



**EFFECT OF DEMOGRAPHIC CHARACTERISTICS OF LOANEEES ON ADOPTION AND USE OF M-PAYMENT SERVICES  
IN REPAYING LOANS AT HIGHER EDUCATION LOANS BOARD (HELB)**

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**ABSTRACT**

*This study sought to establish the effect demographic characteristics of the loanees on adoption and use of M-payment services for repaying their loans at HELB. The whole process of showing how an individual actually decides to start using mobile phone payment services for loan repayment may be different from the current use of mobile phone payment for money transfer as well as purchase. The study attempted to provide important contributions to the rapidly growing literature on adoption of m-payment, and on loans repayment in particular. Data was collected from 294 respondents using questionnaires, personal interviews and literature review sources. The data was analyzed using SPSS Version 17.0. The results of the study supported adoption and usage of mobile phone payments. From the study findings, it was concluded that Income was the most important factor considered by HELB in determining the amount of loan to be repaid.*

*Age was also relatively an important factor in determining the adoption and use of M-payment services. As a result m-payment users were between age of 20-29 and 30-39 thus most targeted. Women and men were equally targeted since they had benefited from HELB loans. M-payment services were used by loanees to mainly repay loans for money borrowed from friends work colleagues and relatives receive money transfer from other people.*

**Key Words:** M-payment, HELB, Loan Repayments

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## INTRODUCTION

The mobile phone has become an integral part of many people's everyday life all over the world. In Africa, the rapid adoption and use of mobile phones has been reported. Based on the International Telecommunications Union (ITU) data, Gray (2009) points out that in 2009 alone, the African continent had over 300 million new mobile cellular subscribers to its customer base. This number is equivalent to the total number of (fixed and mobile) telephone subscribers on the continent in 1996.

The phenomenal growth of mobile telephony adoption has also been witnessed in Kenya. The country has four mobile service providers, namely Safaricom, Zain, Essar and Telkom Kenya. The Kenya Population Census report (2009) indicates that the number of mobile subscribers is now at 24.3 million compared to 2.546 million in 2004. The growth in the adoption of mobile phones is not only in terms of subscriber numbers but also the range of services that mobile phone provider's offer to the subscribers. One such service is Mobile payments, popularly referred to as M-payments.

At HELB, M-payment service was being used by its loanees to repay loans advanced to them when undertaking their university studies in Kenya. The *Mpesa* user was advised to select the pay bill option from the *Mpesa* menu. The loanee enters the HELB business number which was given as 200800. Hereafter the customer entered his/her account number which was the national Identity (ID) number. The amount to be paid was then entered. The transaction was confirmed by the loanee entering his/her *Mpesa* secret Personal Identification (PIN) number. Once confirmed a Short Message Service (SMS) was sent and an SMS confirmation on the completion of this service was then sent by Safaricom to the *Mpesa* account holder.

*Zap* subscribers were advised to go to select *Me2U/Zap*, from the *Zap* menu. After this, the loanee

selected the "money" option and nickname (which in this case was HELB). The customer entered amount to pay/transact. The customer then entered his/her secret password to confirm the transaction. A loanee would then receive confirmation of receipt of the payment and was advised to wait for at least three days for the HELB loan account to be updated.

M-payment services have been initiated in Kenya by three mobile service operators, namely Safaricom, Zain and Essar Telkom. Safaricom launched *Mpesa* in March 2007 and has since become the most famous and probably the most successful implementation of mobile money service to date (Cumner et al., 2008). 14 months later after the launch of this service over 2.7 million Kenyans were using the service (Puliver et al., 2009). A study by Finaccess (2009) established that *Mpesa* has become the most popular method of money transfer in Kenya with 40% of all adults using the service. Currently Safaricom has over 9.4 million registered *Mpesa* users and is signing up new users at an enormous rate (Kinyanjui, 2010).

HELB was established in July 1995 through the Higher Education Loans Board Act of 1995 to administer the Student Loans. Among other key responsibilities, HELB is empowered to recover all outstanding loans given to former university students by the Government of Kenya since 1952 through Higher Education Loan Fund (HELF) and to establish a Revolving Fund from which funds can be drawn to lend out to needy Kenyan students pursuing higher education. According to the Higher Education Loans Board Act of 1995, a loanee is any person or institution granted an educational loan either under the HELB or any person granted an educational loan by the Ministry of Education from 1974 through the National Bank of Kenya and the Kenya Commercial Bank from 1989 until the commencement of the Act or any person granted an education loan by the Board under the Act.

