ABSTRACT: This study focuses on relationship between credit risk management and loan portfolio in commercial banks of Rwanda; a case of Urwego Opportunity Bank in the years of 2012-2016. This study was guided with the following research objectives: to examine the influence of credit risk management on loan portfolio; to analyze the management of loan portfolio and to determine the relationship between credit risk management and loan portfolio in UOB from 2012 to 2016. In this study, purposive and stratified sampling technique were used in selecting 15 respondents out of 77 target population staff of credit department of UOB. Under this, a triangulation was adopted where weakness of the other tools was addressed by the other data tools. Data analysis was done by using Descriptive statistical tools (SPSS) version 21. This study found that the lending policies are highly implemented with mean of 3.13; 3.08 shown that lending decision is well made. And 2.64 indicated that the recovery techniques are effectively applied; the overall mean of 3.03 shown that loan risk monitoring is performed. Above all effort has been made to achieve better credit risk management in UOB and it has shown a positive relationship with loan portfolio management although the ratio of NPL has not decreased. This is because in 2016, the UOB has granted loan in corn farming in Kirehe, Kayonza and Bugesera districts and unfortunately climate change due to excess of draught, from August 2016, has led to crop failure Prompting the borrowers not to pay. This study recommended that financial institutions specifically Urwego Opportunity Bank, should add agriculture insurance in loan requirements to minimize agriculture loan risks.

Keywords: Credit Risk Management and Loan Portfolio in Commercial Banks of Rwanda

1. INTRODUCTION
1.1. Background to the study
Lending is the principal business activity for most commercial banks. The loan portfolio is typically the largest asset and the predominate source of revenue. As such, it is one of the greatest sources of risk to a bank’s safety and soundness. Whether due to lax credit standards, poor portfolio risk management, or weakness in the economy, loan portfolio problems have historically been the major cause of bank losses and failures (Comptroller Hand Book, 1998).

In Europe, in the view of (Nwankwo, 2000) “credit constitutes the largest single income-earning asset in the portfolio of most banks. This explains why banks spend enormous resources to estimate, monitor and manage credit quality”. This is understandably, a practice that impact greatly on the lending behavior of banks as large resources are involved.

In UK, (Chodechai, 2004) while investigating factors that affect interest rates, degree of lending volume and collateral setting in the loan decision of banks, says: Banks have to be careful with their pricing decisions as regards to lending as banks cannot charge loan rates that are too low because the revenue from the interest income will not be enough to cover the cost of deposits, general expenses and the loss of revenue from some borrowers that do not pay (Chodechai, 2004).

In India, (Nnanna, 2005), further stressed that “Bank lending decisions generally are fraught with a great deal of risks, which calls for a great deal of caution and tact in this aspect of banking operations”.

The success of every lending activity to a great extent therefore, hinges on the part of the credit analysts to carry out good credit analysis, presentation, structuring and reporting (Nnanna, 2005).
In Africa, in most of the developments that improve the loan portfolio’s liquidity have implications for price risk. Traditionally, the lending activities of most banks in Ghana were not affected by price risk. Because loans were customarily held to maturity, accounting doctrine required book value accounting treatment. However, as banks develop more active portfolio management practices and the market for loans expands and deepens, loan portfolio was come increasingly sensitive to price risk (Nnanna, 2005).

According to The National Bank of Rwanda (2016), The Rwandan financial system remains sound, resilient and continues to perform its functions effectively. Banks and MFIs capital and liquidity buffers are strong relative to current regulatory minimums. The asset quality of Rwanda’s banking system remains healthy, despite a slight increase in NPLs in June 2016. Banks’ loan loss provisioning level has significantly increased compared to last year. Urwego Opportunity Bank is one of the Rwandan commercial bank that serves its clients with all commercial bank operations including deposit accounts, savings accounts, individual loans, Trust Group Loans, village phone loans, home improvement loans, bicycle loans and school tuition loans and It is exposed also to the risks in management of loan portfolio. The main aim of the current research study was to examine the extent to which credit risk management influence loan portfolio in terms of non-performing loans compare with total loans at Urwego Opportunity Bank in the years of 2012 up to 2016.

1.2. Statement of the Problem

Lending is the principal business activity for most commercial banks. The Loan portfolio is not only considered as a largest asset as well as pre-dominate source to generate revenue but one of the biggest risk source for the financial institution’s soundness and safety as well (Richard et al., 2008).

According to (Chijoriga, 1997) credit risk is the most expensive risk in financial institutions and its effect is more significant as compared to other risks as it directly threatens the solvency of financial institutions. (Herrero, 2003), in his paper, the determinants of the Venezuela banking crisis argued that among the reasons for bank failure was inappropriate lending practices which exposed banks to different risks and losses.

According to the National Bank of Rwanda The National Bank of Rwanda (2016), the Rwandan financial system remains sound, resilient and continues to perform its functions effectively.

Financial institutions capital and liquidity buffers are strong relative to current regulatory minimums. The asset quality of Rwanda’s banking system remains healthy, despite a slight increase in NPLs in 2016. Banks’ loan loss provisioning level has significantly increased compared to last year. Urwego Opportunity Bank as one of Financial Institutions which is under supervision of National Bank of Rwanda (BNR), faced by this challenge where the ratio of NPLs moved from 1.7% in 2015 to 14.8% in 2016.

This study therefore, examines the relationship between credit risk management and loan portfolio in commercial banks of Rwanda; a case of Urwego Opportunity Bank in the years of 2012-2016 in order to strengthen loan portfolio management by minimizing its risks.

1.3. Objectives of the Study
1.3.1. General objectives

General objective of the study seeks to examine credit risk management and loan portfolio in commercial banks of Rwanda, with case of Urwego Opportunity Bank from 2012 to 2016.

1.3.2. Specific Objectives

This study on relationship between credit risk management and loan portfolio in Urwego Opportunity Bank assumes the following specific objectives:

- To examine the influence of credit risk management on loan portfolio in UOB from 2012 up to 2016,
- To analyze the management of loan portfolio in UOB from 2012 up to 2016,
- To determine the relationship between credit risk management and loan portfolio.

