Implementation and Effectiveness of the Internal Credit Risk Rating in the Banking Industry: A Study on Dhaka Bank Limited

By

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An internship report submitted to the Brac Business School in partial fulfillment of the requirements for the degree of
Bachelor of Business Administration

Brac Business School
Brac University
October 2021

Declaration

It is hereby declared that

1. The internship report submitted is my/our own original work while completing degree at Brac University.
2. The report does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The report does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I/We have acknowledged all main sources of help.

Student's Full Name and Signature:

Mostansir Mahmud
Student ID: 17204014

Letter of Transmittal

Saif Hossain

Assistant Professor,

BRAC Business School

BRAC University

66 Mohakhali, Dhaka-1212

Subject: Submission of Internship Report

Dear Sir,

With due respect, it is my pleasure to submit my internship report on "The Implementation and Effectiveness of the Internal Credit Risk Rating in the Banking Industry" as a requirement for completing a Bachelor of Business Administration.

I have completed my report during the tenure of three months in Dhaka Bank Limited, Karwan Bazar Branch, as I accumulated the data to prepare this report under your supervision.

Therefore, I hope you will accept my internship report.

Sincerely yours,

____

Mostansir Mahmud

Student ID: 17204014

BRAC Business School

BRAC University

Date: October 2, 2021

Non-Disclosure Agreement

This agreement is made and entered into by and between Dhaka Bank Limited and the undersigned student at BRAC University for the commitment of preventing the unauthorized disclosure of confidential information of Dhaka Bank Limited.

…………………………………….	…………………………………….
Mostansir Mahmud	Manik Lal Biswas
Student ID: 17204014	EVP and Manager
BRAC Business School	Dhaka Bank Limited
BRAC University	Karwan Bazar Branch

Acknowledgment

Firstly, I would like to praise the Almighty Allah who has allowed me to stay healthy and complete the internship program amidst the ongoing Covid-19 and bestowed me with the strength to complete my report.

The report's completion would not have been possible without the support of some of the valuable people who had helped me in this report. I want to take this opportunity to thank all the people who aided in writing this report.

I would like to thank my academic supervisor Mr. Saif Hossain, Assistant Professor at Brac University. He assisted in guiding me through the entire process of the internship program until the completion of the report.

I would also like to thank my on-site supervisor, Mr. Manik Lal Biswas, Executive Vice President and Manager of Karwan Bazar Branch, for allowing me to work in Dhaka Bank as an intern. His guidance allowed me to learn many aspects of the banking industry. I would also like to thank Mr. Faisal Ahmed Chowdhury, First Vice President and Credit In-charge Officer at Dhaka Bank, who helped me in every step in completing my report. He had taught me the workings of the credit assessment methods amidst his busy schedule.

Finally, I am grateful to all my Brac University faculties who have helped me hone my skills and implemented my learnings in this report.

Executive Summary

The report focuses on the Internal Credit Risk Rating, which is currently in use for assessing the credit risk for all the financial institutions as per Bangladesh Bank. The aim of the report is to identify the implementation process of ICRR System, comparison between the previous assessment models and challenges faced by Dhaka Bank Limited. The outcome of the report was that the ICRR System was a result of the development of the economy of Bangladesh which made the credit assessment more complex for financial institution, therefore the ICRR System considered more factors compared to the any of the past frameworks such as Lending Risk Analysis and Credit Risk Grading. Moreover, the report also consisted of in-depth research into the challenges faced by Dhaka Banks' employees such as the adaptation of the new credit assessment tool and overcoming its challenges with possible recommendations for further improvements.

Keywords: Dhaka Bank Limited, Credit Risk Management, Internal Credit Risk Rating

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List of Acronyms

BB	Bangladesh Bank
CRG	Credit Risk Grading
EFTN	Electronic Fund Transfer Network
GAAP	General Accepted Accounting Principles
ICRR	Internal Credit Risk Rating
IAS	International Accounting Standards
IFRS	International Financial Reporting Standards
LRA	Lending Risk Analysis
MVA	Market Value Added
NBFI	Non-Banking Financial Institution
RTGS	Real-Time Gross Settlement
RMG	Ready Made Garments
SME	Small Medium Enterprise

Glossary

Credit Risk	It means the risk of loss which can arise from the borrowers' inability to repay or through a failure to keep commitments by the borrowers.
Credit Risk Management	It is a process to minimize the losses, which can be done by determining the capital and loan loss reserve of a bank.

Chapter 1: Overview of Internship

1.1 Student Information

- *Name:* Mostansir Mahmud
- *Student ID:* 17204014
- *Department:* Brac Business School
- *Program:* Bachelor of Business Administration
- *Major:* Accounting; *Minor:* Finance

1.2 Internship Information

1.2.1 Company Information

- *Duration:* 1st June 2021 to 31st August 2021 (3 months)
- *Company Name:* Dhaka Bank Limited
- *Branch:* Karwan Bazar Branch
- *Department:* General Banking and Credit Department
- *Address:* 39, Karwan Bazar C/A, Dhaka-1215

1.2.2 Internship Company Supervisor's Information

- *Supervisor Name:* Manik Lal Biswas
- *Position:* Executive Vice President and Manager

1.2.3 Job Duties and Responsibilities

- Assisted in receiving and recording the inward and outward documents in the register book, after which the documents were sent to different officers.
- Recorded and updated the customers' list for cheque books and ATM cards in the spreadsheet and regularly notified customers to collect them.
- Assisted the clearing officer in examining the inward and outward cheques for any mistakes and cross-checking the cheque with the account numbers.
- Assisted the general banking (GB) in charge with cross-checking the ledger entries of the senior principal officers against the account numbers.
- Assisted in opening accounts using the traditional forms as well as online procedures.
- Assisted in preparing credit reports on the clients.

1.3 Internship Outcomes

1.3.1 Student's Contribution to the Company

During the internship period in Dhaka Bank, I assisted in almost all the Dhaka Bank Karwan Bazar Branch areas except the trade department and cashier. I helped the GB in charge and the senior principal officers with some of the tasks, allowing them to focus entirely on the task at hand. For instance, I was able to assist the clearing officer in examining the cheques and deposit slips while the officer was able to attend with the customers and help them resolve their confusions. I also helped answer some of the questions and helping to open accounts while the officers were busy or away from the desk. Tasks such as examining the cheques and ledger entries consumed a lot of time, and I assisted in performing these tasks.

1.3.2 Benefits to the Student

I was greatly benefited during the tenure of three months working as an intern in Dhaka Bank as it gave me a sense of responsibility. All the employees were amiable and taught me much about the banking industry and my responsibility in DBL. In addition, financial institutes play a significant role in this dynamic environment, and I was able to get an insight into how the banks operate. The internship program also helped me develop my interpersonal and communication skills in the workplace as I had to regularly communicate with customers and senior colleagues.

1.3.3 Problems/Difficulties (faced during the internship period)

During the internship period, there were few challenges I faced which are as follows:

- The Covid-19 lockdown instructed by the government occurred during the tenure of my internship program, and I was asked to stay home for my own safety and my family. Thus, I missed further opportunities to learn and include my learnings in the report.
- The daily commute to and from the company and the working hour consumed most of the time, making it challenging to work on the report on the weekdays.
- Some of the works were repetitive as the officers were not allowed to provide me with tasks due to confidentiality.

1.3.4 Recommendations (to the company on future internship)

My recommendation to Dhaka Bank for the future internship will be as follows:

- Management can provide more challenging tasks to the internees while ensuring that internal information about the organization is not disclosed, which will undoubtedly motivate the internees.
- Dhaka Bank can provide additional training and support to interns whose career aims lie in the banking industry to equip them with the knowledge and prepare them for the journey.
- Dhaka Bank can give more exposure to the internees in dealing with customers and situations, increasing their critical thinking abilities as the interns discover the solutions by themselves with the support of their colleagues.

Chapter 2: Organizational Part: Overview, Operations, and Strategic Audit

2.1 Introduction

2.1.1 Objectives of the Company

The objective of this chapter is to understand the different functions of Dhaka Bank Limited. The chapter will allow the readers to glimpse at other divisions and Dhaka Bank's practices in each division. Banking activities consist of much more than just borrowing and lending money to individuals, corporations, and the government. The bank also includes creating a corporate culture and working towards achieving its objectives, and operating in the environment to fulfill the demands of its clients. The chapter will continue to conduct a strategic audit on the operations of Dhaka Bank, and the readers will learn about the following:

- The management practices in Dhaka Bank and the processes through which the bank promotes itself and its production.
- The financial performance of the last five years from 2016 to 2020 and the accounting practices maintained in accordance with the regulatory authority.
- The list of operational divisions that run within the bank provides service to the customers using an information system at the disposal of Dhaka Bank.
- The industry analysis of Dhaka Bank through SWOT and Porter's Five Forces Analysis in the banking industry.

2.1.2 Methodology

The data collection process for this chapter was collected from primary and secondary data. For management practices and the industry analysis, first-hand data were collected through observations and interviews. Although there are several divisions in Dhaka Bank, those departments were situated in the head office; thus, secondary information mainly was collected from the annual report, such as the financial performance and the accounting practices, and previous studies on Dhaka Bank.

2.1.3 Significance of the Study

The second chapter will allow the readers to comprehend the objective of Dhaka Bank and how the bank operates. Academic readers such as students will be able to apply the theoretical knowledge with the practices of Dhaka Bank in the areas of Human Resource Management, Marketing, Operation Management, Information System and Finance and Accounting perspective just as much as it has enabled me to relate my knowledge that I have acquired over my undergraduate program. The chapter will also cover the industrial analysis concerning Dhaka Bank, which allows the readers to know about the current condition in the market.

2.1.4 Limitation of the Study

During the course of this entire study, there were several issues faced which limited the research. The limitations encountered during the research are as follows:

- The time allocated for this study consisted of three months which was a constraint and prevented from conducting a deeper analysis on the topic.
- Some data were taken from past studies to continue the study, which may not be fully applicable for Dhaka Bank.
- Certain information was not disclosed to protect the confidentiality of the bank.
- Although the financial information was calculated using data from the annual reports, an officer stated some of the calculations in the practical situations were different from theoretical assumptions, which could not be presented in the report.
- The template for Lending Risk Analysis, which was the first credit assessment tool, was not found on the website of Bangladesh Bank but instead taken from a previous study on the subject.

2.2 Overview of the Company

2.2.1 About the Organization

Dhaka Bank Limited had initially started its operations on July 5th, 1995, as per the Company Act, 1994, three months after being listed as a public limited company on April 6th, 1995. Dhaka Bank was founded by a renowned businessman and a successful former mayor, Mr. Mirza Abbas Uddin Ahmed, who served as an advisor for Dhaka Bank Limited. Five years into the operation, Dhaka Bank had enlisted itself into the Dhaka Stock Exchange and Chittagong Stock Exchange as a private limited company in 2000. Since the dawn of its journey, Dhaka Bank Limited has become one of Bangladesh's top private commercial banks. According to Dhaka Bank Limited, the bank has been serving over half a million customers across the country with 105 operating branches spread throughout Bangladesh, two of which are Islamic Banking branches. Apart from the operating branches, DBL also has 2 Off-shore Banking Units (OBU), 3 Small Medium Enterprises (SME) Services Centers, 12 Sub-Branches, and 63 ATM Booths scattered across Bangladesh as of December 2020. Furthermore, DBL had also established two subsidiaries: Dhaka Bank Securities Limited and Dhaka Bank Investment Limited, in 2010 and 2013, respectively.

2.2.2 Mission and Vision

The mission statement of Dhaka Bank Limited lies in providing the highest standard of quality in terms of products and services using the newest technology at their disposal. Dhaka Bank has a group of personnel that is strongly driven to provide such services and bring the maxim of Dhaka Bank Limited into reality which is "Excellence in Banking."

In the period of the establishment of Dhaka Bank Limited, the founder's vision was to ensure that every customer had a pleasant experience in the bank. Therefore, Dhaka Bank devoted its effort to provide the customers with superior customer service. This would be possible by providing customers with accurate and reliable information regarding the needs of specific customers promptly using the up-to-date technologies. Furthermore, for the corporate clients, Dhaka Bank aims to provide unique solutions that suit each client's needs and allow them to prosper in the market, hence achieving their motto "Excellence in Banking."

2.2.3 Achievement of Dhaka Bank Limited

Dhaka Bank Limited has operated in the banking industry for over 26 years since its establishment in 1995. Dhaka Bank has achieved few prestigious awards throughout this journey, such as the Asiamoney Best Rank Award for the Best Corporate and Investment Bank Bangladesh in 2021. This award was given to Dhaka Bank Limited as the bank was able to navigate through the pandemic and managed to retain proper coverage with its corporate clients in investment banking as well as the capital markets. In addition, amidst the coronavirus pandemic, Dhaka Bank achieved the UiPath Automation Excellence Award 2020 in Association with The Economic Times for creating a system for employees to open live accounts for the clients from home while maintaining the safety of the employees. Dhaka Bank was also awarded as the 2019 Best Issuing Bank in South Asia by International Finance Corporation (IFC) in the prior year.

2.3 Management Practices

2.3.1 Leadership Style of Dhaka Bank

The management system at Dhaka Bank is not strictly instructed to follow any fixed leadership style, yet the leadership style may vary from branch to branch. The managers are the figure in charge of managing the branch and sub-branches in some cases. Although the manager's leadership style may vary on their personality, the managers must strictly adhere to the guidelines of Dhaka Bank's management policy and Bangladesh Bank. In most cases, the managers follow a leadership style between autocratic and participative leadership styles. Most often, managers may choose to consult with the operational manager, trade and credit in-charge officers before making any decisions, while at other times, managers may choose to decide as per the company policies in the company's interest.

2.3.2 Human Resource Planning Process

The Human Resource Department is situated in the head office of Dhaka Bank, where the planning process is conducted. For the planning process, the HR team analyzes and forecasts the demand for staffing across the entire bank. The results show the need for employees in various positions such as the branch, customer service center, IT department, etc. It may influence several factors such as vacancy in the bank and turnover rate. Based on findings, the HR team prepares job descriptions as well as job specifications. Job descriptions include the nature of the job and the duties and responsibilities, while the job specification states the requirements that Dhaka Bank seeks from the potential candidates, such as educational eligibility and work experience. The HR team is required to submit the result to the Head of HR, who verifies the information and approves the process.

2.3.3 Recruitment and Selection

The recruitment and selection process is the next phase of the HR planning process. After the approval process from the Head of HR, Dhaka Bank relies on advertisement for the recruitment process. The entry-level positions in Dhaka Bank are the Management Trainee Officer (MTO), Trainee Assistant Officer (TAO), Cash Officer, and Credit Management Officer. The HR teams seek graduates from reputable universities in Bangladesh and promote them in the newspapers and employment-oriented platforms such as LinkedIn and BdJobs. During the selection process, the HR teams create a pool of potential candidates and conduct a series of tests for the candidates, starting from a background screening test, written test, viva, and finally a physical test as per the management policy of Dhaka Bank Limited.