## Statement of the problem

Mobile phone money transfer services continue to be adopted and used by many people and institutions in Kenya. Bonyo and Mulunda (2010), note that in Kenya there are 9.5 million *Mpesa* subscribers, 2 million *Zap* users and 55,000 *Yucash* subscribers. The use of M-payment services offers many benefits to the users. M-payment services offer convenience. The services are accessible 24 hours and money can be sent anytime anywhere. Another benefit relate to security. M-payments use simple-tailored menus on the phones to send fully encrypted and PIN- locked messages to a thoroughly audited financial accounting system. M-payments also offer reduced transaction cost in as far as money transfers are concerned (Omwansa, 2009).

Despite the benefits of M-payment services, the use of these services to pay bills such as loans is still low. With reference to HELB, the institution under study, it is surprising that only 20 and two (2) loanees use *Mpesa* and *Zap* to repay their loans respectively (HELB Recovery data, 2010). This low use of M-payments for loans repayment can be attributed to several factors. The factors identified by Mallat (2007) are important in understanding the adoption and use of M-payments. Mallat's characteristics include: ease of use (complexity); usefulness (relative advantage); trust; compatibility; cost; network externalities and security.

Dahlberg and Oorni (2007) further add the characteristics that influence the adoption and use of M-payments. They identified the following characteristics; demography; norm; payment habit; payment transaction information; availability of mobile phone skill; culture; time benefit; and convenience.

There is relatively little scholarly research examining the demographic characteristics and its effect on adoption and use of M-payments for loans repayment in Kenya. This research called attention to this gap in research, emphasizing the need for the study focusing on demographic characteristics of the

loanees and their effect on adoption and use of M-payment services in repaying their loans at HELB.

## Objective of the study

The objective of the study was to investigate the effect of demographic characteristics of the loanees and their effect on adoption and use of M-payment services in repaying their loans at HELB.

## LITERATURE REVIEW

### Origins and current status of mobile phone services in Kenya

In Kenya, Telkom Kenya was granted a mobile license in September 2007 and began offering those services using Code-Division Multiple Access (CDMA) 2000 technology. Hence, Telkom, a parastatal then was the first mobile service provider in the country. In December 2007, France Telecom acquired 50% of Telkom Kenya and proceeded to launch its Orange brand in Kenya in September 2008 which later transformed to Telkom Orange, it had rolled out and aggressively marketed its mobile services which run on GSM (Global System for Mobile communication) technology.

Safaricom Limited started as a department of the former state owned Kenya Posts and Telecommunications Corporation (KPTC), initially launching its operations as early as 1993. In 1997 Safaricom was incorporated as a private limited liability company. In May 2000 Vodafone group of United Kingdom, the world's largest telecommunication company acquired 40% stake of Safaricom. As of January 2010, Safaricom had a subscriber base of 12 million. At the time of conducting this study, there were over 9.4 million *Mpesa* subscribers. The services offered by Safaricom included, *Mpesa* a service that allowed subscribers to send and receive money, Modem upgrade that allowed internet services, pre-pay, post pay, data and messaging (Safaricom Website, 2010).

Airtel, the second mobile phone service provider was founded in 1983 in Kuwait as Mobile

Telecommunication Company and was later rebranded to Zain in 2007. The company operated in Kenya and other countries that included Kuwait, Nigeria Gabon, Uganda, and Tanzania among others. In Kenya the company began operating as Kencell and latter Celtel. In 2007 Celtel was branded Zain. In 2010 Zain was bought by Bharti Airtel Company and rebranded Airtel. Services offered by Airtel included mobile internet, holla back tops, African challenge; picture messaging downloads entertainment as well as Zap services (Zain Website, 2010). Airtel had over 1.5 million subscribers in Kenya. Of which 300,000 were zap subscribers.

Yu the third mobile phone service provider in Kenya was launched in December 2008. Yu was previously owned by Econet Wireless (Private) Limited, a cellular network operator and main subsidiary of Zimbabwe Stock Exchange. However, within the same year Yu was bought by Essar Group, a multinational corporation headquartered at Mumbai India. Yu had over 100,000 subscribers. Out of this 55,000 were Yucash subscribers. Services offered by Yu include Yucash, data and messaging, internet and picture messaging (Yu Website, 2010).