1.4. Research Questions

I. What is the effect of credit risk management on loan portfolio in UOB from 2012 up to 2016?
II. How is loan portfolio managed in UOB within the years of 2012 up to 2016?
III. Is there any significant relationship between credit risk management and loan portfolio in UOB?
2. LITERATURE REVIEW

2.1. Theoretical Review

2.1.1. Loan

According to Peter and Sylvia (2009), a loan theory refers to the highest yielding asset a bank can add to its portfolio and they provide the largest proportion of most banks operating revenues. Loan refers to the money lend that must be returned usually with interest that can be secured if is banked with collateral and later the money lent is repaid, or not secured if there is a failure to pay by borrower.

According to Hosna (2009), Loan is the provision of money or bills that can be equated with repay the debt after a certain period of time with interest, so that the credit is the transfer of funds to the borrower to take advantage of the services provided to the borrower, based on the confidence of both parties and subject to the approval of loans or loan lending after a certain period of time even with the amount of interest that has been established or agreed upon (Hosna, 2009).

2.1.2. Loan Portfolio Theory

According to Kurui and Kalio (2014) Loan portfolio theory relates to the sum total of monies loaned out through various lending products to different borrowers. Loan portfolio encompasses salary loans, group bonded loans, individual loans and company loans (Murugu, 2010). Loan portfolio refers to number of bank customers with loans and the total amount loaned out (Crabb and Keller, 2006).

According to Kurui and Kalio (2014), continued existence of most financial institutions depends entirely on successful lending program that revolves on funds and loan repayments made to them by the clients. This means a restrictive credit control policy should be adopted to act as a deterrent to unnecessary lending and in the process improve on profitability of the financial institutions (Kipchumba, 2015).

Loan portfolio constitutes loans that have been made or bought and are being held for repayment. Loan portfolios are the major asset of Financial Institution. The value of the loan portfolio depends not only on the interest rates earned on loans but also on the likelihood that interest and principal will be paid (Jansson, 2002).

Lending is the principal business activity for most commercial banks, the loan portfolio is typically the largest asset and the predominate source of revenue. As such, it is one of the greatest sources of risk to a financial institution’s safety and soundness. Whether due to lax credit standards, poor portfolio risk management, or weakness in the economy, loan portfolio problems have historically been the major cause of losses and failures. Effective management of the loan portfolio and the credit function is fundamental to financial institution’s safety and soundness. Loan portfolio management (LPM) is the process by which risks that are inherent in the credit process are managed and controlled. Because review of the LPM process is so important, it is a primary supervisory activity (Reilly and Brown, 2011).

2.1.3. Credit Risk Theory

Management practices have been defined as the identification, measurement, monitoring and control of risk arising from the possibility of non-payment of loans advanced to various clients (Kithinji, 2010).

Loans extended to bank's clients might have risks associated with non-repayment in circumstances the bank assumes that the loanees will faithfully pay back amounts borrowed; some borrowers usually don’t repay resulting to decreases performance due to non-performing loans provisioning (Wang, 2013). Every commercial bank experiences a certain amount of uncertainty in instances where it loans funds to individual and corporate customers. In such scenarios, the financial institution may end up with lending losses should some of the borrowers fail to clear loans as per agreements (Karugu and Ntoiti, 2015). Primarily, credit-risk of a banking institution is the chances that a loss resulting from default of interests and the principal, or the two of them, or in ability of the bank to sell the securities held against the loan (Kithinji, 2010).

Banks are required to use the “Know Your Customer” principle as a strategy aimed at minimizing and/or eliminating credit risk (Basel Committee on Banking Supervision, 2006). Biased decisions made by banks management might result to insider leading or to individuals associated with the banker or individuals with poor financial background or to fulfill personal motives, which may include tying to be friend persons with higher status in the society. One of the solutions suggested is the use of well-known lending methods and especially quantitative ones as they filter out biasness (Abdifatah, 2010).
2.1.4. Credit Risk Management

According to Tefera (2011), the concept of credit risk management can be treated as the heart of any commercial banks. It plays the vital role in the performance of a financial institution as it analyzes credit worth ability of borrowers. Kithinji (2010), defined credit risk management has been defined as implementation of policies to limit insider lending and large exposures to related parties this is in addition to controlling risks stemming out of chances that a client may not repay the loan. Inadequate credit risk management practices and absence of care to variations in economy can be named as causes for poor financial performance by banking institutions (Tefera, 2011).

The objective of credit risk management in banks is to achieve maximum risk-adjusted rate of return by retaining credit risk exposure within satisfactory limits (Wang, 2013). Indicatively credit risk management may be spell out methodical appliance of management strategies, processes and practices to the tasks of pinpointing, evaluating, gauging, treating and monitoring risk. Earnings due to banks will be exposed to risks of variations in returns and hence fluctuate if the financial institutions are not aware of the percentage of loans that will become delinquent. Loans extended to bank’s clients might have risks associated with non-repayment in circumstances the bank assumes that the loaners will faithfully pay back amounts borrowed. A few of the clients ordinarily don’t make the repayments resulting to decreased profits due to the need for provisioning and writing of the loans (Karugu and Ntoiti, 2015).

Essentially, the credit risk of a bank is the likelihood of cost arising from non-repayment of interest and the initial loaned amount, or both, or failure to sell of securities pledged on the loan (Kithinji, 2010).

2.1.5. Loan Portfolio Management

Effective management of the loan portfolio and the credit function is fundamental to a bank’s safety and soundness. Loan portfolio management (LPM) is the process by which risks that are inherent in the credit process are managed and controlled. Because review of the LPM process is so important, it is a primary supervisory activity.

Assessing LPM involves evaluating the steps bank management takes to identify and control risk throughout the credit process. The assessment focuses on what management does to identify issues before they become problems. This booklet, written for the benefit of both examiners and bankers, discusses the elements of an effective LPM process. It emphasizes that the identification and management of risk among groups of loans may be at least as important as the risk inherent in individual loans (Chodechai, 2004).

For decades, good loan portfolio managers have concentrated most of their effort on prudently approving loans and carefully monitoring loan performance. Although these activities continue to be mainstays of loan portfolio management, analysis of past credit problems, such as those associated with oil and gas lending, agricultural lending, and commercial real estate lending in the 1980s, has made it clear that portfolio managers should do more. Traditional practices rely too much on trailing indicators of credit quality such as delinquency, non-accrual, and risk rating trends. Banks have found that these indicators do not provide sufficient lead time for corrective action when there is a systemic increase in risk (Sanchez, 2009).