2.3.4 Compensation System

Although the compensation system of Dhaka Bank was not disclosed, it was stated that Dhaka Bank analyzed and aligned the compensation policy of the bank with the industry. In addition, the management of Dhaka Bank also ensures to re-adjust the salary with the inflation rate of Bangladesh. The employees' salaries are reviewed yearly for possible increments with additional benefits apart from the salary.

2.3.5 Training and Development Process

The training and development process consisted of using different methods to train their employees. One of the vital methods Dhaka Bank uses in training their employees is the Training Need Analysis, where the management assesses whether the employees are required to enhance their skills. For instance, the IT department is given training modules like On-the-Job Training and even sent abroad to receive training to the new system. The management also trains the employees using lectures, case studies, role-playing, which mainly helps deal with customers, and hands-on training with the banking software. These development programs are provided in Dhaka Bank Training Institute as well as Bangladesh Institute of Bank Management.

2.3.6 Performance Appraisal System

The performance appraisal system is one of the crucial processes in the HR department as it allows the management to evaluate if the bank is achieving its objectives. One of the ways Dhaka Bank evaluates the performance of their employees is through using the Key Performance Indicator (KPI). The KPI system works through a few steps where the HR team starts by focusing on their company objectives and measuring the employee's performance against the objectives presented in metrics to compare the employee's performance. Dhaka Bank also uses Management by Objective (MBO) process, which focuses on setting specific goals for the employees as they work to achieve the goal under the constant supervision of the HR team of Dhaka Bank.

2.4 Marketing Practices

2.4.1 Segmenting, Targeting, and Positioning Strategies

The customers of Dhaka Bank can be divided into two types which are the borrowers and the depositors. The borrowers of Dhaka Bank are the clients who are the primary source of generating revenue. These clients can be segments into different groups such as individual clients, corporate clients, other financial institutions through which Dhaka Bank can generate interest revenue by providing loans and advances. On the other hand, the depositors are the clients of Dhaka Bank acquires funds to lend the borrowers. Dhaka Bank has different types of accounts where the depositors save funds in exchange for interest. These accounts can be segmented into a current account, savings account, salary account, corporate account, and student ledger accounts. Dhaka Bank aims to provide excellent banking services to its clients and targets people across Bangladesh as they establish branches all over Bangladesh. Based on the market in which each branch is located, specific targets are given to pursue their segmented customers to buy DBL's products and services. For instance, the Karwan Bazar branch is situated in a corporate area; thus, they are given targets to pursue more corporate clients to buy their products. Moreover, it targets existing customers to buy more new products, which is known as cross-sales. Dhaka Bank positions its product through promotional activities and word of mouth from their existing clients.

2.4.2 Product and Services of Dhaka Bank

Dhaka Bank provides many types of loan facilities to its clients. These clients can be divided into six categories: Retail Banking, SME and Agri Banking, Corporate Banking, Loan Syndication, Digital Banking, and Islamic Banking. DBL provides retail banking for regular customers who can open a current account, savings account, and other savings facilities. These customers can also take loan facilities for personal use, such as car loans and home loans. SME and Agri Banking and Corporate Banking provides loans to businesses such as term loans, guarantees, letters of credit, etc. Loan Syndications are provided for project financing where several banks provide a loan together with one lead arranger. Islamic Banking consists of providing loans in accordance with the Islamic Shariah principles. Dhaka Bank also provides digital banking where clients can access information regarding their accounts from the mobile apps known as Dhaka Bank Go.

2.4.3 Advertising and Promotional Strategies

Dhaka Bank Focuses on service marketing, which means the additional 3 Ps, People, Process, and Physical Evidence, are given importance. Dhaka Bank tries to maintain a good brand image by providing better services and keeping its commitments to local customers as well as foreign clients. Moreover, the bank promotes different types of business schemes to increase customer convenience. For instance, digital banking products like EZY banking enable clients to open their accounts whenever needed through an app.

In order to promote the services of Dhaka Bank, Electronic Direct Mail is heavily used through which customers are informed about special offers directly. Standing displays are set in shopping malls where new products of DBL are advertised. They also promote their products through social media, and they have a verified page where regular promotions and offers are posted. For example, discounts on renowned restaurants buffet and airline tickets can be enjoyed using a DBL credit card. These offers are posted on Facebook pages. Then, clients are greeted in religious festivals to make them feel part of the Dhaka Bank family. Also, Dhaka Bank collaborates with student agency companies who suggest international students open accounts in Dhaka Bank. Even the employees encourage existing clients to purchase their new products by telling them the additional benefits they can avail of from those.

2.5 Financial Performance and Accounting Practices

2.5.1 Financial Performance of Dhaka Bank

The financial analysis of banks is different from other companies as they have different ratios to assess the performance of the bank. In the case of Dhaka Bank, the ratios under CAMELS ratings will be conducted to understand the bank's financial soundness. According to (Rose & Hudgins, 2012), the CAMELS Rating is a rating system used in the financial institutions to determine the strengths and weaknesses of the banks using five aspects: Capital Adequacy, Asset Management Efficiencies, Earnings Quality, and Liquidity Management. This rating also helps the regulators such as Bangladesh Bank identify which banks are performing well and which banks require close supervision.

Capital Adequacy

Capital Adequacy	**2016**	**2017**	**2018**	**2019**	**2020**
Capital Adequacy Ratio	13.67%	11.96%	13.84%	16.12%	14.52%
Debt-to-Equity Ratio	12.9966	14.0508	15.4887	15.5601	14.7160

Table 1: Capital Adequacy of DBL

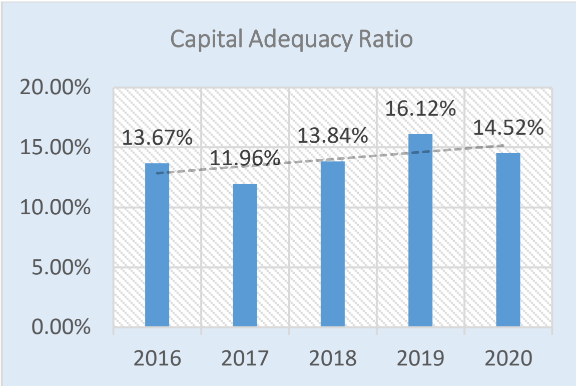

Figure 1: Capital Adequacy Ratio

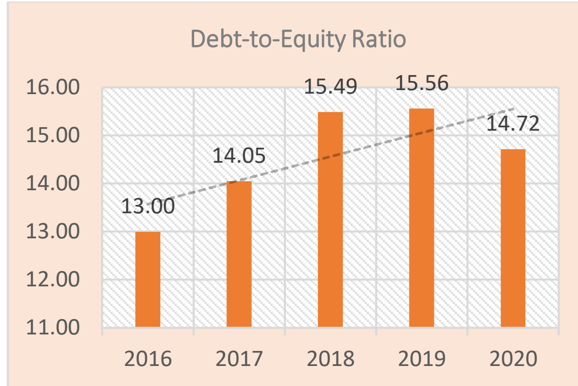

Figure 2: Debt-to-Equity Ratio

Table 1 shows the two ratios under the capital adequacy which has been collected from the annual reports of DBL over the past five years. The Capital Adequacy Ratio (CAR) indicates the bank's resilience during the time of crisis and secures the depositors from inherent loss. According to the Bangladesh Bank, financial institutions are required to maintain a minimum of 10% CAR ratio, which Dhaka Bank had maintained despite its fluctuation over the period of five years. The CAR ratio had decreased twice in 2017 and 2020 despite having a positive trend as shown in Figure 1. This indicates Dhaka Bank retained its capability to protect the funds of its depositors.

The Debt-to-Equity Ratio denotes the financial leverage of the financial institutions and how much of the equity is funded from external sources. This ratio is calculated by dividing the total liabilities by the total equity of the bank. Figure 2 shows that the ratio of Dhaka Bank has been increasing over the years with the decrease in the last year. This positive trend in the ratio indicates Dhaka Bank has been relying more on external sources of funds. In 2020, Dhaka Bank managed to repay some of its liabilities, resulting in a lower ratio than the previous year.

Asset Quality

Asset Quality	**2016**	**2017**	**2018**	**2019**	**2020**
Non-Performing Loans Ratio	6.00%	8.87%	7.28%	6.89%	4.48%
Total Loans-to-Total Assets Ratio	44.52%	45.27%	45.16%	47.24%	47.05%
Allowance for Loan Loss Ratio	6.93%	7.49%	7.18%	8.57%	9.37%

Table 2: Asset Quality of DBL

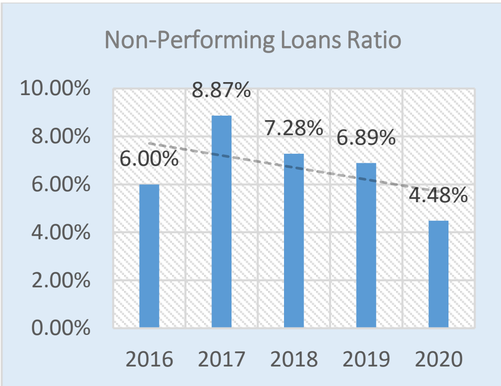

Figure 3: Non-Performing Loan Ratio

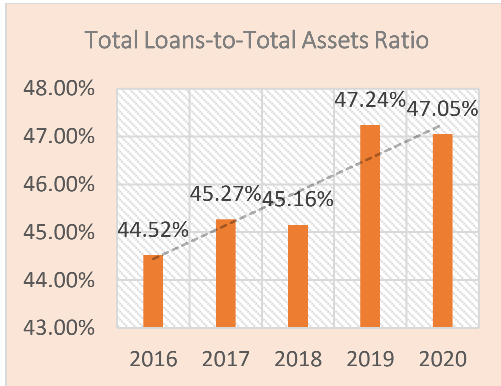

Figure 4: Total Loans-to-Total Assets Ratio

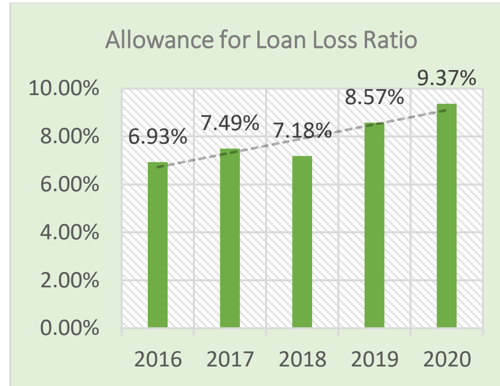

Figure 5: Allowance for Loan Loss Ratio

Table 2 represents the asset quality of DBL as per its annual report by starting off with the non-performing loans (NPL) that refer to the percentage of loans defaulting from the bank's total credit portfolio. The chart shows that the NPL ratio of Dhaka Bank increased in 2017 to 8.87%, and since then, the ratio dropped by half in 2020 as clearly shown in Figure 3. This negative trend shows that Dhaka Bank managed to reduce the numbers of loans defaulting, which may have a positive effect on profitability.

The total loans to total assets ratio also indicate the financial leverage. It calculates how much loans of a bank are funded relative to the number of assets the financial institution has. The leverage ratio indicated the level of risk involved, and the ratio of Dhaka Bank has been increasing from 44.52% in 2016 to 47.05% in 2020. The following chart also shows a positive trend, which means that the degree of financial risk has been rising over the years, increasing the chance of non-performing loans.

The last ratio under the asset quality is the allowance for loan loss (ALL) ratio. This ratio indicates how much fund the banks retained as a reserve to cover their non-performing loans. The ALL ratio of Dhaka Bank has been consistently increasing since 2016, which is a good indication as it can be seen in Figure 5. Although the NPL ratio has been decreasing, the positive trend of allowance for loan loss ratio may indicate that Dhaka Bank has been more reserving funds to contrast with the increase in the total loans to total assets ratio and the likely chance of financial risk for Dhaka Bank.

Management Efficiency

Management Efficiency	2016	2017	2018	2019	2020
Total Advance-to-Total Deposits Ratio	26.43%	27.21%	27.36%	28.54%	27.83%
Business per Employee	10,906,493	11,130,341	12,668,637	14,204,061	12,783,373
Profit per Employee	878,85	844,365	708,988	801,715	1,074,069

Table 3: Management Efficiency of DBL

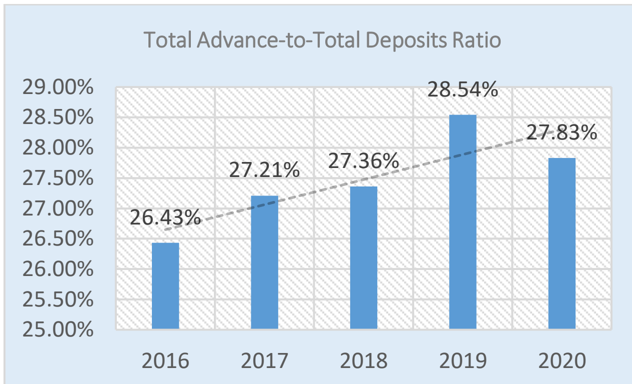

Figure 6: Total Advance-to-Total Deposits Ratio

Management efficiency is another criterion to assess the bank using three ratios presented in Table 3 as per the financial statements of five consecutive years. As the first ratio of the management efficiency, the total advance-to-total deposits ratio determines the efficiency of the bank as it tries to invest its deposits. Over the span of five years, the ratio has been increasing except in the last year as it fell slightly. The positive trend shows that the management of Dhaka Bank has been getting more efficient since 2016.

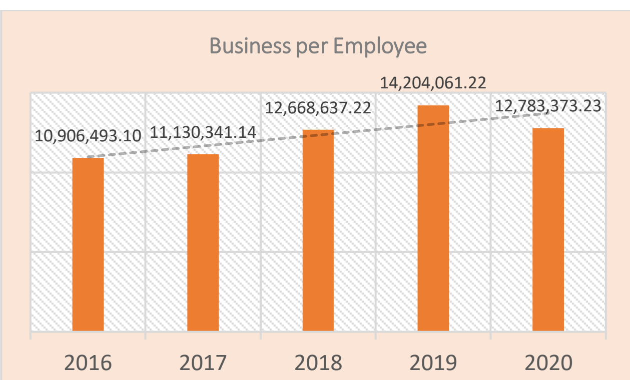

Figure 7: Business per Employee

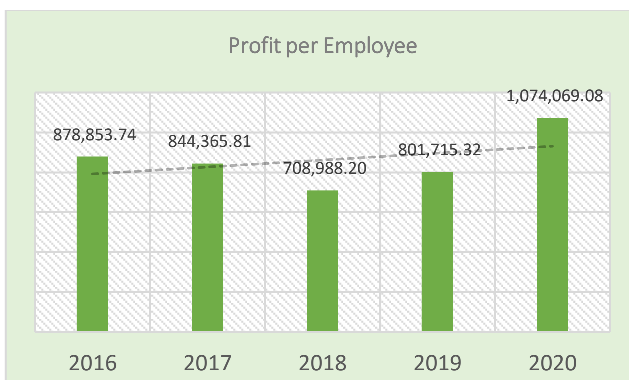

Figure 8: Profit per Employee

The business per employee and profit per employee shows the revenue and profit Dhaka Bank had compared to each employee. These are an excellent indication of the efficient management of an organization. While the revenue generated by each employee has been increasing except in 2020, the profit per employee shows that the yield has been decreasing from 2016 to 2018 and managed to rise as DBL achieved the highest profit in 2020 among the five years. This may indicate that Dhaka Bank might not have been able to control their expenditure before managing to control expenses in the initial three years.