In November 2008 Econet was launched bringing to four the total number of operators (CCK, 2010).

### **The Concepts of E-commerce and M-commerce**

Electronic commerce is defined by the Organization for Economic Co-operation and Development (OECD) as the sale or purchase of goods and services, whether between businesses, households, individuals, governments, and other public or private organizations, conducted over computer-mediated networks (Sinha and Lafond, 2005). Another definition by Jonker (2006) is E-commerce is the purchasing, selling and exchanging of goods and services over computer network such as internet through which transactions or terms of sale are performed.

M-commerce is a type of E-commerce that use mobile for conducting the transactions. The mobile

device holders can contact each other and can conduct business. Hence it can be argued that M-payment is a type of e-commerce going by the fifth type of E-commerce.

### **M-payments**

Mobile phone payment according to Zheng and Li (2006) is defined as a process of using a mobile device to perform an electronic payment between business parties that both have access to some mobile wireless network. M-payment possesses some unique features that require special attention. For instance electronic payment on the internet normally performs authentication based on the user's submitted identity, whereas in M-payment the payment system can be closely integrated with the operation of the mobile wireless network such that the authentication can be conducted with a user's pre-established identity (Standard; 2010).

### **Theoretical Framework**

#### **Technology of Acceptance Model**

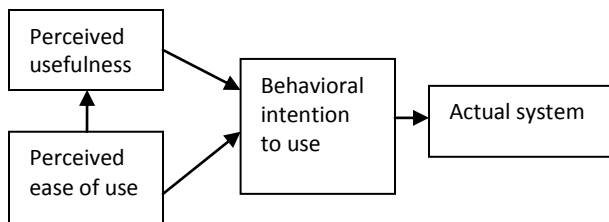
Technology Acceptance Model (TAM) is an information system consisting of the network of all communication channels used within an organization) theory that models how users come to accept and use technology by Fred Davis (1986) and Richard Bogozzi (1989) to explain software adoption based on Theory of Reasoned Action Ajzen and Fishben(1975). Technology of Acceptance Model is a specification of the Theory of Reasoned Action (TRA). This theory was adopted by Ajzen and Fishben to the case of technology adoption. TAM is an information systems theory that models how users accept and use technology. Develop by Fred Davis (1986) and Richard Bogozzi (1989) to explain software adoption based on TRA, this theory has become a widely used version of Diffusion of innovation theory.

Compared to classic diffusion theory of Rogers et al, TAM places more emphasis on subjective/psychological predispositions and social

influences on behavioral intention to adopt an innovation.

Vankatesh and Davis (2000) identified some of the key terms and concepts of TAM as Usefulness and ease of use – perceived usefulness and perceived ease of use are key psychological determinants of decision to adopt innovation. A wide variety of studies has confirmed the correlation of perceived usefulness and/or ease of use with adoption of technology regardless of gender or level of experience.

Secondly, usefulness to whom? Vankatesh and Davis (2000) define perceived usefulness specifically as the extent to which the object of adoption is thought to enhance the individual’s performance on the job. Others however define perceived usefulness as subjective utility to the citizen or consumer depending on the context. Hence, the more the perceived usefulness of the innovation, the more likely the adoption and the lower the control of the subject over the benefits of the innovation, the less likely the adoption.



**Figure 1: Technology of Acceptance Model**

**Source: Davies et al. (1989; p56)**

This theory was essential to this study since it aided in examining the degree of simplicity and use of M-payment services. It explained how new ideas that are simpler to understand such as subscribing to M-payment services such as Mpesa, Zap or Yucash were adopted more rapidly than those that require the adopters to develop new skills and understandings. For instance, through M-payment it was easy to send money from one’s handset without necessarily incurring expenses such as traveling all the way to a bank to deposit the money in the other person’s account. .

### **Adoption of M-Payments: a worldwide and Kenyan perspective**

The mobile phone has become an integral part of many people’s everyday life all over the world. Until recently, it has been mostly used for phone calls and messaging, but this is now changing. Thus, due to the increasing penetration of mobile phones even in poor communities, mobile-phone-enabled banking (m-banking) services are being increasingly targeted at the “unbanked” to bring formal financial services to the poor (Medhi et al 2006). A survey by CGAP in 2009 showed that there are 2.7 billion people globally that do not have basic banking services (Business Daily, 2010). Therefore any payment therefore where a mobile device is used in order to initiate, activate and/or confirm this payment can be considered as a mobile payment (Karnouskos and Vilmos, 2004).