Now, many banks view the loan portfolio in its segments and as a whole and consider the relationships among portfolio segments as well as among loans. These practices provide management with a more complete picture of the bank’s credit risk profile and with more tools to analyze and control the risk (Gonzalez-Paramo, 2010).

2.2. Loan Portfolio Quality

Loan portfolio relates to the sum total of monies loaned out through various lending products to different borrowers (Kurui and Kalio, 2014).

Loan portfolio encompasses salary loans, group bonded loans, individual loans and company loans (Murugu, 2010). Loan portfolio refers to number of bank customers with loans and the total amount loaned out (Crabb and Keller, 2006). According to Kurui and Kalio (2014), continued existence of most financial institutions depends entirely on successful lending program that revolves on funds and loan repayments made to them by the clients. This means a restrictive credit control policy should be adopted to act as a deterrent to unnecessary lending and in the process improve on profitability of the financial institutions (Kipchumba, 2015). Credit management is the managerial responsibility through which customer’s credit ratings are determined as part of the credit control function.

Non-performing loans are used as a measure of the quality of loan portfolio. The portfolio is said to be of good quality if there are minimal or no non-performing assets (Onuko et al., 2015). According to
should a loan remain unpaid for a period of time exceeding ninety days, then it is classified as non-performing loans and has limited chances of being serviced either partially or fully. Onuko et al. (2015) suggests that unhealthy loan portfolio rather poor operating efficiency is the clearest sign of failed banks. A fall in loan portfolio quality impends on banks liquidity and hence its daily processes. Onuko et al. (2015) Posit that a healthy loan portfolio is very critical to the performance of the individual bank and also entire country’s financial sector. The study concluded that poor loan portfolio tend to reflect on the total net worth of a bank.

2.3. Relationship between Credit Risk Management and Loan Portfolio

Loans being the major and most apparent source of credit risk to most banks means that credit management techniques needs to be applied (Abdifatah, 2010).

Credit risk has been defined as the potential that a bank debtor and other counterparties will not meet their responsibilities occasioning to depressed earnings. Exposure to financial risk, in addition to direct financial loss should also be taken into consideration when it comes to credit risk. As it does not always happen in isolation, credit risk also exposes banks to other risks for instance liquidity risk with both affecting loan portfolio quality.

The aim of credit risk management is to maximize banks risk adjusted rate of return by retaining credit risk exposure within acceptable levels (Hempel and Simonson, 1999). It is imperative for banks to ensure credit risk attached to loan portfolio is well managed in addition to that of individual client’s credit transaction. The financial institutions must also put in mind the connection revolving among interest rates, credit and liquidity risk well-organized credit risk management is vital to the entire risk management structure and is vital to each financial institution profitability and eventually its own survival and growth in the long run (Karugu and Ntoiti, 2015).

Comprehensive review risks involved lending decisions is of great significance and goes a long way in mitigating losses that would be occasioned should the loan book turn out to be bad. On the flip side, banks loan portfolio is directly related to the amounts of credits granted and hence strict credit management need to be put in place to lower the credit risk and hence prevent financial loss. Banks must consider and stabilize the two options in order to improve on profitability (Wang, 2013).

2.4. Empirical Review

Hosna (2009), “Credit Risk Management and Profitability in Commercial Banks in Sweden” The banking sector has become more complex over the last decades due to the development of financial security market. As a result, banks are getting involved in compound transactions without fully realizing the risk level. Consequently, the risk bearing side gets blurred and risk exposure splits on everybody. This cause systemic failure - the economic system of the countries breaks down. Government influences the situation and tries to stabilize economy through the regulatory mechanisms.

2.5. Conceptual Framework

Figure 2.1. Conceptual framework

Source: Researcher 2018
2.5.1. Lending Policies

Lending policies are key elements of loan portfolio management; policies should specifically address the institution's analysis and documentation of loans, loan servicing requirements, and the collateral evaluation process and regulations. However, at a minimum, the direction provided by lending policies should be commensurate with the program's impact on lending operations and meet the principles of sound lending. In addition, lending policies should be consistent with the goals and objectives outlined in the institution's business plan and, therefore, should be reviewed and updated, as needed, when it required. Furthermore, management should maintain sufficient procedures to ensure lending staff adequately and consistently implements board policies Analysis. (2012).

According to Federal Deposit Insurance Corporation, (Federal Deposit Insurance Corporation (FDIC), 2012), Lending policies should be clearly defined and set forth in such manner it provides effective supervision by the directors, every bank is responsible of formulating lending policies and supervising their implementation. There should be an encouragement of establishment and maintenance of written, up to date lending policies which have been approved by the board of directors. A lending policy should not be a static document, but must be reviewed periodically and revised in light of changing circumstances surrounding the borrowing needs of the bank's customers as well as changes that may occur within the bank itself.

To a large extent, the economy of the community served by the bank dictates the composition of the loan portfolio, (Risk Management Manual of Examination Policies, 2012)

Before implementing any changes to policies or underwriting standards, management should assess the potential effect on the institution’s overall risk profile, which would include the effect on concentrations, profitability, and delinquency and loss rates. The accuracy of these estimates should be tested by comparing them with actual experience (Comptroller Hand Book, 1998).

Most important of all the risks associated to financial institutions is weak credit risk management, being a threat for the banking sector (Chijoriga, 1997). Well formulated loan policy is beneficial for institutional performance. Hence it helps organizations to follow the same for risk management as well as fulfilling regulatory requirements (Joana, 2000). Loan review is a part of policy and is crucial, helping management in problem identification on regular basis to check either loan officers are following the policy in true letter and spirit or not (Craig, 2006).

2.5.2. Lending Decision

Understanding how banks make loans is important and has been at the forefront of the recent financial crisis. An important question is how should the process of loan making by banks be regulated to minimize risks? For example, should the loan making process be entirely codified and follow pre-defined rules so that the potential for discretion does not exist, and loans are made based on hard, verifiable information collected by the bank? On the one hand, allowing discretion could allow for the information obtained from relationship specific assets and soft information to be incorporated to improve the quality of loans made. On the other hand, the downside of using unobservable information is that discretion can be used to promote favoritism or cronyism (ManjuPuri et al., 2011).

