A RESEARCH REPORT ON COST EFFICIENCY AND CREDIT MANAGEMENT VARIABLES OF BANKING INDUSTRY: A STUDY ON SUNRISE BANK AND SIDDHARTHA BANK

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Abstract

Cost efficiency in banking industry is the major issue in the context of Nepal. As the banking system has negative impact of global crises and it is not easy to come over in such situation. The developing country Nepal can be more effected by a small issue. In such context, the efficiency and cost optimization have become essential for commercial banks. According to (Panta & Bedari, Cost Efficiency of Nepali Commercial Banks in the Context of Regulatory Changes, 2019) banks and Financial Institutions (banks) play the role of intermediary between saving and investment by allowing mobilization of saving from diverse sources to allocating them to more productive activities, ultimately benefitting the whole economy. This research paper tries to find out the determinants that really affect in achieving cost efficiency. Thus, by choosing only 2 banks in overall banking industry it tries to find out the reason behind cost inefficient. NPLTL, LLP, RWA, CAR and ROA has been taken as an indicator to analyze the cost efficiency.

Keywords: NPLTL, LLP, RWA, CAR and ROA.

1 INTRODUCTION

Credit is a broad term that can be defined in various ways. Simply defining the term credit is that trust that lets to borrow money from another party. Credit management is general used in large companies, where the goal of the business in more focused towards sale of own product to the customer. The function of credit management includes all activities of the companies that intended to ensure customer are paying their payment in accordance with defined terms and conditions. Whereas, cost efficiency is the way of minimizing the cost that occurs in the operation of business function. (Credit Tools, 2020)

Basically, the function of the commercial bank is to collects deposit from individuals and invest in as a loan and advances to borrowers by taking interest. While operation these function by commercials banks, there can be different risk related to credit, liquidity, interest risk, operation risk etc (KALPANA & RAO, 2017). For sound banking system, the bank should be able to manage credit risk along with cost efficiency strategy. In the context of Nepal, Banks are one of the most profitable organization also it has great contribution to Nepalese economy. Also, there are 27 commercial bank and it is for sure that there is high level of competition. Thus, the bank has to be efficient not only for the economic growth of the nation but also it has to be distinct from its competitor's for survival of business. For the financial institutions like banks, efficiency is a major factor that enhances profitability, greater amount of funds channel, better prices and service quality for consumers.

In the context of world banking industry, in last two decades credit crises started from late 2007, as world banking industry increasingly integrated. Technology has also been grown rapidly and also deregulation in interest rate contributed to progression of financial integration that increased level of competition in financial sector (Farhi & Cintra, 2009). At the end of the day these both factor emphasis on the importance of improved efficiency in the banking sector. Besides the importance and benefits in banking industry, it has been considered as risk business. While providing the financial services to the people, they assume various kind of risk whereas credit risk plays the significant role of in total risk. The banking industry has been facing difficulties over the years, the major cause of serious banking problems are low standards for borrowers, poor portfolio risk management system, and lack of attention to the change in economic and financial sector. Credit

risk is measured in various ways in terms of loan provided, types and nature of collateral, quality of fund, utilization of fund by borrowers. Hence this research focuses on credit management and cost efficiency at financial institution of Nepal.

1.1Background of Study

Sound and efficient banking system is necessary for overall financial institutions to speed up the development of nation by strengthening economically. As seen in history of Nepalese banking industry, modern banking system was developed by 1937 A.D. (www.kullabs.com, 2020). Nepalese government took liberal economic policy in 1984 A.D. and then joint venture started operating with the establishment of Nabil Bank (Khanal, 2005).With the development of financial institutions, the risk on the processing of banking is also increasing. All the financial institutions are suffering from credit management risk and also in trouble to manage cost efficiently and effectively. Each and every organization wants to minimize the expenses. The firm can retain competitiveness by regular monitoring in cost management and ensure continuous growth and innovation in cost minimization.

Financial institutions collect the funds from general public, and invest those collected fund as a loans and advances in order to gain interest income. Profit earns by commercial banks and operating cost are initiated by the interest collected form borrower. If the interest and principles are not collected on time then the actual threat begins to arise that is called bad loans. If such threats reach to high level then the existence of bank could be in difficulties. (Microfinance, 2009). Thus, necessary plans and preparation should be done earlier to tackle with such situations. In addition to above credit risk, there are other various risk such as, liquidity risk, foreign exchange risk, interest rate risk.

Bad loans are caused because of borrower's inability of paying loan in time. When a borrower is not capable to pay back the principle and interest it is called a bad loan. It is the failure of borrower it results a negative impact on financial statement of the organization. (LUOGA, 2013) If financial institution cannot generate profit then a financial loss would be generated as a replacement for earnings. Such operation leads to negative impact on the commercial bank. Thus, to manage the credit risk, financial institutions need to avoid bad loans by taking consideration the fact that there can be various types of effects. Thus, bad loans make delay in profitability in the financial institutions and makes credit operation difficult by limiting the lending activities. If such situation occurs, it impacts badly in the main income source of the bank is lending loan. (Oteng, Ampomah, & Kyeremeh, 2017) How non-performing loans affects in commercial banks is the major issues in banking industry. It has been argued that the increase in non-performing assets will affect disadvantageously. Side by side it needs more attention of management and additional responsibilities and expenses to deal with such issues.

