EFFECTS OF MOBILE LENDING ON LOAN REPAYMENT IN COMMERCIAL BANKS IN KENYA

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ABSTRACT

The general objective of this study was to investigate the effect of mobile lending on loan repayment in commercial banks in Kenya. The specific objectives of the study were; to examine the effect of mobile loan appraisal parameters on loan repayment in commercial banks in Kenya; to determine the effect of mobile loans credit terms on loan repayment in commercial banks in Kenya and to investigate the effect of institutional factors and their effect on loan repayment in commercial banks in Kenya. The study used descriptive and explanatory research design. Explanatory research design was used to establish the relationship between the variables and the casual effect among them. The descriptive research design gave the central tendencies and the frequencies. The dependent variable was loan repayment while the independent variables were loan appraisal, credit terms and institutional factors. The target population of the study was 63 credit officers working at the headquarters of I & M bank located in Nairobi County in the year 2020. The study used census as the sampling technique thus examining the entire population. The study used primary data which was collected using close ended questionnaires. Regression analysis was used to analyze the data for the study. The first objective examined the effect of mobile loan appraisal parameters on mobile loan repayment in commercial banks in Kenya. The study revealed that there was a positive significant relationship between mobile loan appraisal parameters and repayment of mobile loans. Correlation test results indicated that a positive significant relationship exist between loan appraisal parameters and mobile loan repayment at (p=0.272 r=0.041). The mobile loan appraisal parameters affected 7.4 percent of the changes in mobile loan repayment. Loan appraisal parameters that were discussed included the demographic factors, economic factors and the methods of lending. The second objective investigated the effect of mobile loans credit terms on mobile loan repayment in commercial banks in Kenya. The study found out that there was a positive significant relationship between mobile loans credit terms and mobile loan repayment. Correlation test results indicated that a positive significant relationship exist between mobile loans credit terms and mobile loan repayment at (p=0.381 r=0.003). The mobile loan credit terms affected 14.4 percent of the changes in mobile loan repayment. The factors that were discussed included interest rate, collateral on mobile loans and the mobile loan repayment periods. The final objective examined the effect of institutional factors on mobile loan repayment in commercial banks in Kenya. The study found out that there was a positive significant relationship between institutional factors and mobile loan repayment. Correlation test results indicated that a positive significant relationship exist between institutional factors and mobile loan repayment at (p=0.264 r=0.047). The institutional factors parameters affected 7 percent of the changes in mobile loan repayment. The factors that were discussed included training and monitoring, technology and credit management practices. The study concluded that a significant positive relationship existed between the dependent and the independent variables. The study concludes that mobile loan repayment is affected by loan appraisal factors such as; demographic factors, economic factors and methods of lending. The study also concludes that mobile loan credit terms such as; interest

rates, collateral, mobile loan repayment periods and institutional factors such as technology, training and monitoring and credit management practices affect mobile loan repayment. The study recommends that banks that provide mobile loans should not focus on demographic factors as the reason to determine the potential of an individual's potential to repay a loan. The study also recommends that more emphasis should be put on the economic factors like ownership of a business and the income level of an individual. The study also recommends that the bank should engage in credit terms that are reasonable to their borrowers and offer financial trainings to their borrowers so that they can be financially literate and hence reduction in default rates. The study recommends that future research should involve more banks instead of one.

Keywords: Mobile Lending, Loan Repayment.

INTRODUCTION

The growth of technology has affected every sector in the world leading to growth and expansion or even shrinking of other sectors (Chen & Wu, 2016). The service sector has not been left behind with this development. The banking sector is one of the major sectors in the economy of a country as it serves as the financial pillar for the growth of the economy (Alalwan, Dwivedi, & Algharabat, 2018). One of the distinctive roles that commercial banks play is receiving fund from the public and lending the funds either wholly or partially as loans (Tarus & Manyala, 2018). The traditional idea of borrowing is usually associated with a cost. The borrower has to return the principle amount with the interest accrued over the period (Giorgis, Tarus, & Cheruiyot, 2015). The traditional competitive advantage for banks was interest received from advancing loans. However, the dynamics have changed and the competitive ground has shifted due to development of technology (Williams, 2016).

Credit risk is one of the dilemmas that face commercial banks in today's world. This is the risk that the loaned amount will not be paid either the principle or the interest (Ramlall, 2018). Probably, the borrower doesn't follow the conditions or doesn't fulfill the agreement as when they were borrowing the loan. The credit risk usually arises from different factors majorly the loan and non-loan sources. For instance (Consiglio & Zenios, 2015) notes that, the loan terms which consist of the interest rates and the nature of collateral submitted for the loan determines if the loan will be repaid or not. Banks try as much as possible to have an efficient credit scoring mechanism so that they can be able to mitigate the moral hazard and adverse selection (Abaidoo, 2018). Some banks have focused on providing trainings and monitoring their loans along the lending period so that they can be sure that they will be refunded. In as much as these mitigating mechanisms and factors are difficult to implement due to the huge traffic of borrowers, it has proved to work around the world especially to poor borrowers and joint borrowers a case of Bangladesh and Iran. Banks should be able to re asses the nature and condition of their borrowers time to time in order to ensure that their loans are repaid and the conditions are still being followed (Isa, Choong, Fie, & Rashid, 2018).