Loan decisions are nonetheless still heavily dependent on the loan officer’s use of soft information. Banks are required to use the “Know Your Customer (KYC)” principle as a strategy aimed at minimizing and/or eliminating credit risk (Basel Committee on Banking Supervision, 2006). Biased decisions made by banks management might result to insider leading or to individuals associated with the banker or individuals with poor financial background or to fulfill personal motives, which may include tying to befriend persons with higher status in the society. One of the solutions suggested is the use of well-known lending methods and especially quantitative ones as they filter out biasness (Abdifatah, 2010).

2.5.3. Loan Recovery Techniques

According to Ping (2003), loan recovery techniques is a very essential component of the performance of banking institutions as it plays a key role in ensuring that the major goal of the bank is to
issue loans that results into the preferred outcome of making a profit margin beyond the loans advanced. It is evident that the presence of debt recovery techniques ensures the loanees to pay up their debts.

According to Visaria (2009), states that loan recovery unit is involved in the day today role of ensuring that the loans issued to the bank’s customers are repaid as per the schedule of contract signed by the customer and bank. The task of debt recovery involves compiling and accumulating a list of unpaid loans and practically managing and organizing the loans by following up on defaulters. The loan recovery unit interacts with lawyers to summarize demand letters to the loan debtors and sending the same letter to the customers who are defaulting.

2.5.4. Loan Risk Monitoring

The number of banks that lose their money because they lack an effecting mechanism of monitoring their borrowers is unprecedented (Warue, 2013). Lack of proper monitoring of how the funds acquired through loans has led to situations where such funds are not utilized well or they are invested in high-speculative ventures having little ability for generating funds in good time making borrowers incapable of servicing the loans (Karim et al., 2010).

In these situations, the loans become bad debt, which affect the issuing bank. Emerging from this trend therefore is the need to ensure that the loans are utilized promisingly through an effective monitoring of borrowers (Farhan et al., 2012). In fact, some studies suggest that ineffective monitoring mechanism for borrowers has a positive association with the accumulation of NPLs (Babouček and Jančar, 2005).

Banks have implemented the monitoring of loan utilization by borrowers not only to see that the funds are put to proper use, but also to ensure that they are ready to deal effectively with any issue arising. In monitoring the loans, the banks have utilized contents of loan files to screen loans (Richard, 2011).

Through an effective monitoring mechanism, banks are able to identify delinquent borrowers and effectively determine how to deal with these groups of borrowers (Onyia and Oleka, 2000).

Banks have also implemented regular ways of monitoring the quality of loans and implemented early warning systems that enable alert and enable bank managers to avoid potential stress (Babouček and Jančar, 2005). Consequently, banks have realized the need to accord their borrowers proper attention so that loan performance can be ensured. This facilitates repayment, as borrowers are more likely to pay since they consider themselves as obtaining proper attention from the bank (Richard, 2011). The need for continued for monitoring of the borrowers is to accord banks means to assess whether the reasons for advancing the loans still hold and to confirm that the money is being used for the intended purpose (Fatemi and Fooladi, 2006).

2.5.5. Non-Performing Loans

There is no global standard to define NPL at the practical level. Variation exists in terms of the classification system, the scope, and contents. According to Fatemi and Fooladi (2006), non-performing loans are loans, which are unrecoverable within the time stipulated by the laws of the country or as agreed to by the bank and the borrower at the time of provision. As such, the possibility of obtaining income from such loans is uncertain. Non-performing loans has also been deemed as loans whose repayment period is more than 90 days. NPLs can be treated as undesirable outputs or costs to loaning banks which decreases the bank’s performance. Hennie and Sonja (2009) define NPLs as assets not generating income. This is when principal or interest is due and left unpaid for 90 days or more. Loan defaults are inevitable in any lending. What banks do is to minimize the risk of defaults. NPL are loans that have defaulted or in danger of defaulting, when payment are no longer able to be made.

Non-performing loans are used as a measure of the quality of loan portfolio. The portfolio is said to be of good quality if there are minimal or no non-performing assets (Onuko et al., 2015). According to Onuko et al. (2015), should a loan remain unpaid for a period of time exceeding ninety days, then it is classified as non-performing loans and has limited chances of being serviced either partially or fully. Onuko et al. (2015) suggests that unhealthy loan portfolio rather poor operating efficiency is the clearest sign of failed banks. A fall in loan portfolio quality impends on banks liquidity and hence its daily processes. Onuko et al. (2015), posit that a healthy loan portfolio is very critical to the performance of the individual bank and also entire country’s financial sector. The study concluded that poor loan portfolio tend to reflect on the total net worth of a bank.
2.5.6. Non-Performing Loan Ratio

Previous studies also show a close relationship between NPLR and credit risk management. For example, examine the relationship between credit risk and profitability of the conventional and Islamic banks in Malaysia between the periods from 1996 to 2005. And found a significant relationship among them. The researcher use “proportion of allowance for the loan loss to total assets” which has a close relationship with NPLR to represent the credit risk. And in the beginning of research, they emphasize that profitability as an “ultimate” test for the effectiveness of risk management. But such risk taking behavior will lead to higher level of NPLs.

An extraordinary meltdown of banking sector during 2007 led to many banks’ severe loss on credit portfolio. Many banks experienced failure and global financial markets faced systemic crisis. The experience of crisis increases further concerns on financial system stability and the need for better control and supervision on lending activities and institutions, Diversified and periodical assessments are made to timely predict undesirable exposure. The aggregate rate of non-performing loans (NPLs) is commonly measured as a soundness indicator (Boudriga, 2009).

A loan is normally defined as non-performing when customer’s payments are arrears. Generally, default can be defined in the following ways: - Non-payment of interest 90days after the interest due date; - Non-payment of a loan 90 days after the loan maturity date; -Restructuring of the borrower’s loans; - Filing for bankruptcy, the appointment of administrators, liquidation, and so on. Late payment is often characterized a non-performing loans (NPLs) rather than a defaulted loan if the borrower is still undertaking business. Nevertheless, at some point, irrespective of the state of the borrower, an NPL was written off as a default loss. The write-down which must be funded out of the bank’s capital is often at 100% of outstanding notional value. The bank might recover a percentage but at some later date (Choudhry, 2011).