Earnings Capacity

Earnings Capacity	**2016**	**2017**	**2018**	**2019**	**2020**
Return on Assets (ROA)	0.7250%	0.6517%	0.4961%	0.5513%	0.6873%
Return on Equity (ROE)	10.1478%	9.8088%	8.1797%	9.1302%	10.8023%
Net Interest Margin Ratio	0.0184	0.0147	0.0204	0.0160	0.0126

Table 4: Earnings Capacity of DBL

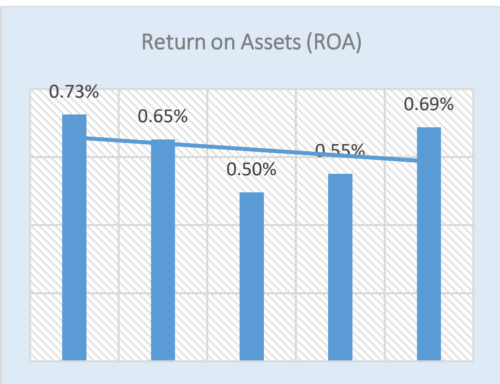

Figure 9: Return on Assets (ROA)

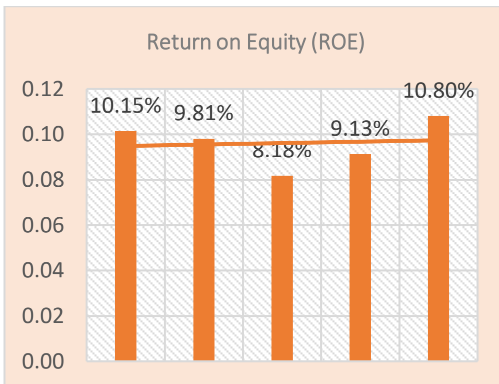

Figure 10: Return on Equity (ROE)

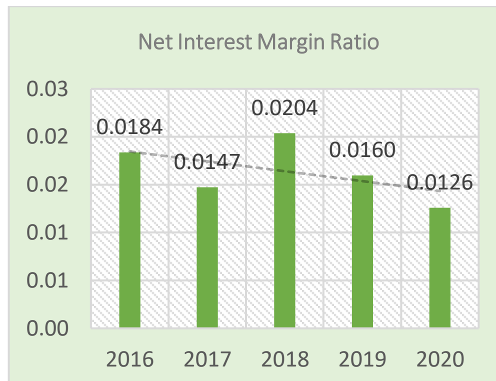

Figure 11: Net Interest Margin Ratio

The aspect of earnings capacity indicates the quality of earnings in Dhaka Bank and how the earnings capacity sustains in the foreseeable future using the three ratios in Table 4 as per the annual reports of DBL. The return on assets and return on equity are good ratios to determine the sustainability of the bank as both the ratios show the bank's profit in the percentage of its total assets and total equity, respectively. The trend of both the ratios is similar as both the ratios have to decrease from 2016 to 2018 and then increase throughout 2019 and 2020.

The net interest margin ratio is another indicator of the earning capacity of the bank. It is calculated by deducting the interest paid from the interest received and divided by the total assets of the banks. The chart shows a negative trend as the ratio fluctuated over the five years before dropping to the lowest ratio of 0.0126.

Liquidity Management

Liquidity Management	**2016**	**2017**	**2018**	**2019**	**2020**
Credit Deposit Ratio	0.5728	0.6109	0.6274	0.6583	0.6756
Liquidity Ratio	0.9812	0.9646	0.8830	0.9330	0.8714

Table 5: Liquidity Management

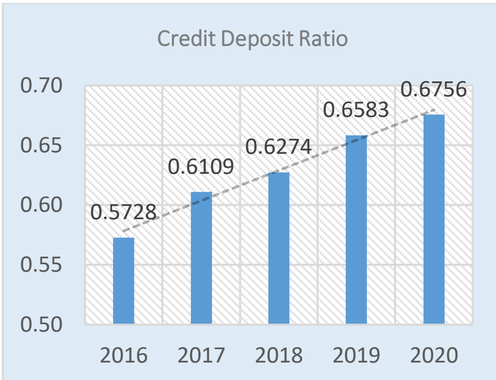

Figure 12: Credit Deposit Ratio

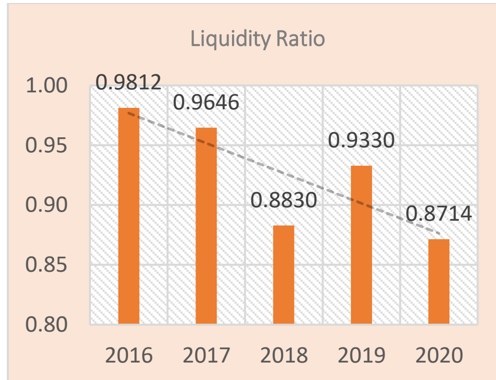

Figure 13: Liquidity Ratio

The liquidity management focuses on the ability of the bank to cover its short-term liabilities using its liquid funds. Table 5 have been created using the data from the financial statements of Dhaka Bank. The bank uses the credit deposit to identify how much deposit is being lent to the borrowers. It is calculated by dividing the total loans by the total deposits of the bank. The chart shows that Dhaka Bank has been consistently lending out its borrowers from its deposits. If the positive trend continues to rise, Dhaka Bank may face a shortage in its deposit funds and liquidity problems.

The liquidity ratio is another standard indicator to identify the liquidity position of the bank as it is calculated simply by dividing the bank's total current assets by total current liabilities. This allows the bank to pay its short-term obligations using the current assets. However, the chart shows that the liquidity ratio has been decreasing, with the exception of 2019, when the ratio has risen. The increasing credit deposit ratio can explain the negative trend. Dhaka Bank used its deposits to lend funds to its borrowers, which contributed to the drop of the liquidity ratio.

Market Value Added of Dhaka Bank Limited

To determine the valuation of Dhaka Bank, the market value added (MVA) method would be used over the five years. Joel Stern and Bennett Stewart established the theory of MVA; as they stated that MVA was the difference between the market value of the company and the book value of the company represented in the statement of financial position under the paid-up capital (Brigham &

Houston, 2018). Table 6 shows the valuation of Dhaka Bank across the five years which the bank had disclosed in its annual reports where the valuation had significantly dropped to 1,702 million BDT in 2020 since 2017, which indicates Dhaka Bank's failure to retain its shareholders' wealth compared to the prior year.

$$Market\ Value\ Added = Market\ Value - Book\ Value$$

Year	No. of Shares Outstanding	Market Value per Share	Total Market Value (In BDT)	Face Value per Share	Total Book Value (In BDT)	Market Added Value
2016	687,900,686	BDT 17.90	12,313,422,279.40	BDT 10.00	6,879,006,860.00	**5,434,415,419.40**
2017	722,295,720	BDT 22.00	15,890,505,840.00	BDT 10.00	7,222,957,200.00	**8,667,548,640.00**
2018	812,582,685	BDT 14.20	11,538,674,127.00	BDT 10.00	8,125,826,850.00	**3,412,847,277.00**
2019	853,211,819	BDT 12.00	10,238,541,828.00	BDT 10.00	8,532,118,190.00	**1,706,423,638.00**
2020	895,872,409	BDT 11.90	10,660,881,667.10	BDT 10.00	8,958,724,090.00	**1,702,157,577.10**

Table 6: Market Value Added (MAV) of DBL

2.5.2 Accounting Practices of Dhaka Bank

Applying the accounting practices in relation to Dhaka Bank will be discussed using the generally accepted accounting principles (GAAP). The conceptual framework for financial reporting in accordance with the Financial Accounting Standards Boards consists of three levels which are as follows:

A. **First Level – Basic Objectives:** The first level is the pillar of the conceptual framework upon which the following levels is built. The purpose of financial reporting of a company allows its stakeholders such as investors, creditors, customers as well as regulators. For instance, the stakeholders can make decisions such as investors planning whether invest in the company or not, creditors deciding whether to lend, and regulators deciding if the companies require supervision. Dhaka Bank Limited annually publishes its annual reports for its stakeholders and holds Annual General Meeting as per the directives of Bangladesh Bank as well Bangladesh Securities Exchange and Commission (BSEC).

B. **Second Level – Qualitative Characteristics and Elements of Financial Statements:** The second level focuses on four qualitative characteristics of financial reporting: relevance, reliability, comparability, and consistency. In the case of Dhaka Bank, they can provide relevant information to its stakeholders in a timely manner. They also need to ensure that the information they provide to the users is reliable. The financial reporting standards have to be comparable to its past data and the industry in general as they maintain consistency during the preparation of the financial statements. Dhaka Bank ensures all these characteristics as they follow the International Accounting Standards (IAS) and International Financial Reporting Standards (IFRS) during the financial reporting, and it is also audited by the Chartered Accountancy firms, which ensures reliability. The elements consist of assets, expenses, and revenue. In the case of Dhaka Bank, are the loans and advances, which are assets, salaries, costs, and interest revenues that need to be presented in the financial statements.

C. **Third Level – Assumptions, Principles and Constraint:** The third level consists of assumptions consisting of factors such as the going concern, which states that Dhaka Bank will continue to operate in the foreseeable future and prepare financial statements on a going concern basis. The principles consist of concepts such as revenue recognitions that Dhaka Bank applies when recognizing interest revenue and non-interest revenue and the concept of full disclosure in their financial statements. They provide all the information that is important in the decision-making of the stakeholders. Constraints include concepts such as materiality concepts, which states that the financial statements should only include information that influences the users' decision-making process.

Dhaka Bank's compliance with the Regulatory Body

As Bangladesh Bank is the regulatory body of the entire banking industry, thus Dhaka Bank is required to prepare the financial statements according to the guidelines of Bangladesh Bank and International Financial Reporting Standards (IFRS) and International Accounting Standards (IAS). Dhaka Bank also needs to follow the rules and regulations of the Bangladesh Securities and Exchange Commission (BSEC) and the Company Act, 1994 during the preparation of financial statements. Appendix-B shows the list of standards that Dhaka Bank complies with in accordance with IFRS and IAS. They have also included the standards that are not applicable in the banking industry to maintain transparency.

2.6 Operational Management and Information System Practices

2.6.1 Operational Management of Dhaka Bank

There are several areas of operational activities under the Operation Division in Dhaka Bank, the responsibility of which is to provide the highest quality of service to their customers. The operation division consists of several areas that operate under this, such as the Money Market Operations, the objective of which is to borrow and lend funds in the money market using instruments like treasury bills and bonds. Another major operation is the Foreign Remittance Operations, which deals with a major source of revenue for Bangladesh from expatriates in foreign countries. The operation division also consists of the Cash Management Operations, Branch Operations, and Swift Operations, through which Dhaka Bank deals with foreign banks regarding interbank secure communications and transactions across the globe.

2.6.2 Information System Practices

The management information system practices in Dhaka Bank are of utmost importance in the current dynamic environment, just like any other organization. The implementation of the banking software has dramatically improved the customer experience as well as the work efficiency. Dhaka Bank has different software at its disposal for all of its operating divisions, such as the Flexcube Universal Banking Solution (FUBS), which some of the top banks in the world use. The FUBS allows the bank to use features like Real Time Gross Settlement (RTGS) and Electronic Funds Transfer Network (EFTN) that can instantly send funds electronically without the use of actual money. Dhaka Bank also uses Oracle servers and a storage system that allows the bank to store and use data according to its need. The branches had nScreening software that allows storing the customer's information and cross-checking with the international sanction list. One of the vast areas of the IT department is the Digital Banking which focuses on Internet banking and Card Management System that enables the customers on making payments without visiting the bank every time a transaction takes place.

2.7 Industry and Competitive Analysis

2.7.1 SWOT Analysis

The SWOT analysis has been conducted on Dhaka Bank Limited to understand the organization's strengths, weaknesses, opportunities, and threats. This may allow the organization to focus on its strengths and opportunities while ensuring that they mitigate their weaknesses and overcome their threats. The SWOT analysis of Dhaka Bank Limited is as follows:

Strengths:

- *Diversified Line of Business:* Dhaka Bank is one of the private commercial banks with a strongly diversified line of business with profitable subsidiaries. Some of the subsidiaries of Dhaka Bank are Dhaka Bank Securities Limited and Dhaka Bank Investment Limited.
- *Highly Skilled Board of Directors:* Dhaka Bank has some of the most highly experienced professionals who are presently the directors of Dhaka Bank and continue to lead the organization towards excellence using their knowledge about various industries.
- *Latest Technology and Information System:* Dhaka Bank strongly focuses on implementing the latest banking software and enhancing the customer experience. They provide services and regularly train their employees from foreign instructors to get familiar with the software.

Weaknesses:

- *Lack of Product Diversification in Export:* Dhaka Bank does not have enough products and services in terms of export as most of the earnings come only from the RMG sectors rather than focusing on other sectors.
- *Lack of Promotion on SMEs and Entrepreneurial Businesses:* Dhaka Bank does not properly promote its product and services to its intended target customers. With a growing economy, Dhaka Bank is losing potential customers.
- *Lack of ATM Booths:* Despite the emphasis on Card Management Operations, Dhaka Bank only has 64 booths across 17 districts which are pretty low compared to other banks. This can cause inconvenience for the customers and hamper the customer experience for many people.

Opportunities:

- *Adding More Services for Customers' Convenience:* Dhaka Bank have recently introduced an account opening apps that allow customers to open accounts from their home. Dhaka Bank can take more initiatives to introduce services to ensure the safety of the customers.

- *Policies by Bangladesh Bank:* The central bank of Bangladesh has taken measures for the banking industry to prevent the banks from facing losses in their operations. The updated policies that are applicable only during the ongoing pandemic can be beneficial to DBL.

Threats:

- *Impact of Pandemic:* The Coronavirus has impacted almost all the industries across Bangladesh, especially the banking industry. As the financial ratios show, all the ratios of Dhaka Bank have been negatively impacted.
- *Maintaining Asset Quality:* The current business environment has caused the NPL to rise across the industry as the loan recovery rate has reduced. It also poses a threat to Dhaka Bank.
- *Fierce Competition in Banking Industry:* With 61 banks operating in Bangladesh, Dhaka Bank faces a lot of competition from its rivals from the public and private sectors as well as rivals from foreign countries.

