

Credit Risk Management of Commercial Banks in Nepal

Shreya Pradhan¹

Ajay K. Shah²

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Abstract

The study is primarily focused on credit risk assessment practices in commercial banks on the basis of their internal efficiency, assessment of assets and borrower. The model of the study is based on the analysis of relationship between credit risk management practices, credit risk mitigation measures and obstacles and loan repayment. Based on a descriptive research approach the study has used survey-based primary data and performed a correlation analysis on them. It discovered that credit risk management practices and credit risk mitigation measures have a positive relationship with loan repayment, while obstacles faced by borrowers have no significant relationship with loan repayment. The study findings can provide good insights to commercial bank managers in analysing their model of credit risk management system, policies and practices, and in establishing a profitable and sustainable model for credit risk assessment, by setting a risk tolerance level and managing credit risks vis-a-vis the prevailing market competition.

1. Introduction and Study Objectives

Banking and financial institutes are prone to various risks as an institute responsible for utilising funds of depositors and circulate funds in the market. Risks faced by banks are led by change in various factors, such as, interest rate, foreign exchange rate, and so on. However, credit risk has a greater impact on the profitability and performance of the bank (Nepal Rastra Bank, 2018). Loan interest, non-interest income and investment returns are the profit-making model for banking and financial institutions where the model includes maximum share of

¹ Ms. Shreya is an MBA graduate of Ace Institute of Management, Affiliated to P.U., Nepal. She can be reached pradhan.shreya49@gmail.com

² Mr. Shah, an MPhil from Tribhuvan University, is the Research Director of Ace Institute of Management, Affiliated to P.U., Nepal. He is currently the PhD Scholar at Kathmandu University. He can be contacted at ajayshah@ace.edu.np

loan interest in profit. Constant changes in policy and higher demand for loans tend to require greater utilisation of the funds. BFIs are regulated by the government body and influenced by their profit motive also. Regulators have even begun to consider using banks' internal credit models to devise capital adequacy standards (Santomero & Melon, 1997). Thus, funding for small and big businesses is a more significant and reliable investment of funds with promise of higher return.

Efficiency of staff, policy of the bank, asset quality evaluation, assessment of borrowers and many other factors determine the productivity of the investment of the fund. The unproductive loans have greater impact on the commercial bank performance as well as profitability (Said, 2018). The utilisation of fund in the unproductive sector, however, has unexpected and huge lags. Bad loans are followed by higher loan loss provisions, liquidity problem, reputation issue, ultimately leading to loss of valuable customers and huge chunks of profitability of the bank. Credit risk management is a crucial function of banking and financial institutes as it basically does the business of lending and borrowing of the money mainly belonging to shareholders and depositors (Treacy, & Carey, 2000). Besides this, BFIs play an important role in circulating money in the economy through loans and funding the business enterprises. Risk arises while extending loans. Loans and repayments of the loans on time determines performance and profit that bank makes and also ascertains loss it has to face as higher the debt higher will be the provision for the debt (Bhattarai, 2016). It is essential for any financial institute to control and maintain credit limits, as BFIs are major sources for injecting funds in the economy, thus the economy is also inversely affected by losses faced by credit risk mismanagement.

The main focus of the study is to analyse the relationship of credit risk management practices, credit risk mitigation measures and obstacles faced by banks with loan repayment behaviour of clients. This study can provide helpful information on policies and practices related to credit risk management being followed by commercial banks of Nepal, which ultimately helps understand scenarios related to credit risks faced by customers and commercial banks with cyclical and vicious impact (Nepal Rastra Bank, 2017). Thus, it has added value as scenario analysis of the credit risk management in banking sector in general along with complexities for managing credit risks for the banking sector. The main issue of this study is the credit risk assessment in the financial institutions based on their internal efficiency, assessment of assets and borrowers. It also focuses on the policies for the credit risk mitigation as well as the problems being faced in credit risk management by Nepali commercial banks.

