

Report On  
The Role of Artificial Intelligent in Streamlining Assurance  
and Supervision Procedures for CVC Finance 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  
June 2023

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## **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 & Signature:**

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**MD. Mostafa Salman**  
19104135

**Supervisor's Full Name & Signature:**

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**Md. Kausar Alam, PhD**  
Assistant Professor, BBS  
Brac University

## **Letter of Transmittal**

Md. Kausar Alam  
Assistant Professor,  
Brac Business School  
BRAC University  
66 Mohakhali, Dhaka-1212

Subject: Submission of Internship Report

Dear Sir / Madam,

It gives me great pleasure to inform you that I have completed my internship report on "The Role of Artificial Intelligence in Streamlining Assurance and Supervision Procedures for CVC Finance Limited" as a prerequisite for the spring 2023 internship program.

Writing the report was an eye-opening experience for me. It has helped me describe my internship experiences in the accounting profession. It also helped me comprehend how Artificial Intelligence (AI) can affect the financial and accounting industries in terms of assurance and supervision.

I would like to express my deepest appreciation to you for your constant advice and assistance over the course of this report. Your feedback on the report, given its limitations, is highly appreciated.

Sincerely yours,

---

Md. Mostafa Salman  
19104135  
BRAC Business School  
BRAC University  
Date: June 4, 2023

## **Acknowledgement**

Working at ACNABIN for 12 weeks was an incredible experience for me. As an accounting major, it provided me with real-world insights into the industry and assisted me in connecting my university learnings with my actual job.

I would like to thank my internship supervisor, Dr. Md. Kausar Alam, for his help and advice throughout the internship period. The ideas and help he provided were critical in preparing this report.

I also want to thank my work supervisor, Mr. Mahmudur Rahman FCA, Director at ACNABIN Chartered Accountants, and senior article student, Mr. Md. Ayub Ali, for their help in broadening my knowledge not just in the accounting industry but also in a variety of other fields.

Furthermore, I am also grateful to Muhammad Aminul Hoque FCA, Partner at ACNABIN Chartered Accountants, for providing me with the chance to work with ACNABIN's Audit & Consultancy team.

Finally, I would like to thank Brac University for all of its academic assistance over the previous four years, as well as the Office of Career Service and Alumni Relations for assisting me with the appropriate paperwork for my internship.

## **Executive Summary**

The report consists of three chapters. The first chapter is an overview of the internship experience in the organization. The second chapter is about the organization in which the internship was performed. Finally, the third chapter is the topic selected for the report, which is "The Role of Artificial Intelligence in Streamlining Assurance and Supervision Procedures for CVC Finance Limited". Firstly, in the first chapter, I talked about the experiences and knowledge I gained from the internship and what the organization gained from me. Later in the second chapter, I discuss the organization's practices as well as its situation. Lastly, in the third chapter, I have discussed the current situation of credit risk management in Bangladesh and how the world is slowly moving towards artificial intelligence in terms of credit risk management. Furthermore, I talked about how CVC Finance Limited can use AI to streamline its assurance and supervision procedures.

**Keywords:** Artificial Intelligence, Supervision, Assurance, Credit Risk Management, Accounting, Machine Learning.

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## List of Acronyms

A.I	Artificial Intelligence
CVCFL	CVC Finance Limited
CA	Charter Accountant
SME	Small & Medium Entrepreneurs
BB	Bangladesh Bank
ERP	Enterprise Resource Planning
NBFI	Non-Banking Financial Institution
MD	Managing Director
DMD	Deputy Managing Director
SAM	Special Asset Management
HRM	Human Resource Management
ROA	Return on Asset
ROE	Return on Equity
D/A	Debt to Asset Ratio
D/E	Debt to Equity Ratio
EM	Equity Multiplier
LDR	Loan to Deposit Ratio

