
| Financial Reporting | 0.635 | 0.129 | -0.04 | 4.922 | 0.012 |
| a. Predictors: (Constant), banking alternative and financial reporting standards<br>b. Dependent Variable: adoption of mobile money services | | | | | |

From the regression findings, the substitution of the equation:

(Y = β0+ β1X1 + β2X2 + **ε**) becomes:

$Y= 1.717 + 0.801 X_1 + 0.635X_2 + \varepsilon$

Where Y is the dependent variable (adoption of mobile money services), $X_1$ is banking alternative variable, $X_2$ is Financial Reporting.

The regression equation above has established that taking all factors into account (Banking alternative and Financial Reporting) constant at the adoption of mobile money services will be 1.717.

The findings presented also show that taking all other independent variables at zero, a unit increase in banking alternative would lead to a 0.801 increase in the adoption of mobile money services.

In addition, the findings show that a unit increase in Financial Reporting would lead to a 0.635 increase in the adoption of mobile money services. At 5% level of significance and 95% level of confidence, banking alternative had a 0.0233 level of significance while financial reporting had a 0.012 level of significance.

**Table 7: Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .876[a] | .767 | .764 | .234 |

a. Predictors: (Constant), banking alternative, financial reporting standards
b. Dependent Variable: adoption of mobile money services

The two independent variables that were studied, explain 76.4% of variance in adoption of mobile money services as represented by the Adjusted $R^2$. This therefore means that other factors not studied in this research contribute 23.3% of variance in the dependent variable. Therefore, further research should be conducted to investigate the factors influencing adoption of mobile money services among institutions of higher learning in the Nairobi County.

**Table 8: ANOVA (Analysis of Variance)**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 20.835 | 4 | 5.2088 | 4 | .001 |
| | Residual | 4.601 | 43 | .1070 | | |
| | Total | 25.436 | 47 | | | |

a. Predictors: (Constant), banking alternative, financial reporting standards
b. Dependent Variable: adoption of mobile money services

The F critical at 5% level of significance was 5.44. Since F calculated is greater than the F critical (value = 48.7.0), this shows that the overall model was significant. The significance is less than 0.05, thus indicating that the predictor variables, (banking alternative and financial reporting standards) explaining the variation in the dependent variable which is adoption of mobile money services. Conversely, if the significance value of F was larger than 0.05 then the independent variables would not explain the variation in the dependent variable.

## SUMMARY OF THE FINDINGS

### Influence of Banking Alternative on the Adoption of Mobile Money Services

The study established that mobile money transfer is the most common delivery method, with a mean of 2.341. According to the, mobile financial development report (2011), relatively few people today in developing markets use mobile financial services despite the heightened enthusiasm. The respondents were neutral on

whether transfer of cash through banks is safer than mobile money transfer with a mean of 3.214 and agreed that mobile banking offers customers additional value in terms of location-free access with a mean of 4.352. This findings support those of, Michael and Sarah (2013), who established that mobile banking offers customers additional value in terms of location-free access. The study established that majority of the respondents agreed on whether mobile payments provide consumers with ubiquitous purchase possibilities with a mean of 4.251. Asked whether mobile money payments are faster and timely, the respondents strongly agreed with a mean of 4.563 and also strongly agreed that mobile money payments systems are convenient with a mean of 4.689.

The respondents were neutral on whether access to money transfer services, especially in rural areas is a challenge with a mean of 3.421. The respondents were also neutral on whether the cost of mobile money transfer, usually charged as a percent of the amount sent, is considered expensive for small amounts for both local and international transfers with a mean of 3.145. The respondents agreed that introduction of other transactions across different networks has made use of mobile banking easy with a mean of 3.986.

**Influence of Financial Reporting Standards on the Mobile Money Services**

From the findings the study established that majority of the respondents the respondents further stated that financial reporting influences the adoption of mobile money services by presenting information that the respondents said enables accountability. The respondents also cited that financial reporting was a key tool for the management to monitor the progress and thus its key in influencing the adoption of mobile money services. Cohen *et al.* (2008) defined Financial reporting is the presentation of financial data of a company's operating performance, position and funds flow for an accounting period by use of financial statements . He further argued that financial reporting is key in monitoring and auditing of the organizations finances. The study also found out that considerations are made on the capability of the means to meeting the standards set by the International Accounting Standards Board (IASB) and other financial reporting standard governing boards.

The study found out that financial statements present the financial information as clearly and concisely as possible for both the entity and for readers, with a mean of 4.123, and also majority of the respondents agreed with a mean of 4.125 that financial statements provided include income statements, balance sheet, statements of retained earnings and cash flows. According to PWC (2009) it is a standard practice for businesses to present financial statements that adhere to generally accepted accounting principles (GAAP), to maintain continuity of information and presentation across international borders. The respondents were also asked whether their institution followed international accounting standards stating how particular types of transactions and other events should be reported in financial statements, the respondents agreed with a mean of 4.023. Financial statements for businesses usually include: income statements, balance sheet, statements of retained earnings and cash flows, as well as other possible statements (Cohen *et al.*, 2008).

**Conclusions**

In order to test for the relationship that the independent variables have on the adoption of mobile money services, the study carried out the multiple regression analysis. Looking at the variables collectively, it is evident that 76.4% of variation or change in mobile money services is explained by the variables considered in the

model. banking alternative quality and financial reporting standards.

From the findings the study concludes that banking alternative influence the adoption of mobile money services to a great extent as evidenced by the highest coefficient of 0.801. Availability of conventional banking alternatives has a great influence because of the customization of the market. Mobile money services as a banking alternative is convenient and offers customers additional value in terms of location-free access. As a banking alternative, the transfer of money through mobile phones is faster and timely due to the fact that the systems are convenient.

The study also concludes that there is a significant relationship between financial reporting and the adoption of mobile money services to a great extent as evidenced by a coefficient of determination of 0.635. The study concludes that financial reporting accounts for transparency in financial departments and thus will influence the adoption of the mobile money services.

**Recommendations**

From the findings it was established that mobile money services as a banking alternative influences the adoption of the mobile money services due to the convenience of the systems. This study therefore recommends that the finance departments of these institutions embrace mobile money transfer systems as they will be faster, easier and more convenient to the student.

On Financial reporting the study recommends that the institutions of higher learning adopt financial reporting accounting standards as a strategy for accountability and auditing of the institution finances so as not to miss out on those that were transferred from the mobile money services.

**Recommendations for Further Studies**

This study sought to investigate the factors influencing adoption of mobile money services among institutions of higher learning a case of selected institutions of higher studies in Nairobi County. This study therefore recommends that in the future a similar study be conducted across all institutions of higher learning in the country so as to generalize the findings.

The study also recommends that in the future a study be conducted on the effectiveness of the adoption of the mobile money services as a payment alternative among public institutions. This will be important in assessing whether public institution since the country can adopt this mode of payment for goods and services since it is convenient and faster.

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