2.7.2 Porter's Five Force Analysis

- **Bargaining Powers of Suppliers:** The degree of bargaining power of the suppliers is low to moderate depending on the suppliers. The supplier in the case of Dhaka Bank is the depositors such as individual savers and other financial institutions. Individual people tend to seek banks that provide them with the highest interest returns; thus, they may easily switch between banks, thus having a moderate bargaining power. Financial institutions tend to have good interbank relations and high switching costs, resulting in low bargaining power.
- **Bargaining Powers of Buyers:** The degree of bargaining power of the customers is also low to moderate depending on the clients. The clients consist of borrowers of Dhaka Bank, such as individual borrowers as well as big corporations. The switching behavior of the clients mainly rises due to the interest rate of borrowing funds and customer services. With the help of the internet, customers differentiate the prices between banks and switch depending on their preference, making the bargaining power moderate. For the clients who are big corporations, the switching cost is very high as the bank deals with the transaction of the clients as well as the past relationship with the client. This makes the bargaining power of large clients low in comparison with individual clients.

- **Threats from New Entrants:** The degree of threat for DBL from new entrants is low. This is because the banking industry can be considered saturated as there are many banks and non-banking financial institutions (NBFI). In addition, the start-up capital requirement is very high, preventing most corporations and investors from entering the market. Furthermore, the entrants may also require a lot of confidence from the customers in order for them to deposit funds into the bank, which is another barrier. The Dhaka Bank faces a very low threat from the new rivals.
- **Threats from Substitutes:** The degree of threat for DBL from substitutes services is moderate. Banks are registered and operate as a financial institute. The following close substitutes to the banks are the non-bank financial institutions (NBFI), which provide similar services loans and lease financing. Some of the examples of NBFI are IPDC Finance, IDLC Finance, Midas Financing, etc. and can choose these companies over the banks. The makes the threat moderate for the banks as customers may switch in some cases, although the banks are regarded as safer options.
- **Competitive Rivalry Among Banks:** The degree of competitiveness for DBL is very high for Dhaka Bank. As of 2021, there are a total of 61 banks in Bangladesh, 43 of which are classified under private commercial banks like Dhaka Bank. Thus, the competitive rivalry in the banking industry is very high.

2.8 Summary and Conclusion

This chapter firstly discussed about Dhaka Bank and its objectives before moving on to the different areas of Dhaka Bank and its functions. The chapter explored Human Resource Management and how Dhaka Bank recruited and managed its employees. Then, the chapter focused on the marketing strategies and product lines Dhaka Bank offers to its clients. The financial performance was also analyzed using the financial ratios from the CAMELS rating as well as the accounting practices Dhaka Bank complies with. The operational division is one of the biggest departments of the bank, which was discussed along with the software used in the bank. Finally, a SWOT analysis was conducted in the chapter to understand the bank's overall performance, along with Porter's Five Force analysis to further understand the banking industry.

To conclude, Dhaka Bank Limited is one of the reputed private commercial banks that has been operating in Bangladesh for over 26 years. Throughout the journey, Dhaka Bank has devoted to provide its customer with superior service using the all of its resources. With an award of the best corporate and investment bank in 2021, Dhaka Bank continues to achieve its mission in providing unique solutions to its client.

2.9 Recommendation

While this chapter focused thoroughly on the operations of Dhaka Bank as a part of a strategic audit, I found particular areas in which Dhaka Bank can focus and might be benefitted. The following recommendations are as follows:

- Dhaka Bank puts less emphasis on some of its products, such as the SME and Entrepreneurial areas, which may be profitable for Dhaka Bank. In addition, a significant portion of the earnings comes from the RMG industry. Dhaka Bank should focus on other areas to reduce their dependency on this one particular industry.
- Dhaka Bank has been trying to expand its operations across Bangladesh as they opened over ten branches over the past five years; however, the number of booths and SME services centers have slightly changed over the same period. The competitors of Dhaka Bank have much higher booths and automated deposit machines. Thus, DBL needs to also focus on this area in order to provide a better customer experience.
- Amidst the pandemic, Dhaka Bank should push towards Green Banking activities through which the bank can minimize the hassle of visiting the bank frequently, such as introducing online account software that does not require the customer to visit the bank but instead can access the facilities from their home.

Chapter 3: Implementation and Effectiveness of the Internal Credit Risk Rating in the Banking Industry: A Study of Dhaka Bank Limited

3.1 Introduction

3.1.1 Background of the Study

One of the major roles of financial institutions such as banks and other financing companies is to provide loan facilities to their customers, who may be individuals, organizations, or governments. Loan facilities, as we know, come in different forms, such as credits, loans, and advances that banks provide to their clients in order to generate profit. On the contrary, providing services to the clients also brings up several types of risks for the financial institutions such as credit risk, foreign exchange risk, money laundering risk, operations risk, etc. However, one of the major risks for the banks is the credit risk. While the banks have the Risk Management Division in place to deal with the different types of risk the banks face, an entirely different department is set to deal with the credit risk, known as Credit Risk Management. According to Roses and Hudgins (2012), credit Risk refers to the risk faced by banks when the clients fail to repay their obligations to their banks which can be referred to as both the principal and interest amount.

Although it is not possible to completely remove the chances of credit risk arising during the lending process, Bangladesh Bank has identified and implemented few methods of assessing the credit risk throughout the years. These credit assessment tools may not have completely reduced a bank's credit risk but have helped them measure the credit risk and lend money to their clients with an acceptable level of risk involved. These tools have helped the banks assess different aspects of the clients and not just quantitative data but also the qualitative data. Throughout the time, Bangladesh Bank has managed to take further steps on making the credit assessment tools as reliable as they can, and recently, they have introduced the latest methods of assessing the credit risk with the new Internal Credit Risk Rating (ICRR) in 2018. Although all the banks have been instructed to implement this new method, no prior study has been done on this method compared to previous assessment tools. As a result, I want to conduct research on the effectiveness of this new method.

3.1.2 Objectives

The Credit Policies that Bangladesh Bank created with the aid of the government has been a guiding principle for all the financial institutions and guarded the interest for both the banks and its depositors across the time. Bangladesh Bank has ensured that the guidelines are updated to keep up with the economic development of Bangladesh. An example of this notion is the implementation of the ICRR System after the Basel III Accord in 2018, which allowed the banks to identify, assess and regulate the credit risk of the borrowers within limits (Guidelines on Internal Credit Risk Rating System for Banks, 2018). As a result, this research will discuss the guidelines that Bangladesh Bank had established for all the banks regarding the new system. Also, the research will also look at the challenges faced by the financial institutions during the implementation of new credit assessment tools and understand the conformance of the employees with the policy. In addition, to compare and contrast the ICRR System, the new framework would be evaluated with the previous assessment methods. Finally, the research will gather all evidence to prove the usefulness of the ICRR System. Hence, the reader will be able to understand the following:

- Bangladesh Bank guidelines on the implementation of the Internal Credit Risk Rating (ICRR) System for all the banks.
- The challenges faced by Dhaka Bank in particular in implementing the new guidelines and ensuring employees' adaptability with changes.
- Comparison between Internal Credit Risk Rating and the previous risk assessment methods.
- The effectiveness of the Internal Credit Risk Rating from the perspective of Dhaka Bank Limited.

3.1.3 Significance of the Study

To understand the significance of this research, it is important to be aware of the fact that the loan -facilities make up the majority of the revenue for the financial institutions; however, as the loan facilities of a bank increases, so does the exposure to credit risk. To ensure that the banks minimize the exposure of credit risk during their lending process, it is crucial and significant that the credit policies are present in the banks as per Bangladesh Bank. The credit policies are a result of certain accepted standards and other dynamic factors that have influenced the market and the economy of Bangladesh (Matin, 2020). As a result, the ICRR System plays a vital role in complying with the credit policies in accordance with Bangladesh Bank and assessing the exposure to credit risk for the banks. Hence, the research will not only understand the credit assessment method but also understand its effect on the banking industry and exposure to credit risk.

3.2 Methodology

The information required to conduct this research was obtained from few sources, and these findings can be classified under the primary and secondary data. Firstly, to gather first-hand information about the practices in the workplace, observation was a useful method along with the interview from an expert who had dealt with the task of the credit assessment. As the research continued, these methods were found to be beneficial in gathering in-depth information about the effectiveness of the ICRR system in the bank. In addition, a semi-structured questionnaire was taken with the branch manager and senior principal office who has been in charge of dealing with the bank's credit-related issues. The respondents were asked about the challenges faced by the bank during the implementation of the ICRR system across the banking sector. These primary sources were very useful in gathering information that was not found in any prior studies. In addition, the Credit Management Policy of Dhaka Bank Limited was an important source that corresponded with the guidelines of Bangladesh Bank and helped to provide a justification for the new method. These will also give insights into the differences between each method as well as the reasoning behind each method.

The data collection method also consisted of information that was collected from secondary sources such as the central bank of Bangladesh. Bangladesh Bank (BB) is the regulator for all the financial institutions that are operating in Bangladesh. BB is responsible for setting all the monetary policies and guidelines for the financial institutions to follow, which are available on their website. Therefore, BB had published the updated guidelines for the credit assessment, which was very helpful in understanding the objectives and procedure of the ICRR system as well as the previous methods of the credit assessment. Furthermore, the annual reports of DBL were also collected from the website to analyze the performance of DBL before and after the implementation of the new ICRR system and determining how successful the system was in terms of minimizing the risk of lending funds to the borrowers of DBL and the impact on the earnings. Moreover, to understand the past methods of credit assessment such as the Lending Risk Analysis, additional information was accumulated from journal articles and previous research papers to know about the guidelines that were not available on the Bangladesh Bank website.

3.3 Findings and Analysis

3.3.1 Methods of Credit Assessment Tools

Lending Risk Analysis (LRA) Framework

As per the Bangladesh Bank, it can be seen that the Lending Risk Analysis (LRA) framework was the first credit assessment tool to come into effect in 1993 by Bangladesh Bank for all the financial institutions in Bangladesh. According to Kamal (2005), the roles of the financial institutions revolve mainly around the three activities, which are investing activities, financing activities, and saving activities. These activities enable the banks to help the economy to progress. In addition, the author also stated that the significance of the money market in third world countries such as Bangladesh is much higher as the funds lent by the banks helps the economy to prosper. While the loan facilities have tremendously benefitted many sectors of Bangladesh, in particular the agriculture, trade finance, textile and garment industries, and SME sectors, banks regularly keep track of the sectors that require funding (Matin, 2020). However, it is the responsibility of the banks to remember that the funds acquired by the banks belong to the masses such as individuals, corporations, and the government, and these funds should be properly utilized. Hence, it is of the utmost importance that the banks ensure that the funds are properly rotated around the economy and returned to their lenders, and these can be achieved through proper credit policy and LRA framework (Kamal, 2005).

When the Lending Risk Analysis (LRA) framework was introduced, Bangladesh Bank instructed all the banks to use the framework as a means of assessing the degree of risk. However, as per the guidelines, the banks would conduct the analysis in the cases where loans exceeded Taka 10 million (ICRR, 2018). In addition, the LRA framework gave more emphasis on measuring the degree of risk associated with each loan and allowed the officers to scrutinize the loan proposal carefully before sanctioning the loans. While the definition of the risk is quite broad, the LRA concentrated on the risk associated with lending/disbursing loan facilities, such as the Business risk and Security risk. Business risk ensues when the borrower is unable to repay the loan to the bank due to unlikely events. These events are the results of different types of risk, which are known as Company Risk and Industry Risk. Similarly, security risk refers to the risk that arises when the bank is vulnerable due to having poor quality of securities against the loan. This scenario can be risky for the bank in the case of a default by the borrower (Matin, 2020). Figure 14 illustrates the types of risks that were assessed by the credit officers in the LRA framework before the disbursement of the loan to the borrowers. Once the risks had been identified, the credit officers would rate each of the risks from the following; *Low, Average. High or Excessive*. The figure has been represented as per the description of Kamal (2005) in his report "Lending Risk Analysis of Projects Sponsored by Banks".

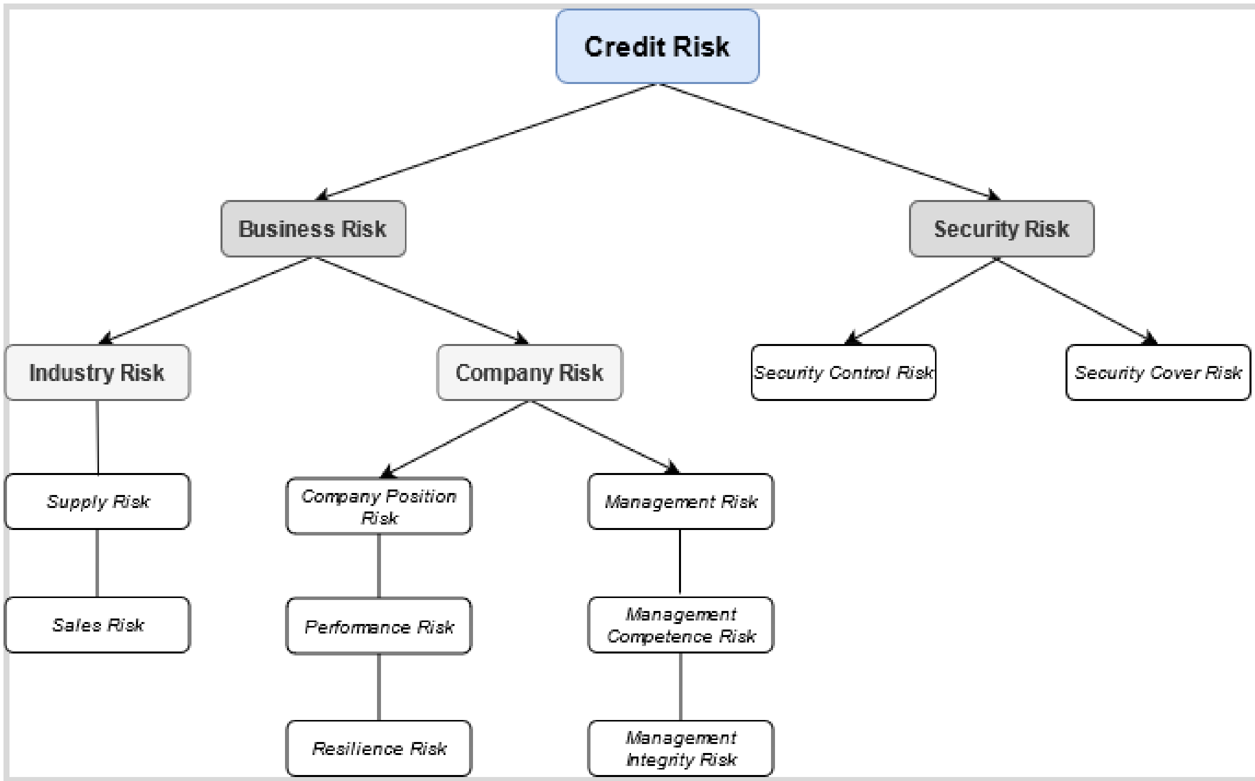

Figure 14: Credit Risk as per LRA Framework

Once the risks had been assessed, the officers would conduct a study to test whether the loan proposal was a good project or not. The study consisted of a series of tests such as Feasibility Analysis, Technical Analysis, Financial Analysis, Managerial and Organizational Analysis. Kamal (2005) demonstrated a flow chart that was used by the officers to distinguish good projects, which is shown in Figure 15.