In Kenya, mobile phone payment services is now considered a financial inclusion tool, hence the new service will allow users to deposit money into mobile accounts rather than just transfer small amounts between handsets (Kinyanjui 2010). According to Mr. John Wanyela, Chairman of the Kenya Bankers Association, Kenya has emerged as a vibrant market for mobile base financial solutions due to its loose regulatory framework. Conceptualized in partnership with Consultative Group to Assist the Poor (CGAP) a microfinance centre based at the World Bank, the initiative seeks to expand the use of mobile phones to increase access to basic financial services for the poor.

### **Factors motivating the adoption and usage of M-Payments**

Mobile phones have transformed the way we carry out our activities. These changes have become more profound as the functionalities of the technology have been enriched (Kaba, N’Da and Mbarika 2008). For instance current mobile phone allow the user to surf the internet such that whether the user wishes to look up a phone number or address, trade, stock,

reading headlines or carry out business transactions it is all available.

Research has established that macro factors such as technical variables ease of implementation of the infrastructure for mobile phones, structural factors, deregulation of the telecommunication sector and the economic dimension ( cost of communication equipment and services have been highlighted as the primary reasons of using mobile phones in the African, context as well as developing countries Kaba et la (2008).

Mallat et al 2007 identified factors that have led to the adoption as well as rejection of m-payment services as ;(1) Relative advantages of mobile payment systems; (2) compatibility,(3) complexity, (4) network externalities (5) costs, (6) perceived risks and trust in mobile payment service providers.

#### **Barriers to the adoption and usage of M-Payments**

Innovations do not always succeed. The world has witnessed many inventions come and go, some experience some period of acceptance then get phased out. An example of an innovation that was received well but failed is the M-payment service Sokotele owned by the then Celtel.

The telegram in Kenya was the fastest money transfer service ever experienced. Charges depended on the amount of the money sent and the number of words in the message. However due to high operational costs and competition the services was withdrawn from the Market (Matilda 2009).

In typical consumer market new innovations compete for the attention of consumers against several existing and constantly developed alternatives. This is also true in the payment service market. As discussed by Dahlberg the barriers of adoption of m-payment services are; (1) payment, (2) payment habits and

changes in payment habits, (3) demographics, (4) culture.

#### **METHODOLOGY**

Quantitative and qualitative methods are the two broad categories of research approaches. This research used a mixed approach involving both the quantitative and qualitative research approaches. Kumar (2005) defines quantitative research as research based on a structured approach to inquiry. According to Oso and Onen (2005), a research design describes the nature of pattern the researcher intends to follow. It describes the plan or strategy for conducting the study. This research used the descriptive survey research design. This study was conducted among HELB loanees and staff based in Nairobi city. Nairobi is the capital city of Kenya and is the economic hub of East and Central Africa. According to the Kenya Population Census (2010), the city had close to 3.1 million people. Nairobi is established as a hub for business culture as well as employment. It has a high concentration of formal employers and consequently formal employees. Nairobi was selected because most of the HELB loanees in formal employment were working within government ministries, parastatals, international, regional and local organizations as well as private companies within this city. In addition, conducting the study in Nairobi saved on the costs of the study as the respondents were cheaply conducted during data collection.

The population of this study was 2,940 people consisting of HELB loanees and staff. Out of the 2,940 people, 2,517 (85.6 %) were undergraduate HELB loanees, 384 (13.1 %) were postgraduate HELB loan beneficiaries and 39 (1.3%) of constituted HELB staff based in Nairobi and involved in loan recovery.

**Table 1: Population of the study**

Category of population	Total Population	%
HELB staff	39	1.3
Postgraduate loanees	384	13.1
Undergraduate loanees	2,517	85.6
<b>Total</b>	<b>2,940</b>	<b>100</b>

**Source: Researcher and HELB ICT Data (16<sup>th</sup> June 2010)**

Data was collected from the undergraduate, postgraduate and HELB staff involved in loans recovery to meet the objectives of this study. The researcher selected a sample of the population. According to Olive Mugenda and Abel Mugenda (1999), 10% of the entire population is an acceptable sample size for a study. Based on this approach, the

sample population of this study was 294 (10 % of 2,940) people.