2. Literature Review

Various studies of academicians and researchers regarding credit risk management, consecutively explains the impact on performance, profitability and sustainability and competitiveness of the banking industry. Industrial and macroeconomic factors affect the impaired loan ratio of banks using the grey

incidence analysis through the incidence identification method (Jia, Wen, & Chuan-Min, 2009). The study suggested that impaired loan ratio is different with diverse industry's influence and the macroeconomic and its effects. Furthermore, Tian (2008) proposed a credit risk assessment model of commercial banks based on the Fuzzy Probabilistic Neutral Network Model. It combines the relative membership degree in fuzzy mathematics with the Probabilistic Neutral Network (PNN). It has compared the fuzzy comprehensive evaluation and comprehensive index as well. FPNN provides the generic mode for evaluation and the result of the objective.

Yin, Xie, and Xu (2016) introduced DEA (data envelopment analysis) to analyse credit risk management efficiency based on the current efficiency. It has concluded the non-state-owned commercial banks credit risk management efficiency in Chinese's banking industry are higher than the state-owned one. Moreover, the study of Fatemi and Fooladi (2009) stated that credit risk would arise from uncertainty in a given counterparty's ability to meet its obligation. The survey of financial institutions based in the USA. It identifies counterparty default risk as the single most important purpose served by credit risk models utilised. Richard et al. (2008) focused on developing conceptual models for credit risk management systems in an economy with least developed financial sector.

Arora and Singh (2014) found the area of problem and obstacles in credit risk management of business loans in Indian Public Sector Banks. Major findings of the paper can be summarised as the bank has well designed credit risk policy and strategy. Al-Tamimi and Al-Mazrooei (2007) examined the degree to which the UAE banks used risk management practices and techniques in dealing with different types of risk. This study found foreign exchange risk, credit risks, then operating risks as the three most important types of risk facing the UAE commercial banks. Finally, it also discovered a significant difference between the UAE national and foreign banks in the practice of risk assessment and analysis, and in risk monitoring and controlling.

Njanike's (2009) study based on the banking crisis of Zimbabwe explored the causes of failure to effectively manage credit risks, leads to banks' failure in Zimbabwe Banking. The research clearly supported the assertion that poor credit risk management contributed, to a greater extent, to the bank failures in Zimbabwe.

Das and Ghosh (2009) examined the problematic loans of Indian state-owned banks with macroeconomic factors and microeconomic variables. It found GDP growth (macro level) and real loan growth, operating expenses and bank size (at the bank level) play an important role in influencing loan problems. Further, Richard (2008) developed a conceptual model to be used in further understanding the credit risk management (CRM) system of commercial banks (CBs) in an economy with a less developed financial sector. Similarly, Cornett, McNutt, Strahan, and Tehranian (2011) studied how banks managed the liquidity shock

that occurred during the financial crisis and adjusted their holdings of cash and other liquid assets. It illustrates how this expansion of liquidity is distributed across the banking system.

Han (2015) examined the credit management experience and insufficiency of Chinese commercial banks and then implied some countermeasures to control the credit risk of commercial banks in China. Konovalova, Kristovska, and Kudinska (2016) projected a model of credit risk assessment on the basis of factor analysis of retail clients / borrowers in order to ensure predictive control of the level of risk posed by potential clients in commercial banks engaged in consumer lending. It demonstrated the creation of a model of borrowers' internal credit ratings and the development of the methods of improving credit risk management in commercial banks.

Similarly, Duaka (2015) asserted that bank profitability is inversely influenced by the levels of loans and advances, non-performing loans and deposits thereby exposing them to great risk of illiquidity and distress. Earlier, Poudel (2012) explored various parameters pertinent to credit risk management as they affect banks' financial performance. The study revealed that all these parameters had an inverse impact on banks' financial performance; however, the default rate is the biggest predictor of bank financial performance. Commercial banks practise credit risk management with thorough loan appraisal, asking for collateral and checking the credit history of the borrowers (Afande, 2014). Gizaw, Selvaraj, and Kebede (2015) examined the impact of credit risk on profitability of commercial banks. It emphasised on enhancing credit risk management to maintain the prevailing profitability of commercial banks.