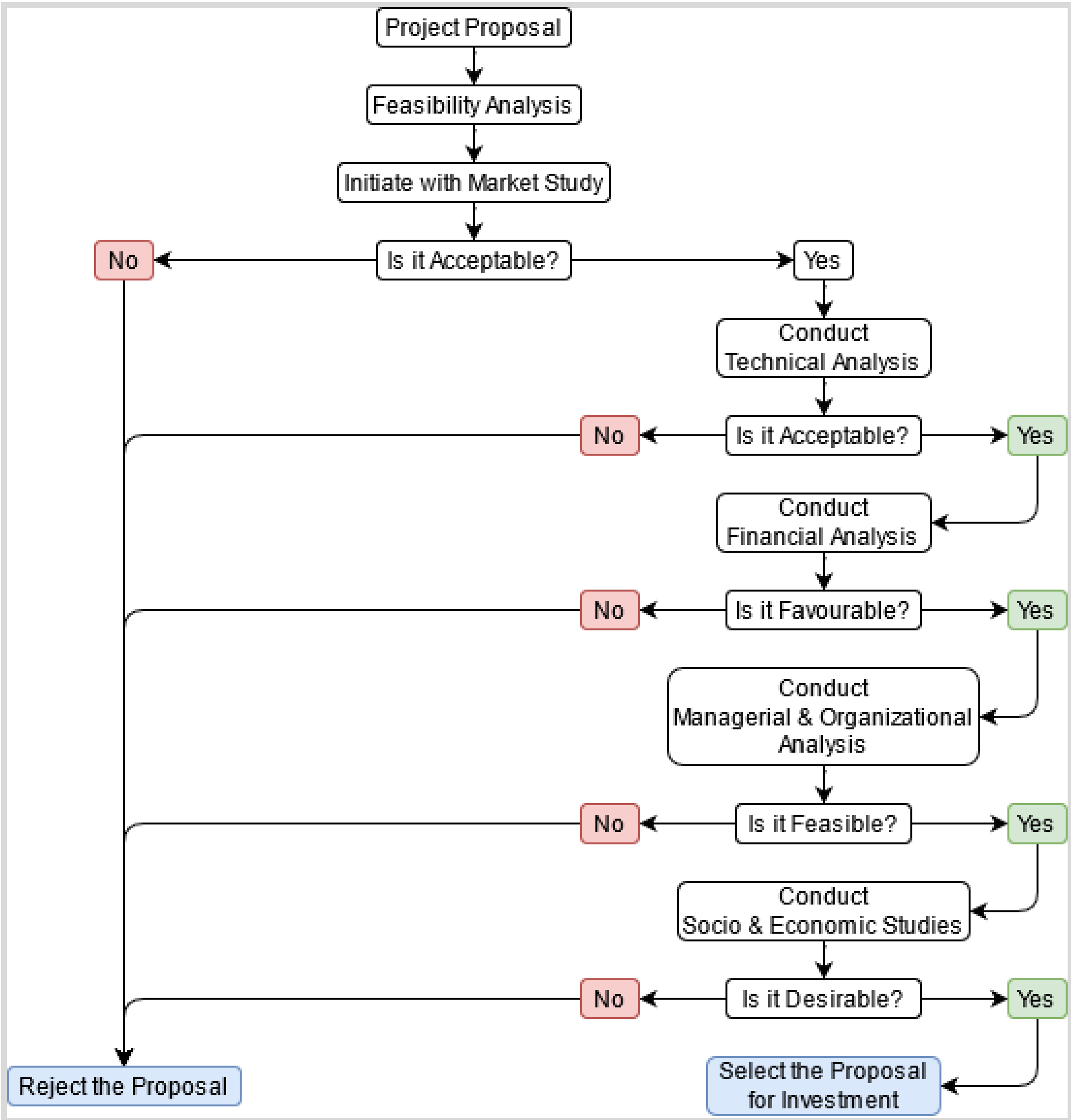

Figure 15: Flowchart for Determining Good Project

The Lending Risk Analysis framework was the first formal risk assessment tool to be used by all the financial institutions in Bangladesh. It allowed the banks to understand the level of risk it had been exposed to and minimized the risk through the LRA framework. According to Rahman (2011), the LRA framework helped the bankers to realize that the customer's obligation or securities of the loan was one of the main concerns that the banks should focus on, and before sanctioning any loans, the bank should assure that the securities were more than the principal amount disbursed. This allowed the banks to minimize the risk involved in lending funds. However, the framework was still far from being a perfect assessment tool due to several limitations. The LRA framework only analyzed the financial risk and security risk of the loan and did not monitor the risk after the loans were disbursed to the customers. In addition, the framework did not assess loans less than Taka 10 million or the unclassified loans. As a result, Bangladesh Bank would introduce a new credit assessment tool that would overcome the limitation and help the financial institutions to evaluate the credit risk more effectively.

Credit Risk Grading (CRG) Matrix

While the Lending Risk Analysis was in effect till 2005, Bangladesh Bank made an attempt to assess and grade the unclassified loans by creating the Core Risk Management Guidelines (CRMG), which the prior LRA framework did not consider in the risk assessment. Therefore, the new Credit Risk Grading (CRG) was introduced and implemented by Bangladesh Bank in 2005 for all the financial institutions to assess the risk before sanctioning loans to the clients. Unlike the LRA framework, which focused solely on the pre-sanction stage, the CRG matrix focused on both the pre-sanction and post-sanction stages of the lending process. This allowed the banks not only to decide whether to provide loans to the clients but also help to decide whether to renew the loans based on the performance of the clients (Credit Risk Grading Manual, 2005).

The Credit Risk Grading matrix was a result of the former risk assessment tool as the LRA framework was subject to a lot of confusion and criticism. The LRA framework lacked the capabilities of measuring the level of exposure, and by judging the performance of the employees, it was evident that the framework was far from a user-friendly model for the financial institutions as well as its employees. Therefore, the Governing Board of Bangladesh Institute of Bank Management (BIBM) initiated the introduction of a new risk assessment tool. As per the definition of Bangladesh Bank, the CRG matrix was a scale that would allow the financial institutions to identify the essential risks that the banks were exposed to and represented these results with certain numbers and letters.

One of the key features of the CRG matrix was the addition of the Risk Grade Score Card, which assisted the credit officers in assessing credit proposals of the clients. The Risk Grade Score Card would be used by the officers as they scored different criteria such as the financial position of the client, the industry in which the client operated, the quality of the securities against which the loan is sanctioned, etc. Bangladesh Bank had published a detailed guideline in 2005 when the credit assessment tool was implemented for all the banks to follow. Furthermore, the CRG matrix considered more risks than the LRA framework to minimize the chances of loans defaulting, which can be seen in Figure 16 as per the guideline of Credit Risk Grading Manual by Bangladesh Bank.

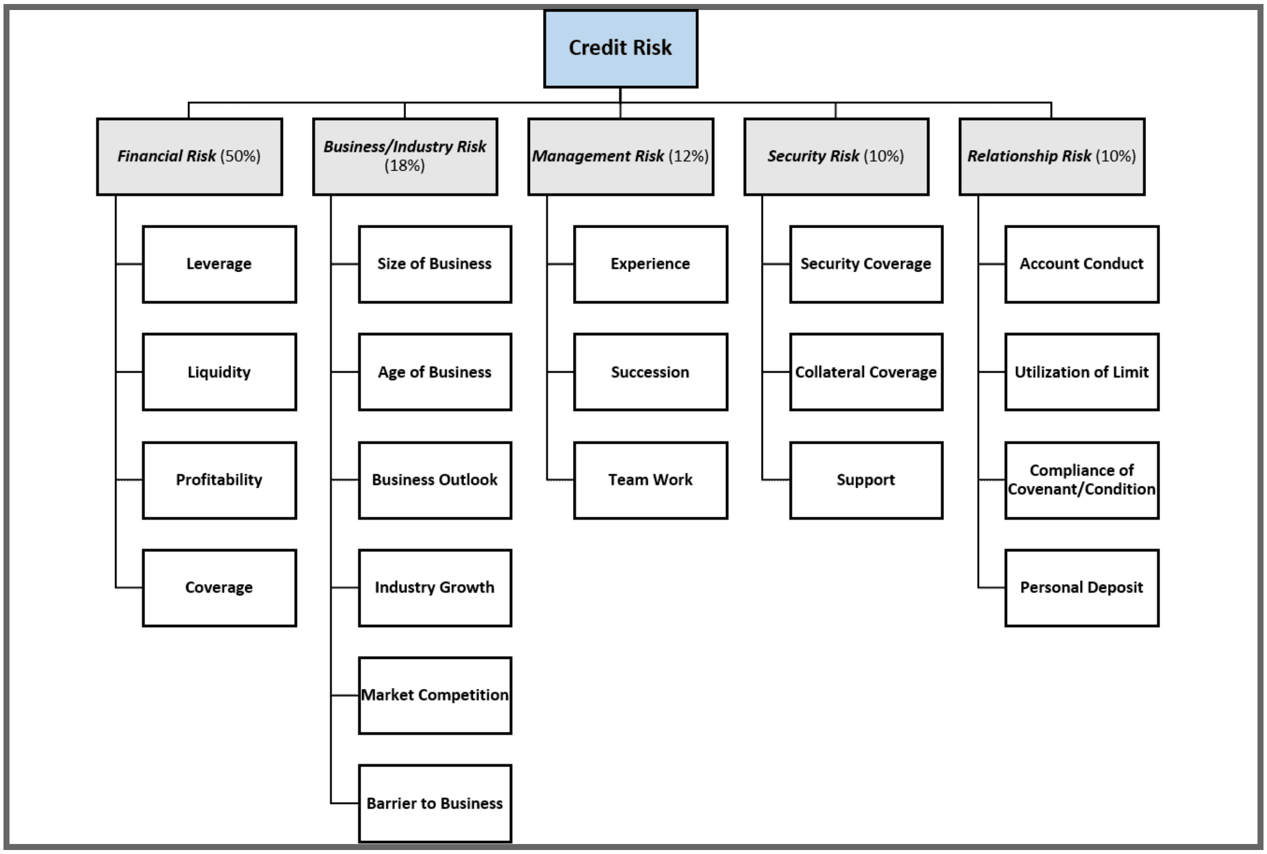

Figure 16: Credit Risk as per CRG Matrix

To summarize the CRG matrix, the whole assessment had been categorized between several criteria and used to be calculated on a scale of 100. These criteria were the Financial risk, Business/Industry risk, Management risk, Security risk, and Relationship risk. Also, these criteria were divided into two parts of the assessment, which were the quantitative and qualitative data. As Figure 16 shows, the quantitative aspect of the assessment consisted of one criterion, which was the financial risk, and the weight of the financial risk was 50 percent. The financial risk included four aspects of the client, which were leverage, liquidity, profitability, and coverage, which were calculated using the following ratios; debt-equity ratio *(15%)*, current ratio *(15%)*, operating profit margin *(15%)*, and interest coverage ratio *(5%)* respectively. On the other hand, the qualitative aspect of the assessment consisted of three criteria which were the business/industry risk *(18%)*, management risk *(12%)*, security risk *(10%)*, and relationship risk *(10%)*, which accumulated to the rest of the 50% of the scale. The business/industry risk consisted of criteria such as the size of the business in terms of sales and the age of the business it has been active for, and other factors. Management risk focused on the strengths and experience of the business management team, and security risk focused on the quality of the collateral coverage of the client's business. Finally, the relationship risk focused on the past history of the client with the bank and their compliance with the rules and regulations of the bank. For a better understanding, the Credit Risk Grading Score Sheet has been given in Appendix-C

Once all the criteria had been calculated, the CRG matrix required the credit officers to rank each loan proposal by the clients from the categories set by Bangladesh Bank, which are Superior (SUP), Good (GD), Acceptable (ACCPT), Marginal/Watchlist (MG/WL), Special Mention (SM), Substandard (SS), Doubtful (DF), Bad and Loss (BL). The loan proposals were ranked according to the scores from the Risk Grade Score Card out of a 100-point scale. As per the guidelines of Bangladesh Bank, the first three categories were considered to be ideal ranks that the borrowers should have, and these clients were reviewed once a year while the Marginal borrowers were reviewed at least twice a year. On the contrary, the last four ranks of the Risk Grading matrix were not ideal ranks and generally tended to be the riskier loan proposals that were required to be reviewed each quarter of the financial year. The CRG matrix will be further explained in the following chapters, where the CRG matrix will be compared with the other two risk assessment models.

Internal Credit Risk Rating (ICRR) System

While the Credit Risk Grading (CRG) matrix was in effect since 2005, the ICRR system was implemented on 30th October 2018 by Bangladesh Bank for all the financial institutions as it published a guideline for the new system. According to Bangladesh Bank, the ICRR system was a tool that helped the financial institutions to determine the ability of the clients in repaying the borrowed funds back to the lender. Financial institutions such as banks would be able to determine the creditworthiness through certain criteria set by Bangladesh Bank (Guidelines on Internal Credit Risk Rating Systems for Bank, 2018). The committee had thoroughly studied different aspects of the credit risk and included additional factors and criteria, and the purpose of these actions was to achieve a more robust assessment technique in determining the creditworthiness of the clients.

In regards to the CRG matrix, Bangladesh Bank had not removed the CRG matrix but improved upon the framework and the result of which was the newly implemented ICRR systems. ICRR system continued to use the Risk Grade Score Card to assess the loan proposals, but unlike the CRG matrix, the committee had newly created twenty different templates for each of the twenty industries in Bangladesh. As per Bangladesh Bank, the system was used to analyze fifty-four companies and twenty-two banks during the initial study before the system was fully developed and implemented.