NPLR is the ratio of non-performing loans to total loans (Berkowitz, 1987).

The equation can be defined as: \( \text{NPLR} = \frac{\text{NPL}*100}{\text{Total loans}} \) where: \( \text{NPL} \) = Non-Performing Loan Ratio; \( \text{NPLs} \) = Non-Performing Loans. NPLR is a financial soundness indicator which demonstrates the quality of bank loans. According to Yang, NPLRs can adversely influence the efficiency of risk management and investment.

Quality credit risk assessment, risk management and creation of adequate provisions for bad and doubtful debts can reduce the banks credit risk. When the level of non-performing assets is high, the assets provisions made are not adequate protection against default risk. The determinants factors of NPLs can be attributed to both macroeconomic conditions and banks’ specific factors. This model indicates that borrowers with low income have higher rates of defaults because of increased risk of facing unemployment and being unable to settle their obligation. And they argue that the probability of default depends on current income and the unemployment rate which is linked to the uncertainty of future income and lending rates. NPLs are sensitive to bank-level factors (Lewis-Beck, 2004).

3. RESEARCH METHODOLOGY

3.1. Research Design

Both qualitative and quantitative data have been collected to examine the relationship between credit risk management and loan portfolio in UOB; In addition Statistical Package for Social Science (SPSS version 21) has been applied to get results.

3.2. Population of the Study

The targeted population was 77 employees of credit department of UOB as indicated in table below:

<table>
<thead>
<tr>
<th>S/N</th>
<th>Description</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Credit Manager</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Senior team Leader</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>Team Leaders</td>
<td>9</td>
</tr>
<tr>
<td>4</td>
<td>Credit Officers</td>
<td>58</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>77</strong></td>
</tr>
</tbody>
</table>

Source: Primary data, 2017
3.3. Sampling
The researcher used purposive and stratified sampling technique and sample size.

3.3.1. Sampling Technique
With purposive sampling technique the researcher uses her own judgment about which respondents to choose, and picks only those who meet the purpose of the study. The advantages of purposive sampling are that, the researcher can use her research skills and prior knowledge to choose the respondents. Under this study, participants were chosen arbitrary for their unique characteristics, experiences, attitudes, perceptions out of which 15 out of 77 employees from credit department of UOB were selected.

3.4. Data Collection Method and Tools
Under this study, both Primary and Secondary sources were used for analysis.

3.4.1 Primary Data Source
Primary data have been collected by using interview guide and questionnaire. The interview guide was open ended while the questionnaire was closed ended with two parts of questions, one has section A which is contain background information such as age of respondent, gender, level of education and number of year of experience. Part two has section B to D which were based on research question, this part was in form of a Likert scale anchored by a four- point rating ranging from strongly disagree =1 to strongly agree = 4

3.4.2. Secondary Data Source
In this study, the researcher collected secondary data from the company’s relevant financial reports to measure the relationship between credit risk management and loan portfolio in UOB in terms of ratio of non-performing loan.

3.5. Data Reliability and Validity
The reliability is understood as the extent to which results are consistent over time and an accurate representation of the total population under study and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable (Joppe, 2000). According to Joppe (2000), also agreed that validity determines whether the research truly measures that which it was intended to measure or how truthful the research results are. This study was conducted by taking questionnaires to credit department staff of UOB where the Cranach’s alpha coefficient was 0.74 which is acceptable range.

3.6. Data Processing
Raw data are transformed into meaningful interpreted report using different techniques. In order to get quality information, there is generally need for standard checking so that the researcher could end up with realistic data, which clearly reflect the depicted situation. Thus, stand checking is done through editing, coding, and tabulation. This is done in order to reduce detailed data to manageable proportions.

3.7. Data Analysis
After receiving questionnaires from the respondents, the responses have been edited, classified, coded and tabulated to analyze quantitative data using statistical package for social science (SPSS version 21). Tables and charts have been used for further representation for easy understanding and analyzes. The collected data have been thoroughly examined and checked for completeness and comprehensibility. The data has been summarized, coded and tabulated. The findings from the analyzed data were used to compare them with the financial information found from annual financial reports from UOB. The financial information was presented into form of percentages by non performing ratios approach.

Tables and graphical demonstrations were used to more illustrate a clear relationship between credit risk management and loan portfolio in UOB from 2012 to 2016.

4. DISCUSSION
This chapter begins with systematic presentation of data, followed by analysis and interpretation and finally the discussion of findings has been arranged in accordance with identification of respondents and objectives of the study as were formulated in chapter one of this research.
4.1. Systematic Presentation of Data
The sample size was fifteen employees selected purposively from seventy-seven because they are more involved in the topic for they are supposed to hold more information. After collection of data, participation rate was 100%. After editing, coding and entering data into SPSS, I generated a parent table to analyze (see table in appendix) and tabulation was made in order to present results of our research in a form that is easy for the reader to understand.

4.2. Analysis and Interpretation
In this part, results were discussed and interpreted in line of specific objectives and hypothesis.

4.2.1. Respondent Profile
The information presented below is a descriptive analysis of the profile of respondents used in the research. The profile of respondents given in this section includes, gender, age group, educational background and membership experience of respondents. These features of the respondents are vital to this study. Profile of respondent’s analysis is crucial since demographic factors affect respondent’s social, economic and political behaviors hence they are tools in the analysis of research objectives.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender of respondents</td>
<td>Male</td>
<td>8</td>
<td>53.3</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>7</td>
<td>46.7</td>
</tr>
<tr>
<td>Age of respondents</td>
<td>19-30 years</td>
<td>9</td>
<td>60.0</td>
</tr>
<tr>
<td></td>
<td>31-40 years</td>
<td>5</td>
<td>33.3</td>
</tr>
<tr>
<td></td>
<td>41-50 years</td>
<td>1</td>
<td>6.7</td>
</tr>
<tr>
<td>Academic qualification of respondents</td>
<td>Bachelor's Degree</td>
<td>15</td>
<td>100</td>
</tr>
<tr>
<td>Working experience of the employees</td>
<td>3-4 years</td>
<td>8</td>
<td>53.3</td>
</tr>
<tr>
<td></td>
<td>4 years and above</td>
<td>7</td>
<td>46.7</td>
</tr>
<tr>
<td>Marital status of respondents</td>
<td>Single</td>
<td>6</td>
<td>40.0</td>
</tr>
<tr>
<td></td>
<td>Married</td>
<td>9</td>
<td>60.0</td>
</tr>
</tbody>
</table>