The below expenses will be occurred to deal with such situation.

a) Bank and financial institutions need to monitor further of the offending debtors and the value of collateral provided for loan
b) Possible work out arrangements and the cost of analyzing and negotiating
c) Costs of holding, maintaining, and finally securing collateral in the event of a default occurrence
d) The diversion of senior management attention away from solving other operational problems

Taking into the context of Nepal, (Gajurel, 2010) has examines the cost effectiveness of commercial banks of Nepal. The study shows that private banks are more cost efficient than the government owned banks. Also, it has declared that the size of the bank also has inverse impact on cost efficiency. Side by side, the banks which has higher capital, higher loan ratio, higher profit tends to be more cost efficient. Similarly, having high credit risk ratio are tends to be less cost efficient. (Neupane, 2013), in this study it is found that the banks with higher profit and lower financial ratios of leverage and capital adequacy ratio are better organized in the field of cost and higher leverage and capital adequacy are in higher side then there is problem in managing cost in the organization. The most cost-efficient bank highly valued to the loans and advances. Furthermore, the inability to handle properly, lack of efficient manpower and understanding the method of minimizing the cost

among the employees of bank for the project and idea management leads to cost inefficiency.

1.2Problem Statement

With the development of financial institution there is directly affects positively in whole economy. Also, bank has major role in the development in economic system in underdeveloped and developing countries. Nepalese banking industry is facing serious problem regarding risk and cost efficiency, that's why most of the Nepalese commercial is cannot perform in effective manner. Although the growth and progress of financial environments and diverse financial mediators, banks maintain their central role in the economic systems of many developed and developing countries.

Commercial banks have their credit risk in higher side. In the history of banking industry of Nepal, it can be seen that the major reason for failure is not being able to manage the credit portfolio efficiently. Credit risk arises from the lending practices. It starts from bank's dealing with individuals, small and medium firm, corporates, and with other financial institutions. The safety of bank is depending upon how the bank is able to manage credit portfolio? In Nepal, the term credit risk has been a major issue from last few years (Malla, 2017, December)

To create favorable banking industry environment in the nation, several important requirements are available that should be achieved or realized, like as macroeconomic factors and political stability, structural transformations and the formation of specific new controlling and supervising agendas and strategy through the region and these all factors are essential for banking sector.

Proper loan management is the key to achieve optimum cost efficiency. Credit management is one of the most essential activity and cannot neglect it. It is the mechanism that to make sure that the customers will pay the for the use credit facility. Credit management starts with the granting services or facility and does not end until the customers settled the enjoyed facilities. (Ndab, 2018). Hence if the bank is able to manage the credit portfolio properly then it helps to increase profitability and sustainability. However, if it failed to achieve proper management, then there will be threat for the survival of the company. Similarly mismatch between assets and liabilities also affect in liquidity which decline banks overall credit ratings.

From last decade, credit and cost management has been the major issues in commercial banks. It was found that failure of banks caused of best practice limitation. Further, because of high ratios problem banks are not able to obtain cost efficiency. Cost inefficient banks tend to have inappropriate loan management. For example, if the bank has poor management team in higher level then there would be problem in managing both cost and credit (Berger & De Young, 1995). Observed works have verified that not only bank inefficiency contributes to the risk of failure, but that asset quality deteriorates rapidly before the bankruptcy, as well. The performance of the banks can be determined by Non-performing loan that banks carry throughout the year. Having a smaller amount non-performing loan refers to economically more strength. If there is higher amount of non-performing loan, then there can be weak financial condition. Similarly, non-performing loan directly affect in cost efficiency. (Bhattarai S. , Determinants of Non-Performing Loan in Nepalese Commercial Banks1, 2015). In such cases, banks use higher cost in order to observe these types of loans, decreasing efficiency.

In the context of Nepal, from late 2008, NRB had started to implement more regulations to control any unusual risk that can cause cost inefficiency. As Nepalese banking industry had faced lots of threats and challenges, now it has been appeared as disciplined and matured. (Panta & Bedari, Cost Efficiency of Nepali Commercial Banks in the Context of Regulatory Changes). There some macroeconomic variables which affect in banking. Different studies were carried to explore the determinants of credit management and cost efficiency in Western Europe and East African countries such as (WOKABI & FATOKI, 2019) (GADISEGEZU, 2014) (Kočišová, 2016). However, the results of all the above results hose studies were unreliable in all the situation. This inconsistency of results may be due to the data analysis method used by the various investigators and the differences in the economic situation of the countries where the banking sector operates. For example, you have found a positive effect on real GDP growth and inflation. For instance, found positive significant effect of real GDP growth and inflation rate on costs. Similarly, it was found that real GDP growth

rate and ROE have negative (Olgun, Inamlik , & Berument, 2008) whereas inflation rate have positive significant impact on bank expenses (económica, 2018) while, loan to deposit ratio and capital adequacy ratio have insignificant effect on bank expenses. However, it was found that GDP growth rate and inflation have insignificant impact on survival of the banks. (Kiganda, 2014)

From the bank capital, there can be expected two potential outcomes of position on efficiency. On the one hand, higher capital means that there is higher solvency and liquidity. A good level of liquidity and solvency state of bank means that banks can use and utilize the fund at low-cost price and it results enhances efficiency. On the other side, if the bank holds higher capital ratio means then the banks has to go with fewer uncertain assets even though such assets would generate less income. As the report is trying to find out the cost efficiency and credit management, if the efficiency of the bank is measured by cost to income ratio, such condition means banks are less efficient.