The sample population under study was stratified into three; HELB staff; HELB undergraduate loanees and postgraduate loan beneficiaries. Table 2 summarizes data relating to the sample population.

**Table 2: Sample population of the study**

Category of the population	Total population	Sample population	%
HELB staff	39	4	1.3
Postgraduate loanees	384	38	13.1
Undergraduate loanees	2,517	252	85.6
Total	2,940	294	100

**Source: Research Data (2010)**

This study collected both primary and secondary data. Primary data was collected using a self-completion questionnaire administered to HELB loanees and personal interviews conducted with the HELB staff.

## RESULTS

### Characteristics of the HELB Loanees respondents

The researcher investigated the demographic characteristics of HELB loanees that could possibly have influenced their use of M-payments. These included factors like gender, age, sector of formal employment, highest educational level attained and monthly income.

Hence, the study was conducted among HELB loanees working in Nairobi. Table 3 summarized the data on the study participants' response rate. A total of 294 respondents were targeted and questionnaires administered to them. Two HELB officers were also interviewed. Out of the 290 questionnaires distributed 220 were received back. This represented

a 76% return rate which was a good response rate. This therefore meant that the majority of the participants were willing to participate in the study. Besides, more time was given to loanees to respond to the questionnaires. These findings indicated that the study had 222 respondents out of the 294 targeted.

Table 3 showed that out of the 252 undergraduate loanees targeted, 200(79.4%) responded, as 20(52.3%) postgraduate responded while 2(50%) HELB staff were successfully interviewed. Therefore the response rate was proportionate as a result of the proportionate sampling technique the researcher adopted for the study. The Recovery data from HELB, indicated that most of the loanees had applied and benefited from the loans as per the 2010/2011 academic year over 77000 students were awarded undergraduate loans. Likewise, for the postgraduate as per the 2010/2011 academic year over 1237 students were awarded the loans.



**Table 3: Study response rate**

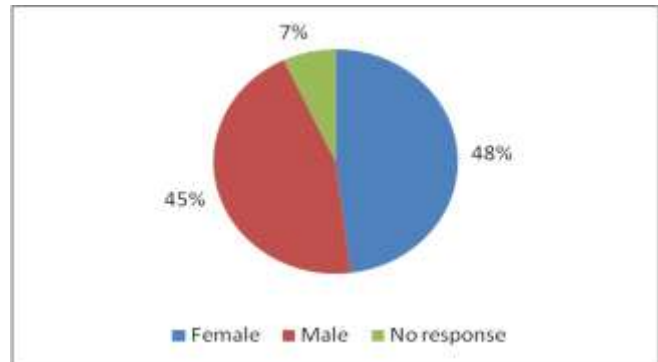
Category of respondents	Sample population	No. of respondents	% of the sample population
Undergraduate loanees	252	200	79.4
Postgraduate loanees	38	20	52.3
HELB staff	4	2	50.0
<b>Total</b>	<b>294</b>	<b>222</b>	<b>76.0</b>

*Source: Research Data*

### Demographic characteristics of HELB loanees

This study sought to establish the demographic characteristics of the loanees and determine how these demographics affected their adoption and use of M-payments for repaying HELB loans. Section A of the questionnaire examined the demographic characteristics of HELB loanees in terms of their sex, age, sector of formal employment, highest educational level attained and monthly income. As shown in Figure 2, out of the 220 HELB loanees studied, 106 (48%) were females, 99 (45%) were males and 15(7%) did not indicate their gender since some of the loanees did not regard this question as relevant as per the loans they acquired from HELB was concerned.

According to the data available from HELB, the majority of those acquired loans are female. Besides, the results from the researcher’s interviews with the two HELB staff who participated in this study revealed interesting findings. It was noted that female loanees were more persistent when applying for loans and they were found to have appealed for loans if not awarded as compared to their male counterparts. Other findings indicated that most male loanees were given preference when it came to school fees payment over their counter parts female. However this needed to be investigated further. Hence the slight majority of HELB loanees were female.