Source: Primary data, 2018

Figure 4.1. Gender of respondents

Source: Researcher 2018

In the table above, the number of males outweighs that of females by a percentage of about 6.6. This inequality of percentage employment of sexes is observed in many institutions in Rwanda even if the national policy is targeting to empower the gender balance.
Age

The age distribution of the respondents was also of interest to the researcher. The main interest was to find out the age distribution among women respondents who took part in the study. There is an argument that when an individual grows older, he finds himself to engage in certain economic activities that are uncertain.

The percentage of 60 is in the category of 19-30 years old which means that a considerable portion of workers is still young. 33.3% of all employees of Urwego Opportunity Bank are in the age bracket 31-40 years and 6.7% of employees are in the category 41-50 years which is good because employees are distributed in all categories of age.

![Figure 4.2. Age bracket of respondents](source: Researcher 2018)

Marital status

The other characteristic that was considered is the marital status of respondents. Our respondents were ranged in different categories of marital status including single and married.

The percentage of single is 40 which mean the youthfulness of non-negligible portion employees. A considerable portion of 60% is married which can express good responsibility in the work.

![Figure 4.3. Marital status](source: Researcher 2018)

Education level

The respondents were asked to indicate their academic qualification because in both theoretical and practical situations, education skills increase working efficiency and productivity. The implication of
these findings is reliable and valid since the respondents were educated enough to be able to understand the issues they were being interrogated about and were able to interpret the questions accordingly and were able to provide efficient service in their work.

**Working experience**

Besides testing for maturity and integrity of the respondents, respondents were also asked to indicate how long they had been employees of Urwego Opportunity Bank so as to establish the level of understanding of the operations of bank services. The approach people perceives things, is significantly influenced by the experience of employees of one person to another. The table explains in particulars and shows that all employees are experienced with more than 3 years.

**4.2.2. Perception of Respondents on Credit Risk Management**

In the following tables mean and standard deviation are used and are interpreted as follows:

**Interpretation of the mean**

\[
\text{Interval size} = \frac{\text{High level} - \text{Low level}}{\text{Number of levels}} = \frac{4 - 1}{4} = 0.75
\]

1-1.75: Very low mean that is the fact does not appear
1.76-2.50: Low mean that is the fact appears less
2.51-3.25: High mean that is the fact appears more
3.26-4.00: Very high mean that is strong evidence of the existence of the fact.

**Interpretation of the standard deviation**

Standard deviation ≤ 0.5: views of respondents are homogeneous
Standard deviation > 0.5: views of respondents are heterogeneous

<table>
<thead>
<tr>
<th>Table 4.2. Lending policies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lending policies</strong></td>
</tr>
<tr>
<td>---------------------------</td>
</tr>
<tr>
<td>UOB lending policies are well defined and clear</td>
</tr>
<tr>
<td>UOB lending policies reflect the preferences of borrowers</td>
</tr>
<tr>
<td>UOB credit analysis committee respects the process of lending policies</td>
</tr>
<tr>
<td>UOB lending policies influence loan portfolio</td>
</tr>
<tr>
<td>UOB lending policies have an impact in management of credit risk</td>
</tr>
<tr>
<td><strong>Overall mean</strong></td>
</tr>
</tbody>
</table>

*Source: Primary data, 2018*

In the table above, items “UOB lending policies are well defined and clear” and “UOB lending policies influence loan portfolio” are evaluated with a high mean that is a strong evidence of the existence of the facts in UOB. Other items assessed with high mean that is the fact appears more. The overall mean indicates lending policies are put into practice in UOB.

<table>
<thead>
<tr>
<th>Table 4.3. Lending decision</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lending decision</strong></td>
</tr>
<tr>
<td>-----------------------------</td>
</tr>
<tr>
<td>In UOB, the criteria of lending decision are respected</td>
</tr>
<tr>
<td>In UOB, lending decision is not biased</td>
</tr>
<tr>
<td>In UOB, lending decision affects loan portfolio</td>
</tr>
<tr>
<td>UOB lending decision has an impact on credit risk management</td>
</tr>
<tr>
<td><strong>Overall mean</strong></td>
</tr>
</tbody>
</table>

*Source: Primary data, 2018*

In the table above, the item “In UOB, lending decision affects loan portfolio” is assessed with high mean which is obvious. Items “In UOB, the criteria of lending decision are respected” and “UOB lending decision has an impact on credit risk management” are assessed with a high mean. This means that the facts appear more. According to how respondents have expressed their views about “In UOB, lending decision is not biased”, they confirmed the non-biasedness of lending decision. The overall mean indicates that lending decision is well made.
The table above reveals that item “The recovery techniques used by UOB bring positive result in management of credit risk” is assessed with low mean. This means fact appears less the reason why NPL ration not decreased. The remaining facts appear slightly more. The overall mean indicates recovery techniques are applied in UOB.

The above table shows that only the item “In UOB, there is monitoring credit risk” is evaluated at a high mean that is a strong evidence of the existence of the fact. The remaining facts appear more. The overall mean shows that loan risk monitoring is performed.

All items in table above are assessed with high and very high mean which justifies the existence of these facts. The overall mean indicates that the influence of economic change is obvious. Findings in all tables above related to credit risk management reveal that it is well exercised.

4.2.3. Perception of respondents on loan portfolio management

The table above shows that “The loan portfolio in UOB is well managed” is evaluated with a high mean that is a strong evidence of the existence of the fact.