The health in the banking sector stands very important because the financial market is not fully developed in Nepal. The sound financial performance of commercial bank is significant for development of a country. (Neupane, 2013) Revealed that banks which generate higher profit with lower leverage and higher capital adequacy ratio were realized to be further cost efficient and credit of bank seemed to be extremely treasured than other bank outputs such as investments and securities. (Gajurel, 2010) Investigated the impact of problem loans and cost efficiency and determinants of bad and weak loans and cost efficiency of Nepalese commercial banks and revealed that problem loans have significant impact on cost efficiency of banks and suggests specifically that bank should try to minimize problem loans in order to achieve cost efficiency.

1.3Objectives

The major purpose of this study is to analyze the link between credit management and cost efficiency in financial institutions of Nepal, whereas the specific objectives of this study are as follows:

- To analyze the structure and pattern of credit management variables and cost efficiencies in a Financial Institution
- To examine the determinants of cost efficiency for healthy financial practice.
- To determine the impacts of non-performing assets on the cost efficiency for effective financial management.

1.4Research Questions

- What is the structure and pattern of total operating expenses to total assets and total staff expenses to operating cost?
- Is there any relationship between credit management variables and cost efficiency in Nepalese commercial bank?
- How does the credit management impact on the cost efficiency of banks?
- Does the loan loss provision of banks affect cost efficiency?
- Is there any relationship between non-performing loans and cost inefficiency of banks?
- What is the impact of capital adequacy ratio on banks' cost efficiency?
- Do risk weighted assets determine the banks cost?
- What are the major factors affecting cost efficiency of Nepalese commercial banks?

1.5Significance of the Study

The factors that lead to bank failure need to be recognized and in every bank it is a major concern for the higher level of authorities for managing inside the banking industry. Since the implications for economic policy differs depending upon its origin the banks need to grow with the behavior of borrower and situation of economy of the country. In the banking industry it is obvious that the non-performing loans has its great impact on cost efficiency. Hence it is important to the managers and supervisors of bank to limit its risk exposures via controlling loan attentiveness and preferring diversification of loan in various field such as SME, DSL, Retail, and Corporate and so on. The influence of cost efficiency on risk-taking would suggest that non-performing loans are more caused

by internal strategy and plans for investing the funds. Therefore, it is necessary that the regulators and supervisors of the bank should focus on achieving cost efficiency through better training and development programs of employees of bank and also through increased foreign ownership. Hence those factors can be identified and can work for it.

This study is a significant endeavor in enhancing the knowledge on link between credit management and cost efficiency in banking industry. This study also provides as a future reference for the students who are willing to do general study regarding cost efficient in banking industry further to acquire related information about the determinants of problematic loans and cost efficiency in Nepalese commercial banks. Moreover, this study provides recommendations on how to minimize problem loans and enhance cost efficiency of banks in Nepalese context. Hence, this study is helpful to the banks and financial institutions to understand the impact of credit management on cost efficiency and take necessary corrective actions.

1.6Scope of the study

Talking about the scope of the study that this result can be the helpful tool for a researcher and students as it can create a basis for the further deep study. Researchers and academics can use this study as a basis for discussion on achieving cost efficiency through the credit management and cost efficiency. It also makes available the suggestion for further research with empirical studies that they will use in their research projects. Further, this study will also provide supplement to the body of knowledge in the field of finance by joining gap between credit management and cost efficiency research in general.

Similarly, it makes lots of contribution in building understanding the subject matter and enhancing the techniques of credit management and cost efficiency that surely impact on achieving smooth operation. From a theoretical viewpoint, this study offers a comprehensive and detailed outline of studying the effect of credit management and cost efficiency in the profitability of the banking industry. Further, from this research project it can be expected that it will support to policy makers in their effort and determination to renovation sector. Finally, it intends to be of great applicability to the organizations under study as well as other financial institutions.

2 LITERATURE REVIEW

Bad loan is a type of loan when the customer does not pay the repayments on time or never repaid. Financial institutions always focused on get repayment on time so that banking operation runs smoothly and systematically without any provision. Generally, in banking terms, the loans that crosses not more than 90 days having past dues is called non-performing loans. There are various reasons that leads to nonperforming loan in banking industry. The main causes are such as credit culture, sudden market change, real estate changes, bank's performances (Lacoma, 2020). Credit management is the one of the most importance activity, which should be managed properly. Sound credit management of banking industry. If the regular repayment becomes past due, financial institutions need additional effort and expenses to deal with it. The extra expenses could be, the additional monitoring of those negligent borrowers and value of collateral, negotiating and arranging the expenses of possible outcomes, cost of arranging collaterals if default occurs, expenses occurs to defend bank's safety and proper bank's supervision and market participants, further to take precaution to take high quality loan that are active currently. Most of the above cost are default regarding loan work out will be increase if the problems with loan increases. Thus, it is obvious that poor credit management leads to cost inefficiency.