# **Chapter 1**

## **Overview of Internship**

### **1.1 Student Information**

Name : Md. Mostafa Salman  
Student Id : 19104135  
Department : Brac Business School  
Program : Bachelors of Business Administration  
Major : Accounting  
Minor : Human Resource Management

### **1.2 Internship Information**

#### **1.2.1 Period, Company, Department**

I performed my internship at ACNABIN Chartered Accountants. It is one of the top CA firms in Bangladesh. I started my 12-week internship on January 4, 2023, and it ended on April 3, 2023. During this period, I was assigned to the CVCFL Forensic Audit team. A team assigned to CVC Finance Limited to perform a forensic audit. The team consisted of four members, including me. We worked from the head office of CVCFL, located on level 13 of Rahman's Regnum Centre, Bir Uttam Mir Shawkat Sarak, Dhaka.

#### **1.2.2 Internship Company Supervisor's Information**

In ACNABIN, Mr. Mahmudur Rahman, Director of Assurance and Advisory, was assigned as my supervisor. All the audit teams, including the CVCFL team, directly reported to him. During my time working with the CVCFL Forensic Audit team, I would report to Mr. MD. Ayub Ali, a senior article student.

### **1.2.3 Job Scope**

The CVCFL Forensic Audit team was appointed to review some corporate and SME clients and assess their loan disbursements in compliance with their credit policy. Furthermore, the client also wanted the team to review the effectiveness and adherence of the policy and the client's administrative procedures. Also, the client wanted the team to assess the effectiveness and efficiency of the company's process for identifying and monitoring initial and changing levels of risk associated with loan advances and credit exposure. Finally, they wanted the team to find loopholes and evaluate efficiency and effectiveness by reviewing internal company policies.

As an intern, I learned a lot by working with the CVCFL Forensic Audit team. Furthermore, I was assigned to perform many tasks. They are:

- ❖ Scan files provided to us by the client.
- ❖ Maintain a list of files received and files that will be provided later.
- ❖ Prepare and input the basic outline of the reports.
- ❖ Check if the client followed Bangladesh Bank guidelines while approving loans.
- ❖ Check the loan statement to match the timeline of rescheduling and restructuring.
- ❖ Check if the client received the required documents before disbursement of the loan, as mentioned in the Bangladesh Bank Circular.

## **1.3 Internship Outcomes**

### **1.3.1 Student's contribution to the company**

In regular companies, the input of the intern might not be important, but it is different for an audit firm. In an audit firm, the interns are treated the same as audit trainees and are expected to ensure quality work. I was able to learn a lot from the team members and utilize it to complete the task they expected from me. I helped the team investigate CVCFL's different processes and provide input in the report for each client file reviewed. I also helped the team maintain the files the clients provided, as these are the original documents used to provide loans, and a missing file might cause a lot of legal problems. Furthermore, I was sent to extract many files from the client's server that they were hesitating to provide. Finally, much of the input I provided and problems I found were used when forming the report.

### **1.3.2 Benefits to the student**

In my perspective, during the internship period, the best benefit that a student can attain is the learning experience. Firstly, I was able to learn about how Bangladesh's financial institutions function along with how the loan and credit facility are provided. Secondly, I was able to learn why segregation of duties is important. Thirdly, I was able to learn the importance of documentation and why checking and balancing are necessary for employees. Finally, I was able to learn why companies require audit firms to perform diverse types of audit services. All the above might not be of much importance to people who are already working and have years of experience. But as a fresh graduate, these learning experiences have shown me what the corporate world is like and what I should expect in the future.

### **1.3.3 Problems or Difficulties during the internship period**

During the internship period, I did not face many difficulties, and the few that I faced may have been things that are actually faced by most of the employees and students at ACNABIN. The problem I faced was that initially, when my documents to join were submitted, it took 30 days to reach the admin manager and 15 days more for my ID to be generated. Secondly, I was fined for two days for being late, even though I was not late. When I contacted them regarding this issue, they did not give a proper response. But regardless of the problems I faced, I was able to receive continuous support from my seniors as they helped me learn and correct my mistakes.