It is clear that from 2012 to 2016 the ratio of NPL has not decreased. This is because UOB has granted loan in corn farming in Kirehe, Kayonza and Bugesera districts and unfortunately climate change due to excess of sun, from August 2016, has led to crop failure. And then, the loan recipients could not repay.
4.2.4. Relationship between Credit Risk Management and Loan Portfolio Analysis in SPSS

Shows Findings in the Table Below

<table>
<thead>
<tr>
<th>Table 4.7. Correlation</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit risk management</td>
<td>Pearson Correlation: 1</td>
<td>.404</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed): .135</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N: 15</td>
<td>15</td>
</tr>
<tr>
<td>Loan portfolio</td>
<td>Pearson Correlation: .404</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed): .135</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N: 15</td>
<td>15</td>
</tr>
</tbody>
</table>

Source: Primary data, 2018

Interpretation of the Pearson product-moment correlation coefficient:
- \(0 < r < 0.25\): Very low correlation
- \(0.25 \leq r < 0.5\): Low correlation
- \(0.50 \leq r < 0.75\): High correlation
- \(0.75 \leq r < 1\): Very high correlation
- \(r = 1\): Perfect correlation

The correlation coefficient of 0.404 with p-value of 0.135 is low and not significant. This means that credit risk management and loan portfolio are not associated in the understudy case and the time scope.

According to findings in the previous tables, credit risk management is well exercised but unfortunately the loan portfolio management is not good because a lot of loan recipients in corn farming failed to reimburse within due time as scheduled.

Nevertheless, the table below displays the existence of significant relationship between credit risk management and loan portfolio. That is because they are findings from respondent’s views which project the logic expectations.

Despite the efforts made to achieve effective portfolio management; the results were not satisfactory, specifically in the item “In UOB, from 2012 to 2016 the ratio of NPL is decreased”.

<table>
<thead>
<tr>
<th>Table 4.8. Relationship from respondent’s views</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>In UOB, credit risk management has significant relationship with loan portfolio</td>
<td>15</td>
<td>3.2667</td>
<td>.45774</td>
</tr>
<tr>
<td>In UOB, credit risk management has negative impact on loan portfolio</td>
<td>15</td>
<td>2.4000</td>
<td>.73679</td>
</tr>
<tr>
<td>Overall mean</td>
<td></td>
<td>2.83335</td>
<td></td>
</tr>
</tbody>
</table>

Source: Primary data, 2018

Regression

To assess the effect of variation in predictors, multiple regressions were performed.

Table below indicates that 20.6% of the variation in loan portfolio is explained by the variation in the Loan risk monitoring, Lending policies, Lending decision and Recovery techniques (or 20.6% of the changes in loan portfolio could be attributed to the combined effect of the predictor variables or 20.6% of the variance in the loan portfolio is explained uniquely or jointly by the predictor variables)

<table>
<thead>
<tr>
<th>Table 4.9. Model Summary</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>R: .700(^a)</td>
<td>R Square: .490</td>
</tr>
</tbody>
</table>

Source: Primary data, 2018

a. Predictors: (Constant), Lending decision, Recovery techniques, Lending policies, Loan risk monitoring

The multiple linear regression with stepwise was applied to determine the best (most important) predictors of the dependent variable. The multiple linear regression model performed is expressed as follows:

\[ y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \varepsilon \]
where $\beta_0$ is intercept, $\beta_i$ are regression coefficients, $y$ represents the dependent variables and $x_i$ represents the independent variables.

**Table 4.10. Coefficients**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>.183</td>
<td>1.746</td>
</tr>
<tr>
<td>Lending policies</td>
<td>.017</td>
<td>.252</td>
</tr>
<tr>
<td>Lending decision</td>
<td>.594</td>
<td>.437</td>
</tr>
<tr>
<td>Recovery techniques</td>
<td>.368</td>
<td>.229</td>
</tr>
<tr>
<td>Loan risk monitoring</td>
<td>.034</td>
<td>.331</td>
</tr>
</tbody>
</table>

*Source:* Primary data, 2018

a. Dependent Variable: Loan portfolio

The loan portfolio is predicted to increase by:

- 0.017 when the Lending policies variable goes up by one unit while holding other predictors to a constant.
- 0.594 when the Lending decision variable goes up by one unit while holding other predictors to a constant.
- 0.368 when the Recovery techniques variable goes up by one unit while holding other predictors to a constant.
- 0.034 when the Loan risk monitoring variable goes up by one unit while holding other predictors to a constant.

Apparently, the “Lending decision” and “Recovery techniques” variables are the best predictors that influence the loan portfolio more than other independent variables.

When respondents were asked to tell how each independent variable influences the dependent variable, they provided following views in the table below:

**Table 4.11. Extent to which factors influence loan portfolio**

<table>
<thead>
<tr>
<th>Items</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extent to which lending policy affects loan portfolio in UOB</td>
<td>6.4667%</td>
</tr>
<tr>
<td>Extent to which lending decision affects loan portfolio in UOB</td>
<td>7.9333%</td>
</tr>
<tr>
<td>Extent to which recovery techniques affect loan portfolio in UOB</td>
<td>9.2667%</td>
</tr>
<tr>
<td>Extent to which loan risk monitoring affects loan portfolio in UOB</td>
<td>6.8000%</td>
</tr>
</tbody>
</table>

*Source:* Primary data, 2018

The extent is low because they realized themselves that loan portfolio is not good.

**Table 4.12. ANOVA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>.523</td>
<td>5</td>
<td>.105</td>
<td>5.863</td>
<td>.011b</td>
</tr>
<tr>
<td>Residual</td>
<td>.161</td>
<td>9</td>
<td>.018</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>683</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source:* Primary data, 2018

a. Dependent Variable: Loan portfolio
b. Predictors: (Constant), Lending decision, Recovery techniques, Lending policies, Loan risk monitoring.

Looking at the p-value equals to 0.011 in the table above, it is less or equal to alpha (5%). This means that the model is suitable for the data (the regression model is a good fit of the data): it has statistically significant predictive capability i.e; all regression coefficients are different from zero.