In financial institutions lower cost efficiency is a result of the poor management of banking activities, senior management inappropriate decisions, which is practiced by each and every employee of the organization in day to day operations. Generally, in most of the cases higher level administrators do not observe and prepare control mechanism for operating expenses properly also not able to manage loan portfolio that is reflected in lower cost efficiency. (worldbank.org, 2020) In such financial institutions, most of the managers do not monitor and control sufficiently on their operation cost and credit management. The reason behind such improper practices could be lack of skills to control credit portfolio, could not able to value the collateral pledged against loan. Hence,

the practice of non-monitoring and controlling brings the higher number of non-performing loans.

2.1 Reviews on studies

In the article, 'Problem loans and cost efficiency' by (Berger & De Young, 1995), it was stated that, in banking industry, management team not having sufficient knowledge and capability is not able to evaluate the cost and worth of the provided security effectively, which refers to that there is not easy for the supervisors to follow upon its observation of the borrower. If the organization has not proper and latest technology, it will result in administration being not able to regulate and oversee the operating expenditures effectively thus it leads to an increase in problematic loans significantly. They also found that there is positive relationship between capital and return on assets.

The general wisdom of assisting only solvent banks but also insolvent bank in a critical situation should be reconsidered. All the financial institutions would not be success in running the operation for long run smoothly. The reason for failure can be either because of banks are inherently insolvent or because a cumulative unavailability of liquidity renders them insolvent. They showed that the also reverse can happen: bank failures can shrink the common pool of liquidity, leading to a contagion of failures and a possible total meltdown of the system. They showed the benefit of capital in reducing the banks expected bankruptcy cost will be an offset against the cost of capital in reducing liquidity creation (Diamond & Rajan, 2000).

The study on cost efficiency of commercial banks in Hong Kong, it was stated that cost efficiency of the banks has been getting more attention from researchers, and policy makers in recent years accompanied by scale and scope of economics. If the management is able to give a particular role from savers to investors, the weak cost efficiency could be restraining the creation of credit, hence exposing the level of economic performances. Further, inefficiency hampers bank's ability to perform day to day operations and profits. It also enhances loan and advances. The result of this study is that, there is positive relationship between bank size and cost efficiency. (Wong, Fong, Wong, & Choi, 2006)

(Azeem, 2014) Finds out that the existence of foreign-owned banks tends to speed up the technique of financial system to enhance the profitability and smooth operation. The major supportive systems like accounting, auditing and transparency, financial regulation, and rating agencies are accelerating in a systematic way. The presence of foreign banks in domestic market provides more ideas and technique in the field of bank direction and risk management. Also, presence of foreign banks gives the realization to the domestic market that a healthier presence of foreign banks along with joint venture with domestic banks results lower costs of all banks in operation.

The reasons for the non-performing loan is explored in (Bhattarai S. , Determinants of Non-Performing Loan in Nepalese Commercial Banks, 2015). This paper tries to find out the impact of microeconomic variables on non-performing loans in commercial banks of Nepal. Micro economics variables could be inflation, GDP, exchange rate etc. In this research, real effective exchange rate has significantly negative impact on non-performing loans whereas inflation rate has positive impact. Further, having higher interest rate has higher non-performing loans. Similarly, the changing rate of interest also has negative impact on non-performing loans. In the context of Nepal, governmental banks have higher non-performing loans than privately owned banks.

Sound banking system plays an important role in economic development of the nation. The bank performance is generally explained by the cost of management, ownership structure and bank loans. According to the study paper (Naifar, 2010), it was explored that, the bank can perform better if the ownership of the domestic is reduced and increase foreign involvement by expanding openness.

In banking industry, the important factor that affect in efficiency of bank is capital and risk. Bank need to increase their capital as the risk of the organization is increased because bank is the large organization. Thus, the equity portion of the banks provides attention and caution against the risk. The financial institutions that is lacking in monitoring and controlling the credit portfolio, are not able to achieve a perfect level of cost efficiency (Altunbas, Santiago, Gardener, & Molyneux, 2007).

(Kadioglu, Telceken, & Ocal, 2017) investigates in banks of Turkey, that whether the non-performing loans effect in profitability or not. It is explored found that, there is significantly negative relationship

between non-performing loans and profitability of the bank it is measured by the return on equity and return on assets. The study shows higher non-performing loans leads to the lower asset quality and it leads to the lower return on equity and return on asset, and the lower non-performing loans leads to the higher asset quality which leads to the higher return on equity and return on asset.
The various study of German and Austrian banks efficiency on differences among large German and Austrian banks explained that bigger banks or financial institutions could pay less for their inputs than their equivalent another bank and that there could be increasing returns to scale through the allocation of fixed costs. Thus, the expected sign between bank size and cost efficiency is positive (Hauner, 2006).

3 RESEARCH DESIGN AND METHODOLOGY

The research method refers to the various series of steps (Kautish et al, 2008, 2012, 2013, 2020) along with the rationalization of each of these steps that a researcher should follow in studying a problem with certain objectives. The method of study sets out the overall plan for the study. It makes available of a basic outline upon which to study. In the nonappearance of algorithms, the conclusions drawn can be misinterpreted. Before presenting the analysis and clarification of the data, it is necessary to first describe the research method. So, this chapter explains the method used in this study.