Financial sector has always been prospered by the dynamic and continuous innovation in the field. From development of cheques, wire transfers, credit cards and ATM machines it is evident that there has been a considerable transformation in this sector. The invention of mobile phones and more penetration of digital platforms as distribution channels have been considered as a great leap in the banking sector (Abhishek, Geng, Li, & Zhou, 2017). Abhishek et al. (2017) add that it is important for the banks to improve as first as possible with these technologies in order to remain relevant and efficient. Arner, Barberis and Buckley (2016) note that; the introduction of financial-technologies has disrupted the usual traditional banking services that were offered by the banks. The world has quickly shifted to cashless economy with payments being done using mobile-based wallets and mobile-based merchant payment methods. Money transmission has also been observed taking shorter time than before. The FINTECH has seen consumers preferring to borrow from them rather than the normal or traditional bank lenders. After the 2008 financial crisis, there was regulatory provision that that was placed on commercial banks. This was an opportunity for FINTECHs to enter the market carrying almost similar the roles of the banks (Chan, 2017). This entry made banks to re-adjust their prices on loan, adopting the changing regulatory regime and building platforms and offering services as those offered by the FINTECHs. Banks that have digitalized their products have easy time assessing their customers using the algorithmic trading build tests which enables in credit scoring.

Europe has over the year's embraced technology to a great extent as compared to most continents in the world, almost in a competition with US. As of January 2018, (Eurostat, 2018) notes that 51 percent of European adults frequently used internet banking which doubles the percentage in 2007 which stood at 25 percent with a distinct difference across education level, country and age. After the financial crisis, banks in Europe have been restructuring but citing challenges from over capacity and digitalization (Diker & Unver, 2017). Digitalization has seen development of Neobanks and challenger banks which offers financial services. For instance in UK, Germany and Spain the rise of Monzo, Solaris and ImaginBank respectively (Caplain, 2018). The UK, Spain and Germany lead in adoption of mobile banking at 41 percent, 37 percent and 35 percent respectively. Netherlands and France stand at 27 percent with Ireland following at 26 percent. Carmona, Garcia and Munoz (2018) observe that, users of this technology vary depending on education level and age. Income levels play a role in repayment of online loans with very low chances of default.

The ASIAN market is made up of 70 percent of individuals who live in rural areas and most of them are unbanked or can't access the formal banking services (World Bank, 2017). Most of this population doesn't have good road networks and poor telephone connectivity. This alone scared away traditional banks who previously thought that having bank branches in remote areas was a solution (Sharma, 2016). They would neglect this place on the basis of expensive services with low returns. However with development of technology, banks are able to offer their services through the phone reaching majority of individuals. This digitalization and penetration of mobile phones has seen more individuals opening formal bank accounts hence beginning able to participate in usual banking services. The Chinese market for instance has facilitated the development of FINTECHs and corporations between banks and technological institutions (Yuan, 2010). Having a good smartphone penetration of above 60 percent and having 20 percent of individuals lacking formal banking services, technology was important then. The Chinese banks have been on the forefront in

improving their technology through developing of efficient distribution channels and reduction in cost of operations (Chen & Lam, 2014). These banks rely on large data analysis and participate in to small credit lending which is usually repaid on time. The mobile lending platforms have less interest rate, attracting customers preferably with low incomes who are willing to pay due to a sense of inclusivity.

Since the beginning of the second decade of the century, India introduced policies among them promoting financial inclusion and having digital goods and services tax (Xia & Gupta, 2018). The greatest growth in digital world has been experienced in the country since the effecting of these policies. The financial inclusion policy has worked tremendously seeing more than 285 million accounts opened since 2014 to 2017. Out of the more than 1 billion individuals 800 million individuals have mobile phones and 430 million are able to access internet. Mala and Phil (2017) assert that in the past, the banks used to loan big corporations and rich individuals. However, this trend has changed lately. Singh and Srivastava (2014) notes that the efficiency of GST, where payments are made online has been able to provide enough data to the banks which offer online loans by differentiating credit worthy individuals and unworthy borrowers. There are gaps in the Indian market where consumers who feel that the platforms are insecure (Ali & Kaur, 2015). It is clear that those who enjoy credit services, are willing to keep on enjoying registering for other banking services also (Kaur, 2017).