### **1.3.4 Recommendation**

ACNABIN is one of the top accounting firms in Bangladesh. So, there isn't anything that I can recommend that will make any drastic changes. I can recommend some small changes that might help them make improvements. Firstly, I think they should change the method by which employees inform the home office that they have returned from vacation. For example, during my internship period, if I took a day off, the next day when I returned to the office, I would have to call a number to inform them that I had returned. Furthermore, it had to be done by 10 a.m., or the call would mark me absent. But everyone called the same number, so it would stay busy and sometimes connect after 10 a.m. There are better management systems to improve this system, such as location tracking through apps. Secondly, the time it takes to approve conveyance is too long. This should be a fast process. Lastly, interns can only receive allowance on Monday and Wednesday from 2 to 5 p.m. But most interns work from the client's office, and so it is difficult to go to the office and receive the payment while maintaining time. As we

currently have many forms of digital payment methods, they can use one of these methods to pay the interns instead of cash or the bank.

## Chapter 2

### Overview of the Company

#### 2.2.1 About CVC Finance Limited

CVC Finance Limited is a rapidly expanding financial organization that was founded in 2015 and is regulated by the Bangladesh Bank. They provide a comprehensive range of financial services to consumers, small and medium-sized businesses, and large corporations. Their mission is to provide new financial solutions through the use of technology, corporate best practices, and service excellence. Investment Corporation of Bangladesh (ICB), Sadhan Insurance Corporation, Khan Brothers Shipbuilding Limited, Amanat Shahwewing Processing Limited, Moon Readywares Limited, Padmaglass Limited, Kowloon Capital Limited, and Hong Kong are their key institutional owners.

CVC Finance Ltd.'s board of directors is comprised of highly accomplished professionals with high degrees of professionalism and leadership characteristics. Their Chairman, Mr. Mahmood Hussain, has 20 years of substantial expertise in the financial services business, both locally and abroad, with globally known organizations such as the World Bank, Deutsche Bank, and Citigroup UK. He has a solid history and track record.

The objective and goal of CVC Finance Limited are to offer its clients cutting-edge financial solutions. Since joining in 2015, several major initiatives have been completed. With an executive committee, an audit committee, and an audit committee, there is also a heavy emphasis on sustainability and corporate social responsibility.

#### 2.2.2 Company Profile

**Name of Organization** : CVC Finance Limited

**Type of Organization** : Private Limited Company

**Nature of Business** : Non-Banking Financial Institution

**Number of Branches** : 2

**Chairman** : Mr. Mahmud Hussain

**Managing Director** : Md. Mamunur Rashid Molla



**Address** : Rahman's Regnum Centre (Level-13), 191/1, Tejgaon  
Gulshan Link Road, Tejgaon I/A, Dhaka -1208

**No. of Employees** : 70

**Website** : <https://www.cvcflbd.com/>

**Email** : [contact@cvcflbd.com](mailto:contact@cvcflbd.com)

Figure 1: Company Profile

Source: CVC Finance Limited Annual Report 2021 & Website

### **2.2.3 Vision, Mission & Corporate Values of CVCFL**

#### **Vision**

**“To be the innovative & most professional Financial Institution to cater to the need of the market.”**

CVC Finance Limited aspires to be the industry's most innovative and professional financial institution, offering comprehensive, innovative financial solutions and services that optimize value for both external and internal stakeholders.

#### **Mission**

CVC Finance Limited seeks to develop an ethical and professional corporate governance and management structure, while maximizing the vales of the stakeholders. Furthermore, to stimulate foreign direct investment, and maximize capital use to support long-term economic growth.

#### **Corporate Values**

**“We will constantly anticipate market needs and strive to offer innovative & flexible services that create new value for customers”**

CVC Finance Limited believes in anticipating market demands and offering adaptive services that provide value to consumers. By sticking to these beliefs, the company promises to deliver excellent financial services that are in line with market demands.