3.1Research Design

This study is based on descriptive and causal comparative research designs dealing with various issues. Descriptive research design has been adopted to search and act on adequate information on firm characteristics in Nepal banks. In addition, an attempt has been made to describe the nature of pooled data of commercial banks using descriptive statistics on bank-specific variables such as non-performing loans, risk-weighted assets, loan loss provisions, capital adequacy ratio, and return on assets. Similarly, on the fact that has impact on the cost effectiveness of Nepal commercial banks.
This study establishes a cause and effect relationship between various independent variables (non-performing loans, risk weighted assets, loan loss provisions, capital adequacy ratio, return on assets) and the dependent variable i.e. cost efficiency. Therefore, this study also uses ordinary comparative research design.
This study is based on the financial report's commercial banks of Nepal. Currently there are 27 commercial banks in Nepal. This study consists of 2 sample commercial banks consisting of 10 observations during fiscal year 2015 through 2019. The below shows the list of sample banks selected for the study along with the study period and number of observations.

Below table is the selected Nepalese bank and number of observations takes for the study

Table 2.9.1 Sample size

Bank	**Period**	**Observation**
Sunrise Bank Limited (SrBL)	2015-2019	5
Siddhartha Bank Limited	2015-2019	5

3.2Instrumentation

The study mainly depends on secondary data. These secondary data are collected from several sources such as the Annual Report of the Bank and the NRB Data Base and downloaded from Nepali Paesa. The value of dependent and independent variables of the sample bank is collected from the financial reports. All the values of secondary data is analyzed by using the SPSS system. With the help of SPSS system, Descriptive statistics, correlation, and regression tools are used. It helps to to derive proper relationships between dependent and independent variables that measures the cost

effectiveness.

3.3Description of method of analysis

3.3.1 Descriptive Statistics

This study will use a basic summary of descriptive statistics that is related to the dependent and independent variables of sample bank to explain the cross-sectional characteristics of these variables over the sample period. From the period of 2015 to 2019, mean, minimum and maximum values of the ROA, CAR, NPL, LLP and RWA variables are derived from descriptive statistics and it will be used to describe the characteristics of sample bank.

3.3.2 Correlation analysis

In this study also correlation analysis will be performed. Correlation has been generally accepted to recognize the direction and magnitude of relationship between all independent and dependent variables. Thus, to identify the same correlation analysis will be used. Correlation exactly shows how the two variables move together. Further it also reflects the degree of relationship between the two different variables. In this study the relationship will be described by using Pearson correlation coefficient. The value of correlation coefficient ranges from -1 to +1. If correlation coefficient is exactly -1 then it means that two variables have perfect negative correlation as such that they move together exactly into opposite direction. On the other hand, if correlation coefficient is exactly +1, two variables are perfectly positively related. Thus, this study has tried to identify and explain the relationship between banks cost efficiency using various independent variables.

3.3.3 Regression analysis

For the purpose of setting the statistical significance and strength of the results, the secondary data analysis is based on the regression model specified where this study is relies. It mostly deals with the results from regression from various specifications of the model to examine the estimated relationship of independent variables (RWA, ROA, CAR, LLP and LLP) with dependent variables total operating cost to total assets and total staff expenses to total operating cost which are said as cost efficiency.

3.3.4 Nature and source of data

This study has employed secondary source of data. It consists annual reports of selected Nepalese bank from fiscal year 2015 to 2019. The main source of data is Banking and Financial Statistics published by Nepal Rastra Bank (NRB), data and reports that are uploaded on the electronic site of nepali paesa, NRB directives and concerned by-laws regarding banking performance. In addition to these, different published journals are also analyzed. Bank Supervision Reports published by NRB have also been used to obtain the information regarding cost efficiency, non-performing loans, capital adequacy ratio, risk weighted assets, loan loss provisions, and return on assets.

3.3.5 Data collection procedures

The major variables considered for the study purpose are cost efficiency, nonperforming loans, risk weighted assets, loan loss provisions, capital adequacy ratio, return on assets. After this, the data regarding variables were calculated. Lastly, all the gathered information from secondary sources was undertaken for pooled analysis to answer the research hypothesis and purpose of the study.

Out of 27 commercial banks operating in the country, only two banks are selected. Sunrise bank and Siddhartha bank both are operating for more than 10 years so that it can provide reliable data and more accurate assessment of credit management and cost efficiency.

3.3.6 Data analysis

The theoretical statement of this model is that the cost efficiency of sample banks is affected by non-performing loans, risk weighted assets, loan loss provisions, capital adequacy ratio, and return on assets. The below are the regression models that has been used to experiment the theoretical relation between the relationship between problem loans and cost efficiency and their determinants.

Model 1

In this 1st model, total operating costs to total assets is the dependent variable. The impact of non-performing loans, risk weighted assets, loan loss provisions, capital adequacy ratio and return on

assets on total operating costs to total assets is tested. The model is presented as:

OETA = β0+β1NPL+β2CAR + β3RWA+β4LLP+β5ROA+ ε........ (1)

Model 2

In this 2nd model, total staff expenses to total operating costs is considered as dependent variable. The impact of non-performing loans, risk weighted assets, loan loss provisions, capital adequacy ratio and return on assets. Staff expenses to total operating costs of commercial banks is tested. The model is presented as:

SETO = β0+ β1 NPL+ β2CAR+ β3RWA+β4LLP+β5ROA+ ε........ (2)

Where,
OETA represents total operating cost to total assets
SETO represents total staff expenses to operating cost of the banks
NPL represents non-problem loan to total loans
CAR represents capital adequacy ratio
ROA represents return on assets
RWA represents risk weighted assets
LLP represents loan loss provision
ε represents error