**Figure 2: Gender of the HELB loanees**

*Source: Research Data*

Age was an important demographic factor influencing the adoption of innovations. Table 4 showed that 75(34%) of the loanees were aged between 30-39 years, 66(30%) were aged between 20-29 years and 44(20%) were aged between 40-49 years. 17(8%) of the loanees were under the age bracket of between 50-59 years, 11(5%) were aged 20 and below while 6(3%) were 60 years and above. The mean age and Standard deviation of the HELB loaneer who participated in this study was 39.5 and 18.70. This implied that majority of the beneficiaries who were currently paying back their loans were aged 20-49 years since 185(84%) of them were within this age bracket. Very few of the loanees were under 20 years and 50 and above years.

The documentary data and the results from the researcher’s interviews were in tandem with these findings. It was noted that loanees who were under 20 years were still in university and unemployed and hence had not started repaying their loans. While the HELB officers, Head of Recovery and Head of Finance

revealed that those who were aged 50 and above had completed repaying their loans and acquired their

certificate of clearance. The few who were repaying were repaying their postgraduate loans.

**Table 4: Ages of the HELB loanees**

Age	Frequency	Percent
Under 20	11	5
20-29	66	30
30-39	75	34
40-49	44	20
50-59	17	8
More than 60	6	3
	<b>220</b>	<b>100</b>

**Source: Research Data**

The responses to the question on the areas/sectors of employment for the HELB loanees revealed mixed findings. Table 5 indicated that of all the loanees who took part 73(33%) were employed in parastatals, 46(21%) were employed in the private sector, 44(20%) were government ministry employees while 35(16%) and 18(8%) were local NGO and regional and international organization employees respectively.

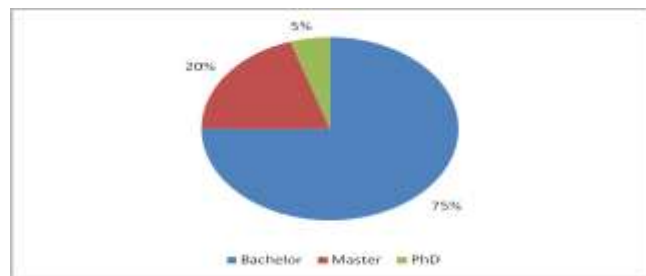
4(2%) said that they worked in other sectors such as embassies of foreign missions. The results from the interviews with the two HELB staff who participated in this study revealed that those who were working in Non-Governmental Organization and private sector were more likely to pay more amount of money compared to those working in government Ministries or parastatal due to the low salaries they are paid.

**Table 5: Occupation of respondents**

Occupation	Frequency	Percent
Parastatals	73	33
Private sector	46	21
Government employee	44	20
Local non governmental organization	35	16
Regional and internal organization	8	8
Others	4	2
	<b>220</b>	<b>100</b>

**Source: Research Data**

The fourth demographic characteristic of loanees was in reference to the highest level of education that they had attained. Figure 3 summarized the results to this characteristic.



**Figure 3: Highest level of education attained by the loanees**

**Source: Research Data**

Figure 3 revealed that 165 (75%) of the HELB loanees contacted were Bachelor degree holders, 44 (20%) were Masters degree holders and 11 (5%) had attained their PhD. This suggested that majority of the HELB loanees were Bachelor degree holders. Findings from the HELB Recovery data indicated that most of the loanees had applied and benefited from the undergraduate loans. This finding was in

agreement with earlier finding that the majority of loanees 79.4% (200) were undergraduate loanees. Furthermore the interviews with the two HELB staff revealed that most of the loanees applied for undergraduate loans since they did not have any other source except parental or guardians financial support.

This support might not be enough to cater for their financial needs hence they were forced to seek for HELB loans to fund their undergraduate degrees. When probed further the Recovery staff interviewed revealed that there were few loanees who sought for postgraduate loans. This was in agreement with the earlier finding that 47% (103) were employed in either private, NGOs among others and were assumed to be well paid and hence could afford to pay for their education. Further, the interview revealed that HELB offers scholarships for both

Masters and PhD and quite a number of students had so far benefited from it.