The Southeast Asia countries have been growing so first digitally due to availability of a young population and availability of cheap tablets and smartphones (Shukla, 2017). This has created a good foundation for development of cashless payments and online banking leading to a debate of security, inclusion and improved banking services (Rathi, 2016). Singapore takes the lead with online banking and development of FINTECHs followed by Indonesia. The Singaporeans have accepted the cashless system and they have a good legal system. In Malaysia, the technology has been a little bit slow with individuals being slow in adopting the system of online banking due to trust issues hence most of them default on loan (De Jesus & Torres, 2017). The Phillipines landscape is working well, however the regulation in the market is a little bit enigmatic making it difficult to adopt mobile banking (Yen, 2017). These counties have adopted mobile banking, individuals accessing loans, and some pay especially those with economic activities. Indonesia, banks offer loans to groups of individuals and facilitate trainings on usage of money to generate more income (Yen, 2017). This has seen more repayments of loan.

Latin America still lags behind when it comes to ownership of bank accounts as compared to high income countries and even countries with same income as the countries in Latin America (Rojas-Suarez & Amado, 2014). Recent time however has seen the percentage of individuals with bank accounts increase by 15 percent as of 2018. The idea of having banking agents specifically operating small shops in rural areas or in areas where accessibility is hindered has seen more individuals opening bank accounts especially in countries such as Brazil, Peru, Mexico and Colombia (Center for Global Development, 2016). Mobile phone penetration in Latin America has been recorded as one of the best with countries like Brazil having a mobile coverage of above 90 percent. Heng, Ivanova and Mariscal (2016) speculate that the development of fintech and digitalization of financial services in the area will see poverty reduce in the coming years. His assertions are that,

poor people are able to access financial services, borrow loans, pay for them and this enhances financial circulation. Financial development in this region has only been ranked behind Asia among emerging markets and it's almost at per with other markets Heng et al. (2016). Despite being at this level, Heng et al. (2016) notes that efficiency and financial market depth in this region is still poor. Brazil ranks top with a significant financial development followed by Colombia, Bahamas, Mexico and Peru. Countries such as Haiti and Paraguay are below par. Svirydzenka (2016) notes that; Latin America ranks second to Europe when it comes to the number of ATMs and bank branches per 100,000 individuals.

The lending in Latin America via mobile as of 2017 was six times as compared to 2015 amounting to more than US$663 million (Berkmen, Beaton, Kopp, & Rousset, 2019). This lending is led by Brazil, Mexico and Chile. Banks use advanced data analytics in order to identify an institution or individuals that are worthy the credit. Group lending is also practiced in Brazil where individuals are advanced credit as a group because financial institutions believe that such individuals are capable of refunding the credit (Claessens, Frost, Turner, & Zhu, 2018). Lending online is done to individuals and firms which totals almost a half of the loans. According to (Cambridge Centre for Alternative Finance, 2018), Chile and Mexico most lending is done to small and medium sized businesses and sole proprietors. The banks believe that individuals who engage in business or income generating activities are capable of repaying the loan rather than those who borrow for consumption.

The commercial banks in Africa for a long time remained controlled by the foreign shareholders due to the colonial aftermath (Verhoef, 2017). The deepening of financial services in Africa have been marked poor as compared to the world continents. Due to development of innovative strategies, banks have adopted mobile banking which has worked perfectly well. According to (Global System for Mobile Communications, 2015), by 2015, 200 million individuals were able to access mobile phones. The development of a mobile money platform in Kenya, M-Pesa has seen the model spread in most countries of Africa such as Tanzania, Lesotho, DRC, South Africa and Mozambique. Robb (2015) has observed that mobile money providers in South Africa have partnered with banks to provide mobile money services. Verhoef (2017) observe that due to development of formal banking system in South Africa, mobile money has not been excellent. According to (Tankah, 2016), West Africa lags behind East Africa in terms of mobile money penetration due to religious, cultural and hierarchies in society. Most financial institutions in Africa that engage in credit advancing have resorted to introducing an economic activity for the borrowers (Verhoef, 2017). This is only to be sure the credit is not consumed. It has been observed that low-incomers are most likely going to sink into over indebtedness if credit is available to them a case example of miners in Cameroon and South Africa (Kodongo, 2016). The miners didn't fault the lenders however they forced their employers to pay them to repay the loans. Borrowers in Uganda and Tanzania basically borrow to consume (Kodongo, 2016) these loans are very little and short term. Most of the loans rarely generate income to the borrowers. Verhoef (2017) notes that; it is important that the bank advancing loans have individuals with good managerial and technical skills so that they can be able to pass the trainings and financial knowledge to which improves the rate of repayment.

Kenya is the pioneer of mobile money product M-Pesa which is a money transfer service provided by a mobile network operator known as Safaricom (Cook & McKay, 2015). Due to the growth of M-Pesa, Commercial Bank of Africa cooperated with Safaricom to launch a lending service known as M-Shwari. For one to own an account they should be 18 years and above and must not necessarily own a bank account. The digital ground in Kenya was set by the majority acceptance of M-Pesa which led to commercial banks developing online products in order to remain relevant in the market (Cook & McKay, 2015). The known most known lending services include KCB M-Pesa, Timiza (Barclays), Eazzy loan (Equity Bank) and M-Coop Cash.