Saurina and Salas (2002) studied on the bank supervisory policy issues, its uses as early warning indicators, the advantages of bank mergers from different regions, and the role of banking competition and ownership in determining credit risk. On the basis of these studies, a theoretical framework for this research paper has been developed.

3. Research Methods

The study is quantitative and descriptive in nature, as it elaborates the association between obstacles faced in credit risk management of banks, risk assessment measures, risk mitigation measures and credit repayment by borrowers. Primary data has been used for analysing the relationship between dependent and independent variables. The study identified the higher-level managers working in commercial banks of Nepal located in Kathmandu as its target population. Questionnaires were collected from 127 respondents from 15 Nepalese commercial banks out of 28 commercial banks with 9 participants from each bank. Different levels of staff were selected on the basis of a convenient sampling method, a non-probabilistic technique. Questionnaires were directly distributed to respondents in accordance with their department and scope of studies covered

by their duties. The questionnaire consisted of the close-ended questions that offer the respondent only limited alternative responses. The research is based on self-administered questionnaires and it was distributed to every respondent personally.

The data analysis includes descriptive statistics (percentage, mean score and standard deviation), and inferential statistical tools of correlation analysis to establish the relationship between the studied variables. The conceptual framework has taken loan repayment as its dependent variable, and credit risk management practices, credit risk mitigation measures and obstacles as independent variables as shown in Figure 1.

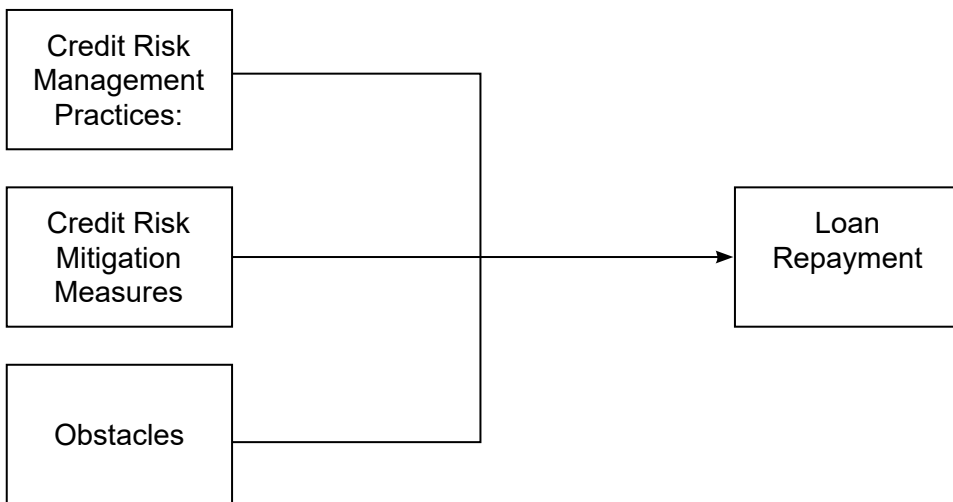


Figure 1. *Conceptual Framework*

Reliability of the data collected was tested through a Cronbach Alpha Reliability Test. The alpha values of credit risk management practices, credit risk mitigation measure, obstacles and loan repayment are above 0.8 that shows the internal consistency of the data, as the acceptance level of reliability is 0.6 and that above 0.7 is considered to be good enough (George & Mallery, 2003).

The following hypotheses were formulated to identify various factors affecting loan repayment at selected commercial banks in Nepal as well as major obstacles for credit risk management being faced by them.

H₀₁: There is no significant impact of credit risk management practice on loan repayment.