4 DATA ANALYSIS AND FINDINGS OF RESEARCH

4.1Structure pattern analysis of selected variables

The structure and pattern of total operating expenses to total assets for selected Nepalese banks. (in %). Table 2 Structure pattern of TOETA

S.N.	BANKS	2015	2016	2017	2018	2019	Mean	Std. Dev
1	Sunrise	1.68	1.33	1.40	1.77	2.03	1.64	0.25
2	Siddhartha	1.55	1.15	1.39	1.41	1.70	1.44	0.18
	Mean	1.62	1.24	1.40	1.59	1.87		
	St Dev	6	9	1	18	17		

As shown in the above figure, the structure pattern of total operating expenses to total assets in two commercial banks shows that, the average total operating expenses to total assets of sunrise bank is higher than Siddhartha bank as Sunrise bank has 1.64% and Siddhartha banks has 1.44%. In Sunrise bank, this ratio is decreased 2016 and then it is in increasing trend. Similarly, in Siddhartha bank, it is not in increasing or decreasing, it keeps on fluctuating from 2015 to 2019. It means Sunrise bank is generating higher expenses than Siddhartha bank. Similarly, the average total operating expenses to total assets of each bank is increased from 1.62 in 2015 to 1.87 in 2019.

The ratio of total operating expenses to total assets of Sunrise Bank in the year 2015 is 1.68, and it is decreased in 2016. After 2016, this ratio keeps increasing in the year 2017, 2018, and 2019 i.e. 1.40, 1.77, 2.03 respectively. For the Siddhartha Bank this ratio is 1.55 in 2015, it is increased slightly in the year 2016 and ratio is 1.15. After 2016, it keeps increasing in 2017, 2018, and 2019 same as Sunrise Bank i.e. 1.39, 1.41, 1.70, respectively.

The Standard deviation of total operation assets to total assets of Sunrise Bank from 2016 to 2019 is 0.25 and for Siddhartha bank it is 0.18. Standard Deviation of each bank is highest in the year 2018 and lowest in 2017 i.e. 0.18 and 0.005 respectively.

For Sunrise Bank, the ratio of total operating expenses to total assets is highest in 2019 and lowest in 2016, similarly in Siddhartha Bank, it is highest in 2019 and lowest in 2016. In all these 10 observations, the highest ratio of total operating expenses to total assets is of Sunrise Bank in 2019 i.e. 2.03 and lowest is of Siddhartha Bank i.e. 1.15.

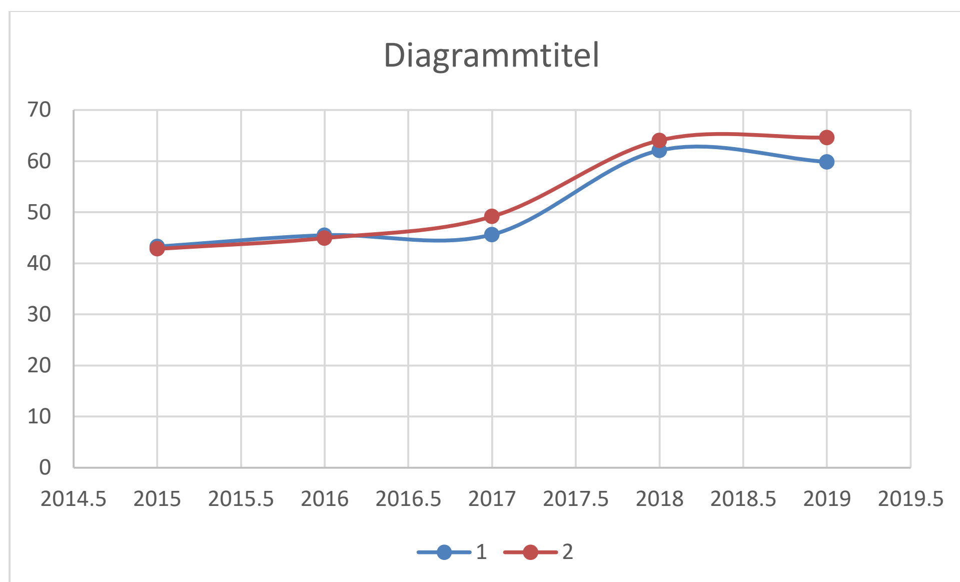

Figure 1. Structure pattern of TOETA

4.1.1 The structure pattern of total staff expenses to total assets in (%)

Table 3 Structure pattern of TSETO

S.N.	BANKS	2015	2016	2017	2018	2019	Mean (%)	St Dev (%)
1	Sunrise	43.27	45.5	45.62	62.09	59.84	51.264	7.996656
2	Siddhartha	42.82	44.93	49.15	64.05	64.61	53.112	9.385219
	Mean	43.045	45.215	47.385	63.07	62.225		
	St Dev	0.225	0.285	1.765	0.98	2.385		

As shown in the above figure, the structure pattern of total staff expenses to total assets in two commercial banks shows that, the average total staff expenses to total assets of Siddhartha bank is higher than Sunrise bank as Siddhartha bank h0as 53.112% and Siddhartha banks has 51.264%. In Sunrise bank, this ratio is in increasing ratio. Similarly, in Siddhartha bank, it is not in increasing or decreasing, it keeps on fluctuating from 2015 to 2019. Similarly, the average total operating expenses to total assets of each bank is increased from 1.62 in 2015 to 1.87 in 2019.