Table 6 revealed that 88(40%) of the HELB loanees earned between Kshs 50,000-Kshs 100,000 per month. 55(25%) earn less than Kshs 50,000. Another 55(25%) earn Kshs 100,000 to Kshs 150,000. While 22(10%) earn of the loanees earned more than Kshs 150,000 per month. The mean monthly income was Kshs 83,000 and the standard deviation was 57.15. Majority 165(75%) of the loanees were earning a monthly income of Kshs 50,000 and above. This finding was in agreement with earlier findings that the majority 165 (75%) had at least the undergraduate degree. The study therefore interpreted these findings to mean that the higher the education level the higher the amount of salary or income and the better the place of employment.

**Table 6: Income of the HELB loanees**

Income per month	Frequency	Percent
Less than Kshs 50,000	55	25
Between Kshs 50,000 to Kshs 100,000	88	40
Between Kshs 100,000 to Kshs 150,000	55	25
More than Kshs 150,000	22	10
<b>Total</b>	<b>220</b>	<b>100</b>

**Source: Research Data**

## CONCLUSION

Based on the findings, most of the HELB loan beneficiaries are females. 48% of the respondents were female while male are 45%. Out of these 19(9%) had used m-payment services.

In terms of age on the adoption and usage of m-payment services by HELB loanees, the study revealed that this mode of payment will mostly target loanees aged between 20-39. Among this group, people age between 20-29 were the most targeted. A majority of these are newly employed and are eager to clear their loans. Based on the study people aged between 30-39 are perceived to be economically sustainable as well as already repaying their other bills insurance premium and SACCO loans using M-

payment service therefore adopting the same for HELB loan would not be difficult.

In terms of occupation, the study revealed that all HELB respondents were targeted for this mode of loanees repayment. Despite the fact that most of the loanees used check off systems by the employer other finding in this study revealed that loanees who would liked to repay their loans faster would prefer m-payment due to its flexibility and controllability by the loanee.

In terms of level of education the finding revealed that all categories (Bachelor, Master and PhD) used m-payment services for transferring money to relatives, repaying loans borrowed from co-workers, paying bills as well as topping up airtime. Although

HELB remained uncertain on whether the level of education determines adoption and usage of m-payment services for loan repayment, it was found that they tended to target HELB loanees with at least a Bachelors degree. However, other finding revealed that all HELB loanees who would like to pay little amount to supplement the deduction by the employer were also targeted.

In terms of income, the finding revealed that a majority (75%) of the loanees had an income of between Kshs. 50,000 and Kshs 150 000. This study interpreted this to explain the amount being repaid where a majority (70%) repaid Kshs 4,000-Kshs. 6,000. The research suggested that these were employed in private sector.

In terms of mobile phone usage, the study revealed that all loanees under review owned and used a mobile phone for communication as well as other services. Indeed from the finding a majority (75%) had used a m-payment for over 1-3 years. Further, other finding in this study revealed that majority (96%) had Mpesa service while 3% had Zap and 1% indicated that they had subscribed to Yucash. Despite these findings, only 9% used Mpesa service for loan repayment. An interview with HELB officers established that users of zap service had a challenge in retrieving records of those who had used the service and hence became difficult in updating the loanees record who as a result were penalized for late repayment. This study interpreted that Zap service for loan repayment could be a wrong approach for loans recovery.

On the basis of the findings for research question, the following specific conclusion had been drawn;

- Income was the most important factor considered by HELB in determining the amount of loan to be repaid.
- Age was relatively an important factor in determining the adoption and use of M-payment services. As a result m-payment users were

between age of 20-29 and 30-39 thus most targeted

- Women and men were equally targeted since they have benefited from HELB loans.
- M-payment services were used by loanees to mainly repay loans for money borrowed from friends work colleagues and relatives receive money transfer from other people.

### **Recommendations for Future Research**

In the course of this study, issues that were not within the scope of this study were established. Some of these issues could make interesting propositions for other researchers thus they have been suggested as recommendations for further research investigation include:

- The purpose and research questions of this project could remain constant while altering in focus to another industry like SACCOs, Banks or any other financial institution. In the recent past, there have been reports of this financial institution adopting m-payment for mini statements, withdrawing money. This could well be adopted for loan repayment.
- The purpose and research questions of this project could remain constant while altering in focus to another industry that provides money transfers without necessarily being a mobile service provider. This could well be adopted for loan repayment.
- The effectiveness of m-payment in financial institution could be investigated to discover how loanees or potential clients could access and use m-payment for loan repayment. It would be interesting for future research to investigate the attitude of loanees in adopting m-payment for loan repayment.

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