H₀₂: There is no significant impact of credit risk mitigation measure on loan repayment.

H₀₃: There is no significant impact of obstacles on loan repayment.

Table 1

Reliability Test

<i>Construct</i>	<i>Minimum reliability index</i>	<i>Cronbach alpha</i>	<i>Result</i>
Credit Risk Management Practices	0.6	0.835	Reliable
Credit Risk Mitigation Measures	0.6	0.880	Reliable
Obstacles	0.6	0.891	Reliable
Loan Repayment	0.6	0.816	Reliable

Note: From Researchers' Calculations based on Survey, 2018 (structured questionnaire on Likert scale)

4. Data Analysis and Discussion

This section of data analysis presents the simple summary of about the sample and data. Descriptive summary shows statistics of data collected.

Table 2

Descriptive Analysis by Work Experience and Work Level

<i>Variables Work Experience</i>	<i>Frequency</i>	<i>Per cent</i>
1-3 years	37	29.1
4-6 years	24	18.9
7 years and above	66	52.0
Total	127	100.0
Executive	2	1.6
Manger	44	34.6
Officer	60	47.2
Assistant	21	16.5
Total	127	100.0

Note: From Researchers' Calculations based on Survey, 2018

The total number of respondents includes 29.1 per cent of employees with experience of less than three years, 18.9 per cent of employees with experience between four to six years and remaining 52 per cent with experience of more than seven years. Thus, the sample of this study included more experienced employees. The total number of respondents include 60 officers, 44 managers, 21 assistants, and two executives. Hence, the sample size includes more officer level employees with more than seven years of experience.

Table 3

Descriptive Analysis for Dependent and Independent Variables

<i>Variables</i>	<i>N</i>	<i>Mean</i>	<i>s.d.</i>	<i>Ranks (based on mean)</i>
Credit Risk Management Practices	127	3.8696	.52023	1
Credit Risk Mitigation Measure	127	3.6686	.58780	2
Obstacles	127	2.3092	.80560	4
Loan repayment	127	3.6430	.85468	3

The statements were rated from 1-5. (1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly agree.)

Note: From Researchers' Calculations based on Survey, 2018

The table 3 shows that the average mean score for all the variables of credit risk management practices exceeded 3 that indicates there is the above-average level of credit risk management practices being followed at the banks. The respondents agreed that there is a well-designed credit risk policy and strategy with clearly defined roles and responsibility of the credit risk management department. Similarly, it shows that judgment and experience play a greater role for the decision making and credit risk management and required assessment of the borrowers is done before loan disbursement. Similarly, there is a moderate level of control over loan disbursement and management practices.

The table further shows the average scoring on credit risk mitigation i.e. above 3, which means the acceptable level of credit risk mitigation measures followed in commercial banks is general. Besides the precautionary actions such as follow-up on problematic loans, there is a multi-tier credit approval process. Similarly, the average mean score exceeding 3 indicates that various mitigation measures such as regular dissuasion for credit risk management at bank and feedback from customer and staff, clearly defined responsibility and authority relationship is fairly followed. Besides this, a fair level of autonomy at work for decision making and loan sanction is identified based on organisation policy and other supportive criteria. Similarly, analysis depicts that bankers regularly review ratings for the borrowers and also there is systematic evaluation of credit rating of the borrower, risk assessment and loan sanction. However, subjective analysis for the credit risk management process is reduced. Additionally, sanction of the loan is done on the basis of risk-based appraisal of the borrower.