The ratio of total operating expenses to total assets of Sunrise Bank in the year 2015 is 1.68, and it is decreased in 2016. After 2016, this ratio keeps increasing in the year 2017, 2018, and 2019 i.e. 1.40, 1.77, 2.03 respectively. For the Siddhartha Bank this ratio is 1.55 in 2015, it is increased slightly in the year 2016 and ratio is 1.15. After 2016, it keeps increasing in 2017, 2018, and 2019 same as Sunrise Bank i.e. 1.39, 1.41, 1.70, respectively.

The Standard deviation of total operation assets to total assets of Sunrise Bank from 2015 to 2019 is 0.25 and for Siddhartha bank it is 0.18. Standard Deviation of each bank is highest in the year 2018 and lowest in 2017 i.e. 0.18 and 0.005 respectively.

For Sunrise Bank, the ratio of total operating expenses to total assets is highest in 2019 and lowest in 2016, similarly in Siddhartha Bank, it is highest in 2019 and lowest in 2016. In all these 10 observations, the highest ratio of total operating expenses to total assets is of Sunrise Bank in 2019 i.e. 2.03 and lowest is of Siddhartha Bank i.e. 1.15.

5 Summary, Recommendation and Conclusion

5.1Summary

This research report tries to find out the determinants that really affect in achieving cost efficiency. Recently, there is the major issues of cost efficiency in overall banking sector. Thus, by choosing only

2 banks in overall banking industry it tries to find out the reason behind cost inefficient. NPLTL, LLP, RWA, CAR and ROA has been taken as an indicator to analyze the cost efficiency. But even they are the major factor there can be various other variables or factors that influence in exact result. All the factors cannot be mentioned in a research paper that's why the result is limited within given variables.

The major determinant of behind the failure of the financial institutions is the basic issue for Nepalese commercial banks as the implications for economic policy strongly differ depending on its origin. If non-performing loans impact cost efficiency then the higher-level management should limit banks' risk exposures by restricting loan those are risky and concentrate in safest sector and favoring diversification. An influence of cost efficiency on risk-taking would suggest that non-performing loans are caused internally. There is the solution inside the organization. The higher-level committee need to provide proper training and developing programs so that employees can focus on cost efficiency through better education of bank managers. The problem loans have become synonymous to functional efficiency of financial intermediaries and believed to be the major causes of the economic stagnation problems. This study main focus is on the impact on cost efficiency due to credit management in commercial banks in Nepal. However, the definite objectives are: To analyze the structure and pattern of credit management variables and cost efficiencies in a Financial Institution, to examine the determinants of cost efficiency for healthy financial practice to determine the impacts of non-performing assets on the cost efficiency for effective financial management to examine the individual impact of non-performing loans, capital adequacy ratio, risk weighted assets, return on assets and loan loss provision in the cost efficiency of the Nepalese commercial banks.

As this report is the based upon the secondary data the result may be as expected. Similarly, in some cases there is not showing that need to be, it is because of that in the financial and economic field there are a lot of factors that effect on the result. This is not the social science scenario. Thus, if we consider 5 independent variable and 2 dependent variables here, there also can be other variables that is affecting in the achieving exact result.

5.2Conclusion

The report provides analysis on relationship between credit management and cost efficiency. Credit management refers to analyzing bank's client financial background and then providing appropriate amount of credit to client within bank credit policies to enhance the bank interest income while minimizing financial risks and cost efficiency is related to cost minimization while enhancing bank revenue. Credit management performance is shown by financial terms such as, loan loss provision, non-performing loans, risk weighted assets, capital adequacy ratio and return on assets whereas cost efficiency is shown by financial terms for instance, total operating costs to total assets and staff expenses to total operating costs in this report. Sunrise and Siddhartha Bank in Nepal data are taken for analysis in this report.

After analyzing the trend of data from 2015 to 2019, credit management performance of both sunrise and Siddhartha bank is fine with loan loss provision (in NPR) as it is decreasing from 2015 to 2019. In terms of non-performing loan to total loan (%) also, both banks are performing well as their non-performing loan to total loan ratio is decreasing from 2015 to 2019. Similarly, capital adequacy ratio (%) and return on assets (%) of both banks are increasing simultaneously from 2015 to 2019 which indicate the credit management performance of both banks are showing positive results. However, increasing risk weighted assets (in NPR Billions) from 2015 to 2019 is considered worse and credit management performance in terms of risk weighted assets is not that good as other financial indicators of credit management.

Loan loss provision is provision which is set aside for the bad loan which might get default in the future. Credit analysts will rate the credit on the basis of credit principle and interest reimbursement rate and if the probability of credit principle and interest reimbursement is low then they will set aside some sum of money which will decrease the profitability of bank. So, decrease in loan loss provision from 2015 to 2019 is considered as well management credit department in those banks.

Non-performing loan is also bad debt which is considered as bad as there is possibility that the loan

provided to client might not be reimbursed. Unlike loan loss provision it is the principle of credit which might not be recovered in future and they are considered as non-performing or unrecoverable loan. So, decrease in non-performing loan is good as the portion of performing loan is increasing in those banks from 2015 to 2019.