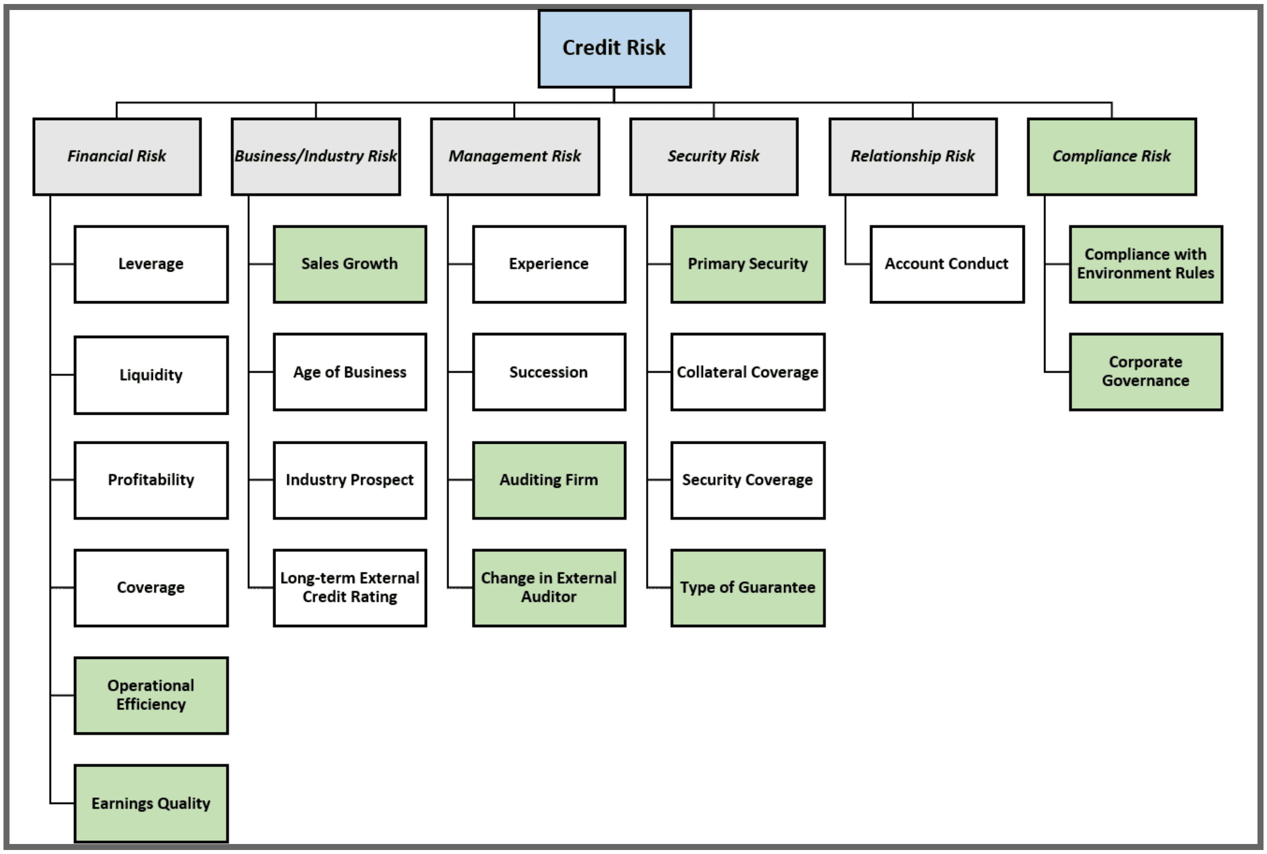

Figure 17: Credit Risk as per ICRRS

As mentioned earlier, the review committee had conducted a thorough study to improve the CRG matrix. While some of the aspects of the CRG matrix are present in the ICRR system, Figure 17 shows the additional aspects in green that were newly added into ICRRS template in accordance with BB. ICRR system followed the former assessment tool as the system consisted of both qualitative and quantitative data and scored each loan proposal on a 100-point scale. The Financial Risk consisted of the quantitative data, which included two additional factors of the clients, which were the operational efficiency and the earnings quality, and the summation of all the factors equaled 60 points out of 100. ICRR system also considered the performance of the client both with banks as well as suppliers of the clients and scored out of 10 points, the business/industry risk and management risk both consisted of 7 points each as the criteria scored different levels of risk. The security risk consisted of 11 points as it scored the securities against the fund borrowed as well as the types of guarantees the client had with the bank. The relationship aspect of the assessment determined how transparent the clients' account has been with the bank over the past three years, and based on the findings, and the analyst would score the client out of 3 points. Finally, the new system consisted of an extra criterion which was the Compliance Risk which consisted of the compliance with the environmental regulations and the Corporate Governance Code and scored the client out of 2 points. The template for the Internal Credit Risk Rating has been provided in Appendix D.

The next step into the ICRR system required the credit analyst to rank the loan proposals; however, Bangladesh Bank provided a simpler ranking scale for all the loan proposals. The aggregate score out of 100-point scale would be provided in four ranks which are Excellent, Good, Marginal, and Unacceptable, and was represented in the template with the colors Green, Blue, Yellow, and Red respectively. In case the result of the analysis fell on Marginal or Unacceptable, the relationship manager of the clients is required to perform an evaluation on the aftereffect on the repayment of the fund and a method of mitigating the risks and submitting to the banking authority, which would then be approved by the manager.

3.3.2 The Implementation of ICRR System as per Bangladesh Bank

As stated by Bangladesh Bank, the economy of Bangladesh has rapidly changed over the years resulting in a more dynamic environment. Bangladesh Bank deemed that the previous method was no longer the most accurate way of assessing the credit risk of lending funds. As a result, the Executive Director of Bangladesh Bank set up a committee consisting of ten members who are set with a target of remodeling the credit assessment tool that was applicable with the current economic status of Bangladesh. The committee consisted of members from different areas such as the Department of Banking Inspection, Banking Regulation and Policy Department, Financial Stability Department in Bangladesh Bank. Other members were from the banking industry as well as academic researchers from Bangladesh Institute of Bank Management (BIBM) and the University of Dhaka who had assisted in the preparation of the Internal Credit Risk Rating.

Upon the completion of the ICRR system, Bangladesh Bank had provided general instructions for all the financial institutions to follow as they newly adopted the system for assessing risk and exposure of the loans. Firstly, all the financial institutions were strictly prohibited from making any alteration to the new template. Financial institutions would not be able to add new criteria or skip any steps in the assessment process. The ICRR guidelines stated that the model was applicable for all sorts of loans except consumers loans, small enterprise loans below fifty lakh taka, small manufacturing enterprise loans below one crore taka, as well as short-term agricultural loans and micro credit loans for financial institutions such as banks, non-banking financial institutions, and insurance companies. Next, the guideline instructed that the quantitative aspect of the assessment must be completed by the credit officers using the latest financial statements, whereas the qualitative aspect is required to be conducted by the manager of the branch or the relationship manager. Upon the completion of the test, the executive summary should be reported to the Credit Risk Officer (CRO) for approval. This means that the ICCR system is an essential step in the loan approval process by the bank. After the sanction stage, the credit proposals are required to be reviewed by the credit officers in case there is a need for renewal or enhancement in the credit proposals. The banks are placed in charge of regularly auditing each branch and their credit proposals to ensure that the ICRR system is functioning properly.

3.3.3 Comparison of ICRR System with Previous Methods

Comparison of LRA with CRG & ICRR

The banking industry of Bangladesh has seen three credit assessment tools over the decades. The Lending Risk Analysis framework was the first credit assessment tool that was implemented in 1993. The next two credit assessment tools were Credit Risk Grading matrix and Internal Credit Risk Rating system that were implemented in 2005 and 2018 respectively. While the focus of this subsection is to understand how the credit assessment has changed over the time, it is important to note that the LRA framework was vastly different from the other two assessment tools. Firstly, the LRA framework did not have a proper conceptual framework in assessing the risk when it came to lending funds to the borrowers. In addition, the framework was not applicable for loans which were below 10 crore taka and unclassified loans. The economy during the 1990s was much different from the present scenario, as a result, the credit analyst did not consider many aspects of lending loans. Therefore, the way financial institutions analyzed the risk was different from the present times as researchers have identified more risks that the banks are exposed to. As an illustration, Figure 3.1 and 3.3 in the previous chapter shows the different types of credit risk that the bank is exposed to in the present scenario. In addition, the LRA framework was used only in the pre-sanction stage of lending funds whereas the CRG matrix and the ICRR system focused both on the pre-sanction and post-sanction stage to measure the level of exposure of the banks. When it came to scoring the level of risk, the LRA framework rated the loans from the category of *Low, Average. High or Excessive* with no explicit boundaries. The other assessment tools ensured that there were clear boundaries of each rank for the readers to understand.

Comparison between ICRR and CRG

During the implementation of the Credit Risk Grading in 2005, Bangladesh Bank decided to change the conceptual framework of the risk assessment tools. The CRG matrix newly consisted of a Risk Grade Score Card which was used to measure the level of exposure for the banks. While the ICRR was implemented to keep up with the economic development of Bangladesh, the Risk Grade Score Card was still in use. Both the assessment tools used a similar template and procedure to assess the credit risk of every client and their loan proposals.

However, when the review committee from Bangladesh decided to improve the CRG matrix in 2018, they had changed many aspects of the assessment tool, which resulted in the creation of the ICRR system. One of the ways in which the CRG matrix differed from the ICRR system was that the CRG only used one template to assess the exposure for all types of loans across all the sectors in Bangladesh. Whereas the review committee had changed this process and created twenty different templates for the entire twenty sectors listed under the Industry, Trade and Commerce, Agro Base and Agro-Processing, and Service sectors. The objective of this decision was to find a more accurate method of determining the level of exposure. Bangladesh Bank stated that to assess the exposures of different sectors, financial institutions should use different standards and yardsticks that are relevant to the characteristics of that particular industry. Moreover, the assessment process of CRG and ICRR differed as the committee changed the criteria of the test. Both the assessment method consisted of qualitative and quantitative evaluation done by the credit analyst and the rated out of 100-point scale and provided a credit risk rating based on the score.

The following tables will illustrate the difference of each method in terms of the quantitative and qualitative aspects as well as the credit risk rating.

Credit Risk Grading		Internal Credit Risk Rating	
Leverage ▪ Debt Equity Ratio	**15%** 15%	**Leverage** ▪ Debt to Tangible Net Worth ▪ Debt to Total Asset	**10%** 5% 5%
Liquidity ▪ Current Ratio	**15%** 15%	**Liquidity** ▪ Current Ratio ▪ Cash Ratio	**10%** 5% 5%
Profitability ▪ Operating Profit Margin	**15%** 15%	**Profitability** ▪ Net Profit Margin ▪ Return on Assets ▪ Operating Profit to Operating Assets	**10%** 5% 3% 2%
Coverage ▪ Interest Coverage Ratio	**5%** 5%	**Coverage** ▪ Interest Coverage Ratio ▪ Debt Service Coverage Ratio ▪ Operating Cash Flow to Financial Debt Ratio ▪ Cash Flow Coverage Ratio	**15%** 3% 5% 4% 3%
N/A	**N/A**	**Operational Efficiency** ▪ Stock Turnover Days ▪ Trade Debtor Collection Days ▪ Asset Turnover	**10%** 4% 3% 3%
N/A	**N/A**	**Earnings Quality** ▪ Operating Cash Flow to Sales ▪ Cash Flow based Accrual Ratio	**5%** 3% 2%
Total Quantitative Data	**50%**	**Total Quantitative Data**	**60%**

Figure 18: Comparison of Quantitative Data between CRG and ICRR

Following the guidelines of both the models, Figure 18 shows that in assessing the credit risk of the client, the banks determined the quantitative aspect of the client, which alone involved the financial risk. The CRG matrix focused on four criteria to assess the borrowers' level of exposure in terms of leverage, liquidity, profitability, and coverage, whereas the ICRR considered two additional criteria, which were operational efficiency and earnings quality. Furthermore, the previous method consisted of only four ratios in the quantitative data with a weight of 50% out of a 100-point scale. The newly implemented ICRR system consisted of 16 ratios in the quantitative data with a total weight of 60%. This would allow the credit analyst to determine the financial position of the clients more accurately rather than making decisions based on only four ratios. The purpose of analyzing the leverage aspect of the client is to identify how much of the capital of clients came from external sources while the profitability and liquidity aspects focus on how much profit is the client making and holding liquid assets to repay the funds borrowed from the bank. The coverage aspect focused on the securities that are backed against the fund borrowed and the quality of the securities. While the CRG only focused on these aspects, Bangladesh Bank realized the financial institutions should also consider the quality of earnings as well as the operational efficiency of the client from day-to-day activities, which would provide the banks with better insight into the clients' business.

Credit Risk Grading		Internal Credit Risk Rating	
N/A	N/A	<u>Performance Behavior</u> ▪ Performance Behavior with Banks Borrowings ▪ Performance Behavior with Supplier/Creditors	<u>10%</u> 5% 5%
<u>Business/Industry Risk</u> ▪ Size of Business ▪ Age of Business ▪ Business Outlook ▪ Industry Growth ▪ Market Competition ▪ Entry/Exit Barriers	<u>18%</u> 5% 3% 3% 3% 2% 2%	<u>Business/Industry Risk</u> ▪ Sales Growth ▪ Age of Business ▪ Industry Prospect ▪ Loan-Term External Credit Rating of the Borrower	<u>7%</u> 2% 2% 1% 2%
<u>Management Risk</u> ▪ Experience (Management & Management Team) ▪ Second Line / Succession ▪ Team Work	<u>12%</u> 5% 4% 3%	<u>Management Risk</u> ▪ Experience of the Management ▪ Existence of Succession Plan ▪ Auditing Firms ▪ Change of Auditors in Last 4 Years	<u>7%</u> 2% 2% 2% 1%
<u>Security Risk</u> ▪ Security Coverage (Primary) ▪ Collateral Coverage (Property Location) ▪ Support (Guarantee)	<u>10%</u> 4% 4% 2%	<u>Security Risk</u> ▪ Primary Security ▪ Collateral ▪ Eligible Collateral Coverage ▪ Type of Guarantee	<u>11%</u> 2% 5% 2% 2%
<u>Relationship Risk</u> ▪ Account Conduct ▪ Utilization of Limit ▪ Compliance of Covenant / Conditions ▪ Personal Deposits	<u>10%</u> 5% 2% 2% 1%	<u>Relationship Risk</u> ▪ Account Conduct	<u>3%</u> 3%
N/A	N/A	<u>Compliance Risk</u> ▪ Compliance with Environmental Rules, Regulation and Covenants ▪ Corporate Governance	<u>2%</u> 1% 1%
<u>Total Qualitative Data</u>	<u>50%</u>	<u>Total Qualitative Data</u>	<u>40%</u>

Figure 19: Comparison of Qualitative Data between CRG and ICRR

Once the quantitative data has been calculated by the analyst, the next step focuses on the qualitative data of the clients. As Figure 19 illustrates as per Bangladesh Bank, the CRG matrix focused on four types of risk which were the industry risk, management risk, security risk, and relationship risk. The weight of the qualitative aspect in the CRG matrix consisted of 50%, whereas the ICRR focused slightly less on this aspect and had a weight of 40% out of a 100-point scale. Although both the assessment framework had 17 factors under the qualitative aspect, the ICRR system allocated less weight for each factor. The CRG matrix emphasized more on the business/industry risk as various aspects of the client's business were analyzed as well as the management risk, security risk, and relationship risk. During the creation of the ICRR system, the review committee omitted several factors from business risks and relationship risks, as depicted in the table above. In contrast to these omissions, the committee added new criteria about the performance behavior of the client with their suppliers and the bank itself. Additionally, the new system considered factors such as the auditors and their firms as well as the implementation of corporate governance in the client's firm. Finally, during a semi-structured interview with the credit in-charge officer from Dhaka Bank Limited, stated that the former CRG matrix only considered the items from the income statement and the balance sheet in the assessment process but the ICRR system included to consideration of the statement of cash flow in the analysis of the credit risk involved.