**4.2.5. Financial Ratio Analysis**

This analysis is to support results of SPSS analysis and strengthen them.
Table 4.6. Non-performing loan ratio analysis

<table>
<thead>
<tr>
<th>Year</th>
<th>Gross Loan Portfolio or Total Loan</th>
<th>Non-Performing Loan &gt;90 days</th>
<th>NPLR %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>0,687,466,188</td>
<td>23,851,078</td>
<td>0.22%</td>
</tr>
<tr>
<td>2013</td>
<td>10,110,559,603</td>
<td>114,779,627.4</td>
<td>1.14%</td>
</tr>
<tr>
<td>2014</td>
<td>0,001,543,842</td>
<td>186,997,046</td>
<td>1.80%</td>
</tr>
<tr>
<td>2015</td>
<td>4,476,412,106</td>
<td>258,625,091</td>
<td>1.70%</td>
</tr>
<tr>
<td>2016</td>
<td>4,343,108,753</td>
<td>2,121,687,528</td>
<td>14.8%</td>
</tr>
</tbody>
</table>

Source: secondary data, 2018

According to the table above, from 2012 to 2015 the NPLR was below the limit (5%) which means that loan portfolio was in good situation while in 2016 NPLR was far above the limit which means that loan portfolio was in bad situation. This is because of the problem of non-repayment of corn farming in Eastern Province as explained before.

5. FINDINGS

5.1. Summary of Major Findings

The present study was “relationship between Credit Risk Management and Loan Portfolio in Commercial Banks of Rwanda: A case of Urwego Opportunity Bank (2012-2016)”; the problem as was stated by The National Bank of Rwanda (2016), the asset quality of Rwanda’s banking system remains healthy, despite a slight increase in NPLs in 2016. In Urwego Opportunity Bank, this problem has been proved by ratio of NPLs which is moved from 1.7% in 2015 to 14.8% in 2016, where the limit ratio was 5%. In UOB loan loss provisioning level has significantly increased in 2016 compared to 2015.

The study distributed a questionnaire which assisted to examine the relationship between credit risk management and loan portfolio in Urwego Opportunity Bank. The sample size was 15 selected from 77 employees of credit department in UOB. In collection of data, the participation rate was 100%. The secondary data was gathered from financial reports of UOB. The data was analyzed by using (SPSS) version 21.

In respect to the specific objective one which was to examine the influence of credit risks management on loan portfolio in UOB from 2012 up to 2016, the study found the following:

The overall mean of 3.13 indicated that lending policies are highly implemented; the overall mean of 3.08 shown that lending decision is well made. The overall mean of 2.64 indicated that the recovery techniques are effectively applied; the overall mean of 3.03 shown that loan risk monitoring is performed. The all above items are evaluated with a high mean that is effort has been made to achieve better credit risk management in UOB.

The specific objective two was to analyze the management of loan portfolio in UOB from 2012 up to 2016, and the study found that management of loan portfolio is evaluated with 2.8 a high mean. This shows that in general, loan portfolio is well managed although the ratio of NPL has not decreased. This is because in 2016, the UOB has granted loan in corn farming in Kirehe, Kayonza and Bugesera districts and unfortunately climate change due to excess of sun, from August 2016, has led to crop failure. And then, the borrowers could not repay.

The specific objective three was to determine the relationship between credit risk management and loan portfolio and the study found that the correlation coefficient of 0.404 with p-value of 0.135 is low and not significant which means that credit risk management and loan portfolio are not associated in the understudy case and the time scope.

5.2. Conclusion

According to the research findings, the researcher concludes that lending policy, lending decision, loan recovery techniques and loan monitoring are well managed in Urwego Opportunity Bank and show positive relationship with loan portfolio management.

Nevertheless, in 2016, there were external factors such as natural disasters caused by climate change due to excess of sun that are not controllable or inevitable.

The study reveals that there is no significant relationship between credit risk management and loan portfolio; in UOB within the years 2012 up to 2016. That shows by the results of the study where p-value of 0.135 exceeds 0.05 which is hypothesis level of significance. According to the results drawn from the study, the researcher concludes that there is no significant relationship between credit risk management
and loan portfolio due to an external factor which is climate change that affects the borrowers to repay the loan.

5.3. Recommendations

In regard to findings related to the non-control of natural disasters, one can advise financial institutions specifically Urwego Opportunity Bank, to add in loan requirements agriculture insurance. In this line, borrowers like farmers who likely to face this challenge of climate change or disasters like draught, flood and hurricanes should have agriculture insurance to minimize risks.

I would recommend UOB to advise farmers to apply irrigation system in order to avoid the repayment delay due to draughts. In addition, UOB should ensure that farmers are ensured in order to avoid unexpected weather conditions.

Tables below, there are some suggestions from respondent’s views.

<table>
<thead>
<tr>
<th>Table 5.1. Way in which the problem said can be solved</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitor all loans regularly</td>
<td>1</td>
<td>6.7</td>
</tr>
<tr>
<td>Respect lending policies</td>
<td>9</td>
<td>60.0</td>
</tr>
<tr>
<td>Find a way on how to get rid of loan risks</td>
<td>1</td>
<td>6.7</td>
</tr>
<tr>
<td>Make policies more clear</td>
<td>1</td>
<td>6.7</td>
</tr>
<tr>
<td>Use of new recovery techniques</td>
<td>2</td>
<td>13.3</td>
</tr>
<tr>
<td>Think on future economic changes</td>
<td>1</td>
<td>6.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Source: primary data, 2018

<table>
<thead>
<tr>
<th>Table 5.2. Solution for achieving loan portfolio quality in UOB?</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enough training to loan officer</td>
<td>1</td>
<td>6.7</td>
</tr>
<tr>
<td>Prevent all credit risks or minimize them</td>
<td>2</td>
<td>13.3</td>
</tr>
<tr>
<td>Strong analysis</td>
<td>5</td>
<td>33.3</td>
</tr>
<tr>
<td>Give loan to all kind of people</td>
<td>1</td>
<td>6.7</td>
</tr>
<tr>
<td>To give loan to people with repayment capacity</td>
<td>4</td>
<td>26.7</td>
</tr>
<tr>
<td>Respect client's requests</td>
<td>2</td>
<td>13.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Source: primary data, 2018

For further researchers, I recommend them to study the extent to which credit risk management as external factors affect loan portfolio. I recommend studying the remaining internal practices to succeed credit risk and loan portfolio management. I also recommend taking into consideration intervening variables to the relationship between credit risk management and loan portfolio.

REFERENCES