Statement of the problem

Mobile money lending is a new phenomenon that has escalated with the penetration of mobile phones and increasing development of FINTECHs and their mergers with banks. Different studies both internationally have been conducted on this phenomenon building on the literature and finding solutions to the existing quagmire. Loan default is one of the biggest losses to banks and every time banks try to mitigate it. In a study by, Haile (2015) it showed that failure to repayment of credit was due to lack of extension officers and lack of advice on utilization of loan. However this study was conducted in Ethiopia and not Kenya. It also assessed microfinance institutions rather than commercial banks. Folefack & Teguia (2016) study in Northern Cameroon established that age and gender didn't have an effect on repayment of loans. In a study similar to that carried out by (Kumari & Trivedi, 2016) but in India revealed that age and gender was significant when repaying loan. The effect of gender and age were conducted in Cameroon and India. This study focuses on Kenya. The studies also contradict each other since they conclude differently on matters significance. Studies conducted in Kenya on credit terms focusing on interest rates have revealed that interest rates have a significant effect on the repayments of loan. Kariuki and Ngahu (2016) did their study in Naivasha constituency while (Maina, 2018) did his study in Nyeri county. These studies focused on banks however, they addressed the traditional loans and not the mobile loans. This study therefore sought to assess the effect of mobile lending on loan repayment in commercial banks in Kenya.

Objectives of the study

The general objective of this study is to examine the effect of mobile lending on loan repayment in commercial banks in Kenya.
The specific objectives were-

i. To determine the effect of mobile loan appraisal parameters on loan repayment in commercial banks in Kenya.
ii. To evaluate the effect of mobile loans credit terms on loan repayment in commercial banks in Kenya.
iii. To analyze the effect of institutional factors on loan repayment in commercial banks in Kenya.

LITERATURE REVIEW

Loan Appraisal Process and Loan Repayment in Commercial Banks

Loan is regarded as money that is disbursed and has to be repaid later and it becomes a debt to the borrower (Campello & Larrain, 2016). The credit is offered for a certain period of time and for a purpose that the borrower has to fulfill. The loan is usually charged with interest rate which must be paid at intervals. For this matter the entire process of acquiring a loan becomes important for a bank, microfinance institution or any lending institution. The individuals who are picked for the loan must be assessed very well to avoid defaults. The process of getting suitable candidates to offer a loan is a big factor to a bank and determines if the individual will pay back or not.

Jote (2018) studied the factors that determine loan repayment in Microfinance institutions in Gedeo zone in Ethiopia. The study selected a population of 6662 individuals with 1610 being defaulters and 5052 being non-defaulters. Stratified random sampling technique was used to select a sample of 364 individuals to represent the entire group. The group was divided into two strata that are defaulters and non-defaulters. Both primary and secondary data was used and binary logistic model was used in analysis. Ten explanatory variables were involved and six of the variables were statistically significant in affecting the possibility of loan repayment. The variables include; family size, method of lending, education level, location of individual to the lending institution, income generated by the loan and training. The researcher concluded that more training and education level were the major factors that determined loan repayment hence must be considered before giving out a loan.

Folefack and Teguia (2016) studied how members of commercial banks coped with credit they are awarded in the region. The study was conducted in the Northern region of Cameroon. The study involved 201 members with 107 non-defaulters and 94 defaulters. Questionnaires were used in collection of data. Logit model and descriptive statistics were used in analyzing the data. The study found out that small household size, distance from cash desks, single individuals (not married) and who have undergone training are likely to refund their credit on time. These factors are significant to loan repayment. The study however established that gender and age are insignificant in the logit model which shows that they have little impact on the default rate.

Ayuma and Kamar (2016) examined the effect of debt recovery techniques on the performance of financial institutions in Eldoret town in Kenya. The study was done on the basis of the customer-supplier relationship theory. The study adopted a descriptive research design. The target population of the study contained the 185 employees from the credit and management departments of the selected financial institutions. The study involved four micro-finance institutions and five commercial banks. The 125 sample size was achieved through purposive sampling technique. The study used primary data which was collected using questionnaires. The data was analyzed using descriptive statistics and inferential statistics. A multiple linear regression was established in order to give the relationship among the independent variables. The major finding of the study was that, the banks and MFIs should use the income history of the borrower before administering a loan. The

savings, investment and retirement accounts should be the guideline of allocating safe loans with assurance that they will be repaid.

Makori (2017) studied the socio-economic factors that influence loan repayment in micro finance institutions in Kenya. The factors that were examined include education level, age of borrower, income level and the family size. The study adopted a descriptive research design. The target population was 66 staff members of the Kenya Women Trust microfinance which consisted of senior managers and the credit officers in six branches located in Nairobi. The study adopted a census approach hence all the 66 individuals formed the sample size. The study used primary data collecting the data using personally administered questionnaires. Both inferential and descriptive statistics were used in analysis. The data was presented using tables and charts. The study found out that income level was considered when the institution was advancing loans. The study also established that individuals who earn less than Kshs. 10,000 were likely to default.