Capital adequacy ratio is capital availability to risk weighted assets. Such capital can be paid to settle deposit account if the risky assets such as, loans is default. So, higher the capital adequacy ratio higher the chance of solvency position of bank and lower the capital adequacy ratio lower the chance will be for solvency position of bank. So, increase in capital adequacy ratio from 2015 to 2019 shows the performance of credit department of selected 2 banks are improving.

Return on assets indicates profit per unit of assets investment which means higher the profit higher will be the return on assets. In case of the selected banks, the assets of both banks are increasing from 2015 to 2019 and increasing return on assets while the assets are increasing from 2015 to 2019 shows positive result that the banks are able to generate increasing profit from increasing assets that also in increasing growth rate from 2015 to 2019. So, the credit department of both banks supports on enhancement of overall profit per assets investment is performing well.

Risk weighted assets are valued on the basis of credit value on loan after credit analysis. Higher the risk of assets higher will be the capital requirement for such assets. For instance, loan with no security is risky and requires more capital than loan that is secured by collateral. So, higher the risk weighted assets higher amount of capital to secure such assets is required. In summary, increasing risk weighted assets from 2015 to 2019 of the selected banks are increasing and the credit department is not performing that well in risk weighted assets indicator as other credit indicators like: loan loss provision, non-performing loan to total assets, return on assets and capital adequacy ratio.

However, the increasing loan portfolio of selected banks, decreasing loan loss provision, reducing non-performing loan to total assets, increasing return on assets and increasing capital adequacy ratio from 2015 to 2019 is overcoming the worse results of increasing risk weighted assets from 2015 to 2019. So, in overall, credit management of selected banks is going well.

After assessing the trend of data from 2015 to 2019, cost efficiency of both sunrise and Siddhartha bank is not fine as both total operating cost to total assets (%) and total staff expenses to total operating expense (%) from 2105 to 2019 is increasing. However, the increasing business, expansion of branches, increasing loan portfolio, increasing no of staff for managing growing loan portfolio and enhancing information technology for best managing the increasing level of transactions might have increased the total operating cost to total asset and total staff expenses to total operating expense. So, considering such factors, the increment in such financial terms is natural by default.

Talking about the two models described and analyzed in the report, it is found that there is correlation between independent variables (loan loss provision, non-performing loan to total assets, capital adequacy ratio, risk weighted assets and return on assets) and dependent variables (total operating expenses to total assets and total staff expenses to total operating expenses). Non-performing loan to total loan and loan loss provision have negative correlation while capital adequacy ratio, risk weighted assets and return on assets have positive correlation with Total operating expenses to total assets and total staff expenses to total operating expenses.

Decrease in loan loss provision and non-performing loan to total loan is increasing total operating expenses to total assets and staff expenses to total operating expenses. This indicate, investment in operation management, credit management, qualified staff and information technologies is leading to reduction in loan loss provision and non-performing loan to total loan which is positive sign.

Increase in capital adequacy ratio, risk weighted assets and return on assets is increasing total operating expenses to total assets and staff expenses to total operating expenses. This indicate, investment in operation management, credit management, qualified staff and information technologies is leading to increase in Tier I and Tier II capital and profit which is positive sign. However, investment in operation management, credit management, qualified staff and information technologies is leading to increase in RWA.

In conclusion, the credit management is arising positive results in cost efficiency in fact.
In addition, Regression analysis on the report indicate that change in independent variables (loan loss provision, non-performing loan to total assets, capital adequacy ratio, risk weighted assets and return on assets) by 1-unit lead to 0.822 units change in depended variables (total operating expenses to total assets). This indicates there is strong bond between the depended and independent variable and the model (total operating expenses to total assets) that we prepare in the report and its analysis holds true and accurate.
Also, second Regression analysis on the report indicate that change in independent variables (loan loss provision, non-performing loan to total assets, capital adequacy ratio, risk weighted assets and return on assets) by 1-unit lead to 0.979 units change in depended variables (total operating expenses to total assets). This indicates there is strong bond between the depended and independent variable and the model (total staff expenses to total operating expenses) that we prepare in the report and its analysis holds true and accurate.
So, the above analysis as conclusion indicate the model prepared, financial analysis, correlation analysis in the report holds statistically, mathematically and logically accurate from regression analysis and correlation analysis.

5.3Limitation of the study

The limitation of the study are as follows

1. The dependent variable, cost efficiency used in this study is computed only in the basis of the operating expenses of the banks which includes staff expenses. Inclusion of other expense and cost of the bank like non-operating expenses while computing cost efficiency would have made the data for cost efficiency more reliable
2. The study has only included two commercial banks. As this research report cannot cover all the financial data of available banks.
3. This study is based on secondary data only and if researcher is able to collect the primary data including the perception of loan officers, operation officer as well as managers regarding the impact of problem loans on cost efficiency the result will be more reliable.
4. Bank specific variable used in the study are non-performing loans, risk weighted assets, loan loss provisions, capital adequacy ratio and return on assets. The study has not included some other important bank specific variables like leverage, credit growth, liquidity position of banks and lending rates.
5. This study does not consider macroeconomic variables. Some of the important macroeconomic variables responsible for increase in problem loans and operating expenses in banks could be gross development products, unemployment rate, effective tax rate and foreign exchange rate which are not included in the study.
6. The issue of credit management and cost inefficiency is equally prevalent in development banks and finance companies of Nepal, but this study aims at testing the impact of problem loans on cost efficiency of commercial banks of Nepal only.

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