### **2.2.4 Shareholding Composition**

CVCFL has a total of 11,89,65,000 shares. The total number of shares is distributed among four main categories. Firstly, 49,965 shares, or 42%, are held by individual shareholders.

Secondly, institutions hold 42,827,400 shares, which is about 36%. Finally, 19,034,400 and 7,137,900 shares are held by the government and foreign investors, respectively.

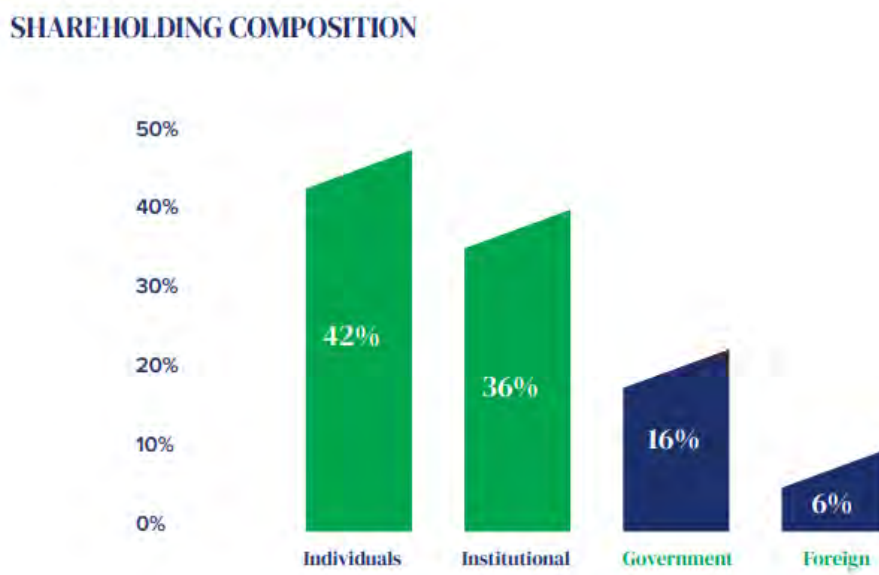


Figure 2 Shareholders by share percentage

Source: CVC Finance Limited Annual Report 2021

## 2.3 Products offered by CVC Finance Limited

CVC Finance Limited offers a number of services and products to its customers. The range of products can be divided into two categories: loan products and deposit products.

### 2.3.1 Loan Products

CVC Finance Limited offers a wide range of lending solutions to meet the financial needs of individuals and businesses alike. CVC Finance Limited has corporate finance for long-term finance, lease of machinery and equipment, work order finance for government tenders, consumer finance for home, personal, and auto loans, SME finance for business growth and expansion, and women's business solutions. Created loans for each element in order to maximize the benefits to the borrower by providing customized solutions to suit their unique needs. CVCFL is dedicated to ethical, professional, and corporate governance policies, ensuring that clients can rely on the company to provide outstanding service and support as they strive to meet their financial goals.