Fitzsimons and Harmgart (2015) studied the effect of joint liability microcredit program that targeted women in Mongolia. The study targeted 40 soum centres or villages in northern Mongolia. Out of the 40 study villages, 15 were allocated individual lending, 15 were allocated group lending and the 10 would be used for control status. The study used primary data which was analyzed using both descriptive and inferential statistics. The study found out the impact of joint-liability lending was mixed. Those who access the loans jointly have a likelihood of owning an enterprise together. The study also established that there is no difference in repayment rates between the two groups that is individual borrowers and joint borrowers.

Breza (2016) analyzed the peer effects and loan repayment in Krishna District in India. The study was undertaken to put into account the natural occurrence whereby 100% of borrowers defaulted temporarily on their loans. The study adopted an experimental research design and used both primary and secondary data. The study involved 18 branch offices of Spandana (Financial institution) which shared their digital loan records. The target population was 115000 borrowers from 574 villages which were sampled out used stratification to 65550. The data was analyzed using descriptive and inferential statistics. The study established that if the borrower's peers repay the loan, she is 10-15% more likely to repay also. The study concluded that peer effects to the lender significantly increase the rates of repaying the loan.

Credit terms and Loan Repayment in Commercial Banks

Each bank has its own rules when it comes to lending. These rules may have an effect on the loan repayment. The rules that banks concentrate on mostly are the interest rates of the loan, the collateral offered and the duration of the loan. Honghui and Abbas (2016) conducted a study on the impact of interest rate on loan repayment of financial institutions in Tanzania. The study adopted a descriptive assessment technique. The target population included 1200 clients and staff members of the financial institutions. The study employed a stratified random sampling and then simple random sampling to obtain a sample size of 400 individuals. The study used primary data that was collected through administering questionnaires to 400 respondents. The SPSS software was used in analysis of this data. The objectives of the study was to establish the business capacity of clients to repay

loan, to examine if multiple loans contribute to difficulty in repaying loans and finally to study the relationship between interest rate charged on loan and loan repayment. The study found out that higher interest rates significantly lead to loan default.

Kariuki and Ngahu (2016) examined the effect of interest rates on loan performance of commercial banks in Naivasha Sub-County in Kenya. The study was limited to five banks in Naivasha Sub-County. Descriptive research design was adopted by this study. The target population was 36 employees who work for these institutions. The data analysis was done using SPSS. Inferential and descriptive statics were used in analyzing the data. The variables in the study were default risk premium, liquidity risk premium and interest rates and their effect on loan repayment. Interest rates significantly affected the repayment of loans. It was also established that defaults occurred majorly on short term loans hence reasonable premiums have to be charged which are affordable by borrowers and also for the institutions to mitigate risk.

Maina (2018) studied the effects of interest rate on loan repayment in commercial banks in Nyeri county Keya. The objectives of the study were liquidity premium, default risk premium, customer classification and risk analysis and appraisal on loan repayment in commercial banks in Nyeri County. The study adopted descriptive research methodology. Both primary and secondary data were used in this study. The secondary data was obtained from the annual financial reports and research articles by the banks. The target population involved 57 credit officers in the commercial banks. The data that was collected was analyzed using descriptive and inferential statistics using the statistical package for social sciences. The study established that banks frequently encounter liquidity risks depending on type of loan offered. The study also resolved that individuals usually default and interest rates were offered according to the default risk of the borrower. It was concluded that the liquidity risk premium significantly contributed to the low loan repayment because of increase in interest rate which usually discourage loan repayments.

Modisagae and Ackermann (2018) studied the determinants of defaulting by collateral lending groups in microfinancing in Limpopo area in South Africa. Purposive sampling was used in selecting the MFI that was used in the study. The MFI selected is known as Small Enterprise Foundation (SEF) whose database was accessed to provide sample data for the study. The study adopted a probit regression model to highlight the major characteristics of loan default by the collateral lending groups in the institution. The study established that when the borrowing group is large, the default rate is low. Female borrowers in the group are most likely to repay the loan and also a group that has members who save and carry on small businesses with the money are able to repay the loan.

Ssekiziyivu, Bananuka and Nabeta (2017) studied the borrower's characteristics and credit terms on loan repayment performance of financial institutions in rural areas in Uganda. The study was correlational and cross sectional. The target population was 90 financial institutions who are members of the association of microfinance institutions of Uganda. Simple random sampling method without replacement was used to select a sample size of 73 institutions. The study used primary data which was collected using questionnaires. Of the 73 institutions, 51 of them responded indicating a 70% response rate. The study outlined an ordinary least squares multiple regression to

examine the association between the credit terms, borrower's characteristics and loan repayment performance. The study revealed that there is a significant relationship between credit terms and loan repayment among borrowers as compared to borrower's characteristics. The regression model predicts 16% of the variance in loan repayment by individuals in the institutions. The credit terms include collateral, interest rate and loan duration which the study confirms that it's a significant predictor of loan repayment hence managers should put more consideration on them.