On the other hand, the average score of the responses to the variable of obstacles has gone below 3; it shows that banks face no significant obstacles for their credit risk management. However, there is a moderate level of problem relating to lack of financial human and technical resources. Similarly, a moderate level of risk is

caused by insufficient training for employees and lack of integration system in departments for the credit risk management system. Employees are well aware of the impact of credit management on performance and profitability of the bank. There are well defined roles and responsibilities at the bank and there is proper integration among departments such that conflict has been managed so far. Similarly, there is a proper credit rating approach and is used actively in every commercial bank for monitoring and assessing borrowers for reducing their non-performing loans. However, there are still a few loopholes for risk and losses caused by credit risk, as there is a moderate level of problems caused due to the absence of strict regulatory provisions. Further, banks have standardised credit rating approach for the risk-rating and reviewing process. Nonetheless, it requires some significant improvement as there is a moderate level of problem resulting from the standardised process for credit rating. BFIs have organisational practices such that employees are not stressed and overworked. Technical team should assure that data has been managed in an efficient manner to use as reference when required.

The average score of response to the credit risk department above 3 signifies that there is a positive response from borrowers regarding timely loan repayment to the bank. The average of 3.78 shows that loan EMI payment is mostly made on time along with interest payment. As a whole, there is recovery of loan and interest by the stipulated time.

Relationship between Credit Risk Management Practices, Credit Risk Mitigation Measure, Obstacles and Loan Repayment

A correlation analysis is recognised as a useful way to summarise the relationship between two variables with a single number that falls within -1 to +1. Table 8 depicts the strength of relationship between the studied variables. Likert scale questions were used to measure all the variables of credit risk mitigation measures, obstacles, loan repayment and credit risk management practices.

Table 8

Correlation between Dependent and Independent Variable

	<i>X1</i>	<i>X2</i>	<i>X3</i>	<i>X4</i>
<i>X1</i>	1	0.793** 0.000	-0.588** 0.000	0.215** 0.015
<i>X2</i>		1	-0.705** 0.000	0.288** 0.001
<i>X3</i>			1	-0.470 0.600
<i>X4</i>				1

***. Correlation is significant at the 0.01 level (2-tailed).*

Note: From the Researchers' Calculations based on Survey, 2018

The table above shows the correlation between the dependent and independent variables, where,

X1= Credit Risk Management Practices

X2= Credit Risk Mitigation Measures

X3= Obstacles

X4= Loan Repayment (Dependent Variable)

The correlation coefficients between the dependent variable of loan payment and independent variables (*Credit Risk Management Practices, and Credit Risk Mitigation Measures*) have been found statistically significant and positive, as their corresponding p-values are lower than level of significance (α) = 0.05 (Table 8). It implies that *credit risk management practices, and credit risk mitigation measures* do influence the loan payments in Nepali commercial banks. On the other hand, loan payment was found to be negatively associated with *obstacles*, though with statistical insignificance.

Overall, the findings imply that risk management practices help banks to reduce credit risk as borrow tends to pay loan on time similarly credit risk mitigation measure taken by bank reduces credit risk by increased loan repayment behaviour. However, obstacles faced by banks increase credit risks by reducing loan repayment by borrowers.

5. Conclusion and Implications

The present study sought to measure credit risk level in the commercial banks, to analyse the banks' credit risk management policy and to examine different obstacles or problems resulting from credit risks. The study covered more experienced employees of the banks from the management levels. The major conclusion of the study is that credit risk mitigation measures and credit risk management practices are positively associated with loan repayment in the banks, while obstacles have no relation with the loan repayment. Findings have justified the study objectives and the underlying hypotheses. The study also justifies that credit risk iteration as well as credit risk management practices has been well implemented in Nepali banks as discovered from the mean scores of the responses. Thus, it can be concluded that credit risk management such as complying with credit risk policy, clearly defined roles and responsibility for the responsible employees of the credit risk department. Similarly, banks should provide the employees with required skills and knowledge to help them perform regular activities and make tactful decisions to ensure profitability and performance of the bank. Commercial banks tactfully follow the credit risk mitigation measures so as to avoid the risk of having NPAs and LLPs. The process from decision making to the loan sanction should be carefully monitored and analysed to reduce credit risk and improve loan repayment.

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