Credit Risk Rating (CRG)		Internal Credit Risk Rating (ICRR)	
Rating	**Scores**	**Rating**	**Scores**
Superior	▪ 100% cash covered ▪ Government guarantee ▪ International bank guarantee	*Excellent*	≥80%
Good	≥85%	*Good*	≥70 to <80%
Acceptable	≥75% to <80%	*Marginal*	≥60% to <70%
Marginal / Watchlist	≥65% to <75%	*Unacceptable*	<60%
Special Mention	≥55% to <64%		
Sub-standard	≥45% to <54%		
Doubtful	≥35% to <44%		
Bad & Loss	<35%		

Figure 20: Comparison of Credit Rating between CRG and ICRR

Once the assessment has been completed by the credit analyst, they are required to rate each of the proposals on the basis of the scores from the 100-point scale. The aggregate score limit has been represented in Figure 20 as per the guidelines of both CRG matrix and ICRR systems from Bangladesh Bank. According to the policies of the CRG matrix, loans were rated superior when there was 100% cash covered as well as government guarantee. Good and Acceptable refers that the client has good capacity and liquidity of repaying the loans as well as a good record with the bank. Marginal/Watchlist and Special Mention may indicate that the clients are falling short of repaying the loans and require close supervision from the banks. The rating of Sub-standard may suggest that the financial conditions are very weak, and Doubtful refers that the clients may be highly unlikely in repaying the loans along with interest. The rating Bad and Loss directly refers that the loans are unobtainable and the loans should be written off. While the CRG matrix had eight ratings for the loans, Bangladesh Bank shortened the list and kept four ratings which are as follows; Excellent, Good, Marginal, Unacceptable. As per the guidelines of ICRR, Excellent meant clients had a strong capacity to repay the loans while Good meant not as strong as the prior rating but satisfactory as far as the bank is concerned. Marginal rating meant that the clients required close supervision as there may be signs of weakness. Unacceptable meant that clients had very weak to no capacity to pay the loan, and banks should decide to reduce the facilities given to the clients. To further understand the models, the template of both the credit assessment tools has been provided in Appendix C and D.

3.3.4 Effectiveness of ICRR System in the Banking Industry

The ICRR system has greatly changed the aspect of assessing the level of exposure for the financial institutions. Apart from using more criteria than the previous method and various templates that fit the different industries across Bangladesh, ICRR has managed to fulfill several objectives to protect the banking industry from exposure to credit risk. The review committee of Bangladesh Bank created an automated system in assessing the credit risk using the spreadsheet. The template allows the credit analyst to easily select the industry from a dropdown list to which the client belongs, and the template will change according to the characteristics of that particular nature of business. In case a client does not belong to any industry, the ICRR model also consists of an option "Other Industry" that the analyst can select and assess the credit risk. These actions continue to save a lot of time and effort of the credit analysts as they are not required to keep multiple spreadsheets but rather one template comprising the models of every industry. Furthermore, the ICRR model allows the bank to sort and distinguish the quality of credit portfolios on the basis of the industry type, branch wise or even individual clients. This helps the credit officers as well as the branch managers in setting credit pricing, credit limits, terms and conditions with the clients.

3.3.5 Challenges of Implementing ICRR System by Dhaka Bank Limited

This chapter will focus on understanding the challenges faced by Dhaka Bank Limited as the new credit assessment tool was introduced and implemented across all the branches of DBL. The information regarding the challenges was mainly gathered by conducting a semi-structured interview with the credit in-charge officer at Dhaka Bank Limited. The responses collected from the office have been discussed below:

1. According to the credit in-charge officer, the guideline of the ICRR system stated that the credit analyst must use the most recent audited financial statements, no more than two years to conduct the ICRR process. However, one of the biggest challenges that the credit analysts faced at Dhaka Bank was that a good number of clients failed to provide such information to the banks. This may have been because the clients did prepare the financial

statements as per the standards which DBL follows or that they did not audit their financial statements.

2. Some of the quantitative aspects of assessing the credit risk turned out to be less accurate in the ICRR system. For instance, in the case of sales growth, the ICRR system awarded 2 points for an annual growth rate of more than 10%. However, the model did not consider external factors such as economic conditions and political stability. To give an example, a company that is a market leader in a particular industry with the maximum number of the market share would be represented as no sales growth and loss points unnecessarily. To prove this result wrong would be challenging for the analyst as the model suggested otherwise.
3. As mentioned earlier, the ICRR system considered the statement of cash flows of the clients, unlike the CRG matrix. The challenges for the employees were that a lot of clients, such as the SMEs and entrepreneurial businesses, did not prepare the financial statements properly, let alone the cash flow statements. Not to mention, several of the clients did not know the concept of cash flow or follow the indirect/direct approaches in the preparation of the statement of cash flow. This proved challenging for the credit analysts as they were required to obtain the right information from the clients regardless of the mistake as it was obligatory to continue with the ICRR process, whereas the CRG matrix was less lenient.
4. In a more recent event, the ICRR system became more challenging for the credit analyst, as the pandemic had impacted all the industry, and the financial performance was affected adversely. Even the best-performing businesses were affected by the pandemic, and the credit risk analysis using the ICRR system showed that the credit rating had dropped from excellent and good to marginal. Whereas, the real scenario did not turn out to be as bad as the ICRR system suggested. A recent circular from the Bangladesh Bank suggested the banks use the annual reports of the earlier year for the credit risk assessment, and BB had also reduced the credit rating scores by five points to reflect the accurate result for all the clients.

3.4 Summary and Conclusion

The objective of this chapter was to understand one of the functions of credit risk management, which was the assessment of the credit risk in lending funds to the clients. The study firstly focused on the three assessment tools that had been implemented by the Bangladesh Bank for all the financial institutions starting with the Lending Risk Analysis and then implementing the Credit Risk Grading matrix to assess the credit risk more accurately as the model considered the qualitative and quantitative factors into the assessment process. The Internal Credit Risk Rating, which is the main focus of this report, is a more recent adaptation of the credit assessment tool which was discussed in detail in regards to the guidelines of Bangladesh Bank and addressing the development and implementation phase that was led by a review committee created under the direction of the central bank.

Furthermore, the report consisted of an elaborate comparison between the three assessment tools that clearly distinguished the difference between each model. While the LRA framework was much different than the rest of the two methods, the report closely looked at the CRG, and ICRR models as the conceptual framework of both the models were closely linked. The new criteria added by the review committee of Bangladesh Bank in the ICRR were discussed along with the illustration of the template to help the readers compare and understand the different models. The chapter also focused on how successful the new credit assessment tool was in minimizing the credit risk as the ICRRS used different templates for assessing the different industries and helping the financial institutions create a stronger credit portfolio. The chapter finally discussed the challenges faced by the employees of Dhaka Bank as the ICRRS was being implemented across the entire banking industry. The challenges revolved around getting familiar with the new credit assessment tools as well as employees' adaptability, which required dedication and training.

3.5 Recommendations/Implications

In spite of the fact that the ICRR system had been successfully introduced and effective in assessing the exposure to credit risk in context to a dynamic business environment such as Bangladesh, there were several challenges faced by the credit analyst at Dhaka Bank, and it can be assumed that the similar challenges were faced by other banks too. As a result, the recommendation I would suggest is that the ICRR system should be reevaluated by the review committee of Bangladesh. This is because, despite the attempt at minimizing the credit risk by introducing a new credit assessment tool, the ICRR system did not fully reflect the actual results. For instance, there are financing and leasing companies that tend to yield profitable returns, yet the ICRR system deemed these companies to be highly leveraged and rated them marginal loan proposals. Therefore, the updated ICRR system could include a percentage of the 100-point scale on the qualitative judgment of the credit officer and the manager of the bank. For example, the Bangladesh Bank can allocate 10 to 15 percent of the total weight on the manager's judgment as the manager uses their past experience and judgment to decide whether the client should be granted the loan or not. To support this decision, Bangladesh Bank can instruct the manager of a particular branch to collect additional documents as a security from the clients so that the bank is not exposed to excess risk, and the manager must submit the documents to the head office as well as Bangladesh Bank. This may certainly make the loan approval process easier in the case of lending funds to trustworthy clients and making a profit.

To support this decision, Bangladesh Bank can instruct the manager of a particular branch to submit an additional report with the justification as to why the loan should be granted to the client. The report should be backed by quantitative justification or past data of the clients, and the report should be submitted to the head office as well as Bangladesh Bank. This may certainly make the loan approval process easier in the case of lending funds to trustworthy clients and making a profit.

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Appendix A

Capital Adequacy

- *Capital Adequacy Ratio*

$$Capital\ Adequacy\ Ratio = \frac{(Tier\ 1\ Capital + Tier\ 2\ Capital)}{Risk\ Weighted\ Assets}$$

- *Debt-to-Equity Ratio*

$$Debt\ to\ Equity\ Ratio = \frac{Total\ Liabilities}{Shareholders'\ Equity}$$

Asset Management

- *Non-Performing Loans Ratio*

$$Non\ Performing\ Loans\ Ratio = \frac{Non\ Performing\ Loans}{Total\ Loans}$$

- *Total Loans-to-Total Assets Ratio*

$$Total\ Loans\ to\ Total\ Assets\ Ratio = \frac{Total\ Loans}{Total\ Assets}$$

- *Allowance for Loan Loss Ratio*

$$Allowance\ for\ Loan\ Loss\ Ratio = \frac{Allowance\ for\ Loan\ Loss}{Total\ Loans}$$

Management Efficiencies

- *Total Advance-to-Total Deposits Ratio*

$$Total\ Advances\ to\ Total\ Deposits = \frac{Total\ Advances}{Total\ Deposits}$$

- *Business per Employee*

$$Business\ per\ Employee = \frac{Total\ Income}{No.of\ Employees}$$

- *Profit per Employee*

$$Profit\ per\ Employee = \frac{Net\ Profit}{No.of\ Employees}$$

Earnings Quality

- *Return on Assets (ROA)*

$$Return\ on\ Assets = \frac{Net\ Profit}{Total\ Assets}$$

- *Return on Equity (ROE)*

$$Return\ on\ Equity = \frac{Net\ Profit}{Total\ Shareholders'Equity}$$

- *Net Interest Margin Ratio*

$$Net\ Interest\ Margin\ Ratio = \frac{(Interest\ Received - Interest\ Paid)}{Average\ Invested\ Assets}$$

Liquidity Management

- *Credit Deposit Ratio*

$$Credit\ Deposit\ Ratio = \frac{Total\ Loans}{Total\ Deposits}$$

- *Liquidity Ratio*

$$Liquidity\ Ratio = \frac{Current\ Assets}{Current\ Liabilities}$$

Appendix B

Name of the standards	IFRS Ref.	Implementation status by the Bank
First-time Adoption of International Financial Reporting Standards	IFRS-1	Not applicable
Share-based Payment	IFRS-2	Not applicable
Business Combinations	IFRS-3	Not applicable
Insurance Contracts	IFRS-4	Not applicable
Non-current Assets Held for Sale and Discontinued Operations	IFRS-5	Not applicable
Exploration for and Evaluation of Mineral Resources	IFRS-6	Not applicable
Financial Instruments: Disclosures	IFRS-7	Applied with some departure (note 2.1)
Operating Segments	IFRS-8	Applied with some departure (note 2.30)
Financial Instruments	IFRS-9	Applied with some departure (note 2.1)
Consolidated Financial Statements	IFRS-10	Applied
Joint Arrangements	IFRS-11	Not applicable
Disclosure of Interest in Other Entities	IFRS-12	Applied
Fair Value Measurement	IFRS-13	Applied with some departure (note 2.1)
Regulatory Deferral Accounts	IFRS-14	Not applicable
Revenue from contract with customers	IFRS-15	Applied
Leases	IFRS-16	Applied
Presentation of Financial Statements	IAS-1	Applied with some departure (note 2.1)
Inventories	IAS-2	Not Applicable
Statement of Cash Flows	IAS-7	Applied with some departure (note 2.1)
Accounting Policies, Changes in Accounting Estimates and Errors	IAS-8	Applied
Events After the Reporting Period	IAS-10	Applied
Construction Contracts	IAS-11	Not Applicable
Income Taxes	IAS-12	Applied
Property, Plant and Equipment	IAS-16	Applied
Employee Benefits	IAS-19	Applied
Accounting for Government Grants and Disclosure of Government Assistance	IAS-20	Not Applicable
The Effects of Changes in Foreign Exchange Rates	IAS-21	Applied
Borrowing Costs	IAS-23	Not Applicable
Related Party Disclosures	IAS-24	Applied
Accounting and Reporting by Retirement Benefit Plans	IAS-26	Not Applicable
Separate Financial Statements	IAS-27	Applied
Investments in Associates and Joint Ventures	IAS-28	Not Applicable
Financial Reporting in Hyperinflationary Econimies	IAS-28	Not Applicable
Financial Instruments: Presentation	IAS-32	Applied with some departure (note 2.1)
Earnings Per Share	IAS-33	Applied
Interim Financial Reporting	IAS-34	Applied
Impairment of Assets	IAS-36	Applied
Provisions, Contingent Liabilities and Contingent Assets	IAS-37	Applied
Intangible Assets	IAS-38	Applied
Investment Property	IAS-40	Not Applicable
Agriculture	IAS-41	Not Applicable

Appendix C

CREDIT RISK GRADING SCORE SHEET

Reference No: **Date:**

Borrower:		**Aggregate Score:** ___________
Group Name (if any):		
Branch:		
Industry/Sector:		**Risk Grading:** ___________
Date of Financials:		
Completed by:		
Approved by:		

Number	Grading	Short	Score
1	Superior	SUP	Fully cash secured, secured by Government/International Bank Guarantee
2	Good	GD	85+
3	Acceptable	ACCPT	75-84
4	Marginal/Watchlist	MG/WL	65-74
5	Special Mention	SM	55-64
6	Substandard	SS	45-54
7	Doubtful	DF	35-44
8	Bad & Loss	BL	<35