Mwaka (2017) conducted a study on the factors that influence the repayment of loans among the microfinance consumers in Makueni County in Kenya. The target population was 415 loan consumers in Nzaui, Klamba and Kilili wards in Makueni County. A simple random sampling technique was employed to select 200 respondents. Inferential statistics was used in analyzing the primary data collected from individuals using questionnaires. The study revealed that borrower's literacy level, income levels and repayment period had a significant impact on the repayment of loan. The study also found out that visiting loan officers and constant reminders facilitated loan repayment among individuals.

Ochung (2014) studied the factors that affect loan repayment among customers of commercial banks in Kenya making Barclays bank the case study. The specific objectives of the study were; the effect of lenders factors, loan factors and borrowers factors on loan repayment among customers of Barclays bank. The target population of the study was 78 credit administrators and relationship managers within the branches of Barclays bank located in Nairobi County. The study adopted descriptive research design. The study used primary data which was collected through questionnaires and scheduled interviews. The study used descriptive statistics in analysis. The study established that a significant relationship exist between borrowers factors and loan repayment. The study also revealed that loan factors specifically loan duration determines the repayment of loan with short term small loans being repaid faster to pave way for another borrowing. The study recommended that banks should have efficient systems that evaluate the specific needs of customers before processing the loans.

Institutional Factors and Loan Repayment in Commercial Banks

There are factors that the banks have in place which enables them to have smooth time when it comes to debt collection and identifying defaulters. Programs such as training of borrowers, incorporation of technology and credit management practices have an effect on loan repayment. Agbeko, Blok and Omta (2017) examined the effect of client monitoring and training on loan repayment in Ghana. The study undertook a two-step longitudinal survey. The data was collected from 229 uniCredit Ghana Limited customers or borrowers. Inferential statistics were used in analyzing the data. The researchers offered training to the borrowers on matters such as business skills, record keeping and financial management skills. They were also trained on entrepreneurial skills and the importance of taking risks and being innovative. The researchers choose to increase the monitoring frequency from 4 times a year to 24 times a year. The loan officers were tasked with informing the debtors on business challenges, linking them to business networks and involved them in acquiring relevant supply chains. The study revealed that training on entrepreneurship failed to improve the loan repayments rates concluding that entrepreneurial skills are inborn and hence can't

be trained. The study also established that intensive monitoring significantly improve loan repayments rate.

Musabwasoni, Mulyungi and Muganamfura (2018) studied the influence of financial literacy on loan repayment among SMEs of microfinance institutions in Nyaruguru District in Rwanda. The objectives of the study were, book keeping literacy, budgeting literacy and debt management literacy and how they affect loan repayments among SMEs in Rwanda. Descriptive quantitative research design was used. The target population was 320 SMEs which was sampled to 178 using Yamane's formula. Purposive and random sampling techniques were employed in choosing the relevant individuals. The study used primary data and questionnaires were distributed for answering. SPSS was used in analysis of the data which was later presented in tables and charts. Regression analysis and correlation were employed to determine the relationship that exists among the variables. The study showed that a positive correlation exists between budgeting, book keeping and debt management literacy and loan repayment. The study also revealed that financial literacy contributed significantly to the repayment of loan. The study recommended that financial training was important and financial institutions have to adopt training in order to avoid non-performing loans.

Shema (2019) conducted a study on the effectiveness of credit scoring using limited mobile phone data. The study was conducted on subscribers of a telecommunication service provider and an airtime lending company in Central Africa. The study adopted an experimental research design. The study focused on the credit received by an individual, date received, the additional amount occurring, the remaining amount before recharge and the new balance after recharge. Data of close to 3 million subscribers was obtained between April 2017 and March 2018. The study used a random forest classifier in predicting the possibilities of default. The study revealed that airtime recharge can be used as an accurate method of credit scoring without infringing the privacy of individuals. The study recommended banks and digital lenders can adopt this method as one of a reliable credit scoring method that is also safe to borrowers.

Wainanina (2017) studied the effect of mobile based loan credit scoring system on the financial performance of commercial banks in Kenya. The specific objectives of the study were; to determine the effect of mobile based loans average repayment period, to analyze the effect of mobile loans default patterns; and to establish the effect of mobile based loans risk profile on the financial performance of commercial banks in Kenya. Descriptive research design was used in the study. The target population was 86 credit risk and finance managers where 52 were purposively selected. Both inferential and descriptive statistics were use in analysis of the data. The study used primary data which was collected using structured questionnaires. The findings were presented in form of tables and graphs. The study established that correct credit scoring from mobile based loans determines the rates of loan repayment by allocating correct loan limits. The study also concluded that commercial banks should develop good technology to extract more financial information from their customers that can be used in detecting the credit worthiness of borrowers or their customers.