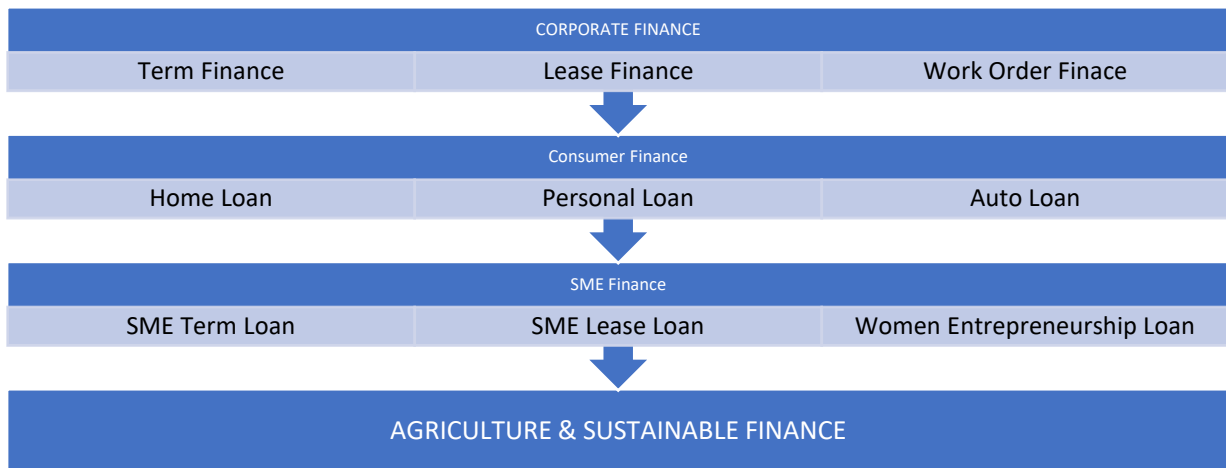


Figure 3 List of Loan Products

Source: CVC Finance Limited Annual Report 2021

### 2.3.2 Deposit Products

CVC Finance Ltd. offers a range of deposit products to meet the needs of its customers. Permanent term deposits are suitable for individuals and organizations, with flexible terms of 3 months to 5 years, quick loans against deposits, and access to online income. The scheme is eligible for pensioners who prefer monthly, quarterly, or semi-annual interest. The Employee Savings Scheme is designed for self-employed professionals, such as doctors and lawyers, with flexible terms of 24 to 60 months and profitability at maturity. CVC Finance offers deposit/support funds, double deposits, triple deposits, and monthly savings plans to meet the needs of a variety of clients.

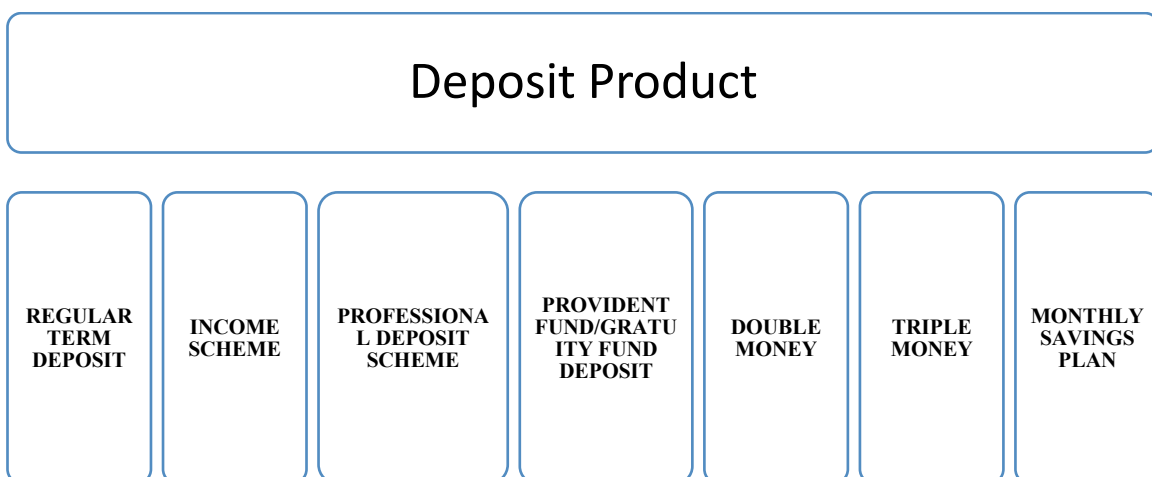


Figure 4 List of Deposit Product

Source: CVC Finance Limited Annual Report 2021

### 2.3.3 Marketing Strategy and Target Customer

CVCFL is a small