Criteria	Weight	Parameter	Score	Actual Parameter	Score Obtained
A. Financial Risk	**50%**				
1. Leverage: (15%) Debt Equity Ratio (×) - Times Total Liabilities to Tangible Net worth All calculations should be based on annual financial statements of the borrower (audited preferred).		▪ Less than 0.25× ▪ 0.26× to 0.35 x ▪ 0.36× to 0.50 x ▪ 0.51× to 0.75 x ▪ 0.76× to 1.25 x ▪ 1.26× to 2.00 x ▪ 2.01× to 2.50 x ▪ 2.51× to 2.75 x ▪ More than 2.75×	15 14 13 12 11 10 8 7 0		
2. Liquidity: (15%) Current Ratio (×) - Times Current Assets to Current Liabilities		▪ Greater than 2.74× ▪ 2.50× to 2.74 x ▪ 2.00× to 2.49 x ▪ 1.50× to 1.99 x ▪ 1.10× to 1.49 x ▪ 0.90× to 1.09 x ▪ 0.80× to 0.89 x ▪ 0.70× to 0.79 x ▪ Less than 0.70×	15 14 13 12 11 10 8 7 0		
3. Profitability: (15%) Operating Profit Margin (%) $\frac{\text{Operating Profit}}{\text{Sales}} \times 100$		▪ Greater than 25% ▪ 20% to 24% ▪ 15% to 19% ▪ 10% to 14% ▪ 7% to 9% ▪ 4% to 6% ▪ 1% to 3% ▪ Less than 1%	15 14 13 12 10 9 7 0		
4. Coverage: (5%) Interest Coverage Ratio (×)-Times $\frac{\text{Earning Before Interest \& Tax (EBIT)}}{\text{Interest on debt}}$		▪ More than 2.00× ▪ More than 1.51× Less than 2.00× ▪ More than 1.25× Less than 1.50× ▪ More than 1.00× Less than 1.24× ▪ Less than 1.00×	5 4 3 2 0		
Total Score–Financial Risk			**50**		

Criteria	Weight	Parameter	Score	Actual Parameter	Score Obtained
B. Business/Industry Risk	**18%**				
1. Size of Business (Sales in BDT crore) The size of the borrower's business measured by the most recent year's total sales. Preferably based on audited financial statements		▪ > 60.00 ▪ 30.00 – 59.99 ▪ 10.00 – 29.99 ▪ 5.00 - 9.99 ▪ 2.50 - 4.99 ▪ < 2.50	5 4 3 2 1 0		
2. Age of Business The number of years the borrower has been engaged in the primary line of business.		▪ > 10 years ▪ > 5 - 10 years ▪ 2 - 5 years ▪ < 2 years	3 2 1 0		
3. Business Outlook A critical assessment of the medium term prospects of the borrower, taking into account the industry, market share and economic factors.		▪ Favorable ▪ Stable ▪ Slightly Uncertain ▪ Cause for Concern	3 2 1 0		
4. Industry Growth		▪ Strong (10%+) ▪ Good (>5% - 10%) ▪ Moderate (1% - 5%) ▪ No Growth (<1%)	3 2 1 0		
5. Market Competition		▪ Dominant Player ▪ Moderately Competitive ▪ Highly Competitive	2 1 0		
6. Entry/Exit Barriers		▪ Difficult ▪ Average ▪ Easy	2 1 0		
Total Score-Business/Industry Risk			**18**		

Criteria	Weight	Parameter	Score	Actual Parameter	Score Obtained
C. Management Risk	**12%**				
1. Experience (Management & Management Team) The quality of management based on the aggregate number of years that the Senior Management Team has been in the industry.		▪ More than 10 years in the related line of business ▪ 5–10 years in the related line of business ▪ 1–5 years in the related line of business ▪ No experience	5 3 2 0		
2. Second Line/ Succession		▪ Ready Succession ▪ Succession within 1-2 years ▪ Succession within 2-3 years ▪ Succession in question	4 3 2 0		
3. Team Work		▪ Very Good ▪ Moderate ▪ Poor ▪ Regular Conflict	3 2 1 0		
Total Score-Management Risk			**12**		

Criteria	Weight	Parameter	Score	Actual Parameter	Score Obtained
D. Security Risk	**10%**				
1. Security Coverage (Primary)		▪ Fully pledged facilities/substantially cash covered/Reg. Mortg, for HBL ▪ Registered Hypothecation (1st charge/1st Pari passu charge) ▪ 2nd Charge/Inferior charge ▪ Simple hypothecation/negative lien on assets. ▪ No security	4 3 2 1 0		
2. Collateral Coverage (Property Location)		▪ Registered Mortgage on Municipal Corporation/Prime area property. ▪ Registered Mortgage on Pourashava/semi-urban area property ▪ Equitable Mortgage or No property but plant & machinery as collateral ▪ Negative lien on collateral ▪ No collateral	4 3 2 1 0		
3. Support (Guarantee)		▪ Personal guarantee with high net worth or Strong Corporate Guarantee ▪ Personal Guarantees or Corporate Guarantee with average financial strength ▪ No Support/Guarantee	2 1 0		
Total Score- Security Risk			**10**		

Criteria	Weight	Parameter	Score	Actual Parameter	Score Obtained
E. Relationship Risk	**10%**				
1. Account Conduct		▪ More than 3 (three) years accounts with faultless record ▪ Less than 3 (three) years accounts with faultless record ▪ Accounts having satisfactory dealings with some late payments ▪ Frequent Past dues & Irregular dealings in account	5 4 2 0		
2. Utilization of Limit (actual/projection)		▪ More than 60% ▪ 40% - 60% ▪ Less than 40%	2 1 0		
3. Compliance of Covenants / Conditions		▪ Full Compliance ▪ Some Non-Compliance ▪ No Compliance	2 1 0		
4. Personal Deposits The extent to which the bank maintains a personal banking relationship with the key business sponsors/principals.		▪ Personal accounts of the key business Sponsors/ Principals are maintained in the bank, with significant deposits ▪ No depository relationship	1 0		
Total Score-Relationship Risk			**10**		
Grand Total- All Risk			**100**		

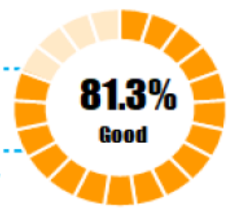
Appendix D

File / Reference No:	10000/100/10/1
Borrower's Name	XYZ Limited
Group Name (if any)	PQR
Industry's Name	1. RMG
Latest CIB Status	Standard
Audit Status	Audited
Auditor's Name	MNO
Analyst's Name, Designations	nbv
Verifier's Name, Designation	hjt
Date of Analysis	1/4/2018
Date of Financials	1/4/2018

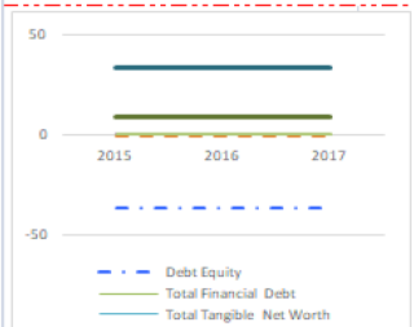
Total Score

Quantitative Score

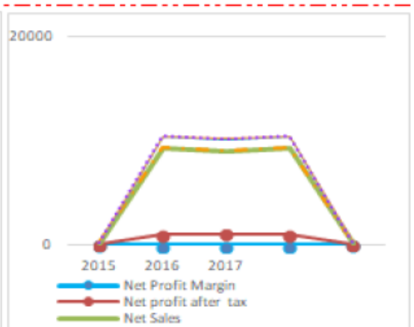
Qualitative Score



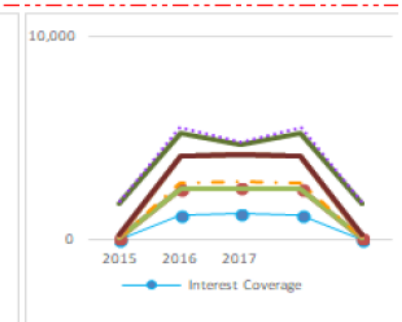
Assessment Criteria: *Greater than or equal to 80%= Excellent; 70%-80% = Good; 60% to 70% = Marginal; Less than 60% = Unacceptable*



LEVERAGE & LIQUIDITY



PROFITABILITY



COVERAGE

		Score Obtained	Scale	Percentage	ICRR
Quantitative Assessments		***53***	***60***	***88.3%***	**Excellent**
A	Leverage	10	10	100.0%	**Excellent**
B	Liquidity	3	10	30.0%	**Unacceptable**
C	Profitability	10	10	100.0%	**Excellent**
D	Coverage	15	15	100.0%	**Excellent**
E	Operational Efficiency	10	10	100.0%	**Excellent**
F	Earning Quality	5	5	100.0%	**Excellent**
Qualitative Assessments		***32.5***	***40***	***81.3%***	**Good**
G	Performance behavior	6	10	60.0%	**Marginal**
H	Business and Industry Risk	6.5	7	92.9%	**Excellent**
I	Management Risk	7	7	100.0%	**Excellent**
J	Security Risk	10	11	90.9%	**Excellent**
K	Relationship Risk	1	3	33.3%	**Unacceptable**
L	Compliance Risk	2	2	100.0%	**Excellent**
Aggregate		**85.5**	**100**	***85.5%***	**Excellent**

Annex 1.

1. Detail Management Report

File / Reference No:	10000/100/10/1	**Assessment Criteria:** Greater than or equal to 80%= Excellent; 70% to<80% = Good; 60% to <70% = Marginal; Less than 60% > Unacceptable		
Borrower Name	XYZ Limited			
Group Name (if any)	PQR			
Industry's Name	1. RMG			
Latest CIB Status	Standard	**Indicators**	**Score Obtained**	**Risk Rating**
Audit Status	Audited	Quantitative	56	Excellent
Auditor's Name	MNO		93.3%	
Analyst's Name, Designations	nbv	Qualitative	31.5	Good
Verifier's Name, Designation	hjt		78.8%	
		Aggregate	87.5	Excellent
Date of Analysis	1/4/2018		87.5%	
Date of Financials	1/4/2018			

		Outcome	Score Obtained	Scale	Percentage	Risk Rating
Quantitative Assessments			**56**	**60**	**93.3%**	Excellent
A	***Leverage***		**10.00**	**10.00**	100.0%	Excellent
A.1	1. Financial Debt to Tangible Net Worth (DTN)	0.58	7.00	7	100.0%	Excellent
B.2	2. Financial Debt to Total Assets (DTA)	0.31	3.00	3	100.0%	Excellent
B	***Liquidity***		***8***	***10***	**80.0%**	Good
B.1	1. Current Ratio (CR)	5.43	7.00	7	100.0%	Excellent
B.2	2. Cash Ratio (Cash)	0.10	1.00	3	33.3%	Unacceptable
C	***Profitability***		***10***	***10***	**100.0%**	Excellent
C.1	1. Net Profit Margin (NPM)	0.70	5.00	5	100.0%	Excellent
C.2	2. Return on Assets (ROA)	0.52	3.00	3	100.0%	Excellent
C.3	3. Operating Profit to Operating Assets (OPOA)	0.62	2.00	2	100.0%	Excellent
D	***Coverage***		***15***	***15***	**100.0%**	Excellent
D.1	1. Interest Coverage (IC)	8.00	3.00	3	100.0%	Excellent

D.2	2. Debt Service Coverage Ratio (DSCR)	6.15	5.00	5	100.0%	Excellent
D.3	3. Operating Cashflow to Debt Ratio (OCDR)	176.33	4.00	4	100.0%	Excellent
D.4	4. Cashflow Coverage Ratio (CCR)	122.08	3.00	3	100.0%	Excellent
E	***Operational Efficiency***		***8***	***10***	**80.0%**	Good
E.1	1. Stock Turnover Days (STD)	18.00	4.00	4	100.0%	Excellent
E.2	2. Trade Debtor Collection Days (TDCD)	3.64	3.00	3	100.0%	Excellent
E.3	3. Asset Turnover (AT)	0.74	1.00	3	33.3%	Unacceptable
F	***Earning Quality***		***5.00***	***5***	**100.0%**	Excellent
F.1	1. Operating Cash Flow to Sales (CFS)	16.03	3.00	3	100.0%	Excellent
F.2	2. Cash Flow based accrual ratio (CFAR)	-0.28	2.00	2	100.0%	Excellent
Qualitative Assessments			**31.5**	**40**	**78.8%**	Good
G	***Performance Behavior***		**6**	**10**	**60.0%**	Marginal
G.1.1	How many times the borrower got adversely classified in last 3 years	0 time	5.00	5	100.0%	Excellent
G.1.2	How many times the borrower's loans got rescheduled/ restructured in last 3 years	>3 times	0.00	4	0.0%	Unacceptable
G.2	Did the borrower pay its Suppliers/ Creditors regularly in last 1 year	Yes	1.00	1	100.0%	Excellent
H	*Business and Industry Risk*		***6.5***	***7***	**92.9%**	Excellent
H.1	Sales Growth	>10%	2.00	2	100.0%	Excellent
H.2	Age of Business	>10 years	2.00	2	100.0%	Excellent
H.3	Industry Prospects	Growing but High Volatility	0.50	1	50.0%	Unacceptable
H.4	Long Term External Credit Rating of the Borrower	1.00	2.00	2	100.0%	Excellent
I	*Management Risk*		***7***	***7***	**100.0%**	Excellent
I.1	Experience of the Management	More than 10 years in the related line of business	2.00	2	100.0%	Excellent

I.2	Existence of Succession Plan	Yes, with good capability of successor	2.00	2	100.0%	Excellent
I.3	Auditing Firms	Recognized Auditors	2.00	2	100.0%	Excellent
I.4	Change in Auditors in last 3 years	Yes	1.00	1	100.0%	Excellent
J	*Security Risk*		***9***	***11***	**81.8%**	Good
J.1	Primary Security	Fully Pledged facilities	2.00	2	100.0%	Excellent
J.2	Collateral	Registered Mortgage on Municipal Corporation/Prime Area property	2.00	2	100.0%	Excellent
J.3	Collateral Coverage	>100%	5.00	5	100.0%	Excellent
J.4	Guarantee	Personal Guarantees or Corporate Guarantee without Strong Financial Strength	FALSE	2	0.0%	Unacceptable
K	*Relationship Risk*		***1.00***	***3***	**33.3%**	Unacceptable
K.1	Account Conduct	Accounts having satisfactory dealings with some late payments.	1.00	*3*	33.3%	Unacceptable
L	*Compliance Risk*		***2.00***	***2***	**100.0%**	Excellent
L.1	Compliance with environmental rules, regulations and covenants	Yes	1.00	1	100.0%	Excellent
L.2	Corporate Governance and CSR activities	Good Corporate Governance	1.00	1	100.0%	Excellent