Kipkirui and Omaga (2018) studied the effect of credit management practices on the financial performance of financial institutions in Nairobi CBD in Kenya with a focus on loan repayment. The

specific objectives consisted client appraisal, collection policy, credit terms and credit risk. The study adopted descriptive survey design targeting 165 members of the financial institutions under study. The study used primary data which was collected using questionnaires. The 165 individuals were purposively selected with a response of 158. Multiple regression and descriptive analysis were used in analyzing the data. The study found out that collection policy, credit risk control, terms of credit and client appraisal significantly explained financial performance through loan repayments. The study recommended that financial institutions should invest more on credit management practices so as to improve credit repayment which boosts financial performance.

RESEARCH METHODOLOGY

The study used both descriptive and explanatory research design. Descriptive research design gives the specific profiles of activities, situations or persons. Saunders *et al.* (2016) explains further that descriptive research is good for a social research whereby a researcher is interested in assigning characteristics to organizations, people or behavioral function of a certain group. An explanatory research design is employed when a researcher is answering the 'why' question about the existence of a certain behavior or phenomenon (Cooper & Schindler, 2014). The research design specifies a model which is used to predict, explain and understand the relationship between the dependent and independent variables. In this study the dependent variable was the loan repayment whereas the independent variables were; loan appraisal parameters, credit terms and institutional factors. This research design was suitable to assess the relationship between these variables.

The target population of this study was 63 credit officers working at the headquarters of I & M bank situated in Nairobi County. The sampling frame provides the plan of identifying the target population. The employee's roaster was used as the sampling frame. The research adopted census as the sampling technique due to the small population. This technique is precise and hence suitable for the study.

Close ended questionnaires were used in collection of data. The study used self-completion questionnaires that could be easily answered by the respondents (Thomas, Nelson, & Silverman, 2015). The questionnaires contained part for general information and the other parts for the three objectives of the study. The Likert scale was used to rank the individuals rate on the questions on the objectives with 5= Strongly Agree, 4= Agree, 3=Neutral, 2= Disagree, and 1 =Strongly Disagree.

In this study, the letter of introduction to carry out the study was sought from the United States International University-Africa to prove that the study was mainly conducted for academic purposes and that the information was carefully safeguarded. The instrument of data collection was developed and assessed by the assigned supervisor. The researcher conducted a pilot study to ten credit officers who were selected randomly to determine the reliability of the data collection instrument. The respondents in the pilot study were not used in the actual study. The researcher gave instructions to the respondents on how the questionnaires were to be filled. The questionnaires were dropped at the headquarters and the respondents were given a period of two weeks to respond. To ensure that most of the questionnaires were filled, the questionnaires were sent to the individuals in soft copy as well

via mail. Those who will have completed an online questionnaire were not allowed to fill the printed questionnaires. The personal details and response were treated with high level of confidentiality. The questionnaires were collected after the highlighted period and the data was verified to confirm if they were filled correctly.

Data analysis involves the process of inspecting, cleaning and arranging data with the main objective of obtaining useful information that is important for the study and that can be used in making decisions (Ader & Mellenbergh, 2014). The data collected was cleaned, coded and entered into the Statistical Package of Social Sciences (SPSS) which was analyzed to give both descriptive and inferential statistics. The results were presented in form of figures and tables. A multiple linear regression was used in establishing the relationship that exists between the four variables. The multiple regression model is specified as;

$$Y = \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + \varepsilon$$

Where:

Y = Loan Repayment
β0 = Constant Term;
β1, β2, and β3 = Beta coefficients;
X1= Loan Appraisal Parameters;
X2= Credit terms;
X3= Institutional Factors

Credit terms are the set rules that are laid down by a bank concerning lending out a loan. The terms include the interest rate on the loan, collateral attached on the loan and the repayments period of the loan. Institutional factors are the procedures that have been laid down by the banks in order to minimize bad debts by collecting most of the advanced loans. Agbeko *et al.* (2017) designed a questionnaire to measure the effects of institutional factors on loan repayment. Loan repayment is the action of paying back the amount of money that one has borrowed. Berkmen *et al.* (2019) used questionnaires on assessing the loan repayments. The study will use a 95% confidence level. This is a significance level of 0.05 which implies that for an independent variable to have a significant effect on the dependent variable, the p-value should be below the significance level (0.05).

Results and Findings

The commercial bank studied was I &M based in Nairobi, Kenya. The target population was 63 credit officers at I & M bank. A total of 63 questionnaires were distributed and 57 were fully answered and returned. The response rate was therefore at 90 percent. The reliability test is applied to measure the internal consistency of the questionnaire. Cronbach's Alpha was used in measuring the consistency. The study considered the objectives to be reliable if the reliability coefficient was 0.6 and above. The results from the test shows that the objectives under study were consistent and reliable since their alphas were greater than 0.6. The study asked the respondents to indicate their gender. The findings show that more males at 66.67 per cent responded as compared to females at 33.33 per cent.

Most employees were aged between 18-30 years at 45.61 per cent, followed by those aged between

31-40 years at 33.33 per cent, then 41-50 years were 15.79 percent and finally those who aged above 51 years were represented at 5.27 percent. Most respondents have attained a bachelor's degree at 61.41 percent followed by holders of postgraduate education at 33.33 percent and finally diploma holders were represented at 5.26 percent. Most employees at 43.86 percent had been in the bank for less than 2 years. 35.08 percent of the individuals had stayed in the bank between 2 to 5 years, 7.02 percent between 6 to 10 years and those above 10 years were 14.04 percent. 21.05 percent of the respondents thought that it was less than 2 years, 24.56 percent believed that it was between 2 and 5 years, 31.58 percent said that it was between 6 and 10 years while 22.81 percent said that it was above 10 years.

A multiple linear regression analysis was run to establish the extent to which loan appraisal parameters, credit terms and institutional factors affects mobile loan repayment. The results from the model summary shows that R-square=0.475 indicating that the independent variables affect 47.5% of the mobile loan repayment.

Table 1: Model of Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.689[a]	0.475	0.445	0.40286

a. Predictors: (Constant), Institutional Factors, Mobile Loan Credit Terms, Loan Appraisal

The analysis of Variance (ANOVA) at 95% confidence level showed that the F critical was 15.973 and the p-value=0.000. This means that the model $Y = \beta 0 + \beta X_1 + \beta 2X_2 + \beta 3X_3$ is significantly linear.

Table 4. 2: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	7.777	3	2.592	15.973	.000[b]
	Residual	8.602	53	0.162		
	Total	16.379	56			

From the coefficients of correlation, the regression equation $Y= \beta 0+ \beta 1X1+ \beta 2X2+ \beta 3X3$ becomes

$Y=1.187+0.092X1+0.044X2+0.536X3$

Where Y is the dependent variable (Mobile Loan Repayment)

X1=Loan appraisal parameters

X2=Credit Terms

X3=Institutional Factors

The model shows that an increase in one unit of the loan appraisal parameters leads to an increase in loan repayment by 0.092 units. This effect is significant with a p value less than 0.05. The model indicates that an increase in credit terms by one unit leads to an increase in loan repayment by 0.044 units. This effect is significant with a p value of less than 0.05. The model indicates that an increase in institutional factors by one unit leads to an increase loan repayment by 0.536 units. This effect is significant.

Table 3: Coefficients of Correlation

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.187	0.497		2.386	0.021	0.189	2.184
	Loan Appraisal	0.092	0.119	0.085	0.768	0.006	-0.148	0.331
	Mobile Loan Credit Terms	0.044	0.125	0.038	0.35	0.013	-0.207	0.295
	Institutional Factors	0.536	0.085	0.653	6.299	0	0.366	0.707

Conclusions

The results from the study indicate that a positive significant relationship exist between loan appraisal parameters and loan repayment. The regression coefficient indicate that loan appraisal parameters positively and significantly affects the repaymet of mobile loans. These findings led to the conclusion that demographic factors, economic factors and the method of lending used all contribute significantly to those relationship and hence regarded important in enhancing loan repayment.

The study sought to find out the effect of mobile loan credit terms on mobile loan repayment. The results from the study show that a significant positive relationship exists between mobile loan credit terms and loan repayment. From these findings, the study concludes that the interest rates, collateral used and repayment periods have a significant effect on mobile loan repayment.

The study sought to find out the effect of institutional factors on mobile loan repayment. The regression coefficient indicates that institutional factors positively and significantly affect mobile loan repayment. This study concludes that the elements that make up institutional factors such as training and monitoring, technology and credit management practices have a positive significant effect on mobile loan repayment.

Recommendations

The study recommends that banks that offer mobile loans should have appropriate methods of analyzing the parameters. Some parameters such as age, marital status and the residence of the borrower should not be major determinants of the loan an individual is granted. The demographic factors should also not be the reason to determine the potential of an individual's potential to repay a loan. The study also recommends that more emphasis should be put on the economic factors like ownership of a business and the income level of an individual.

The study found out that a significant relationship exists between mobile loan credit terms and mobile loan repayment. The study recommends that credit terms such as interest rate should be re adjusted even though it doesn't have much effect on the repayment of mobile loans. Banks should

focus more on developing an array of collaterals that can be used by mobile loan borrowers. This will prevent defaults.

The study found out a significant relationship between institutional factors and mobile loan repayment. The study recommends that an intensive training and monitoring should be initiated by banks especially for individuals borrowing to invest in small businesses. The banks should also initiate innovation processes to ensure that their technology is able to understand the algorithms and provide background information of the borrower. The credit management practices should also be followed to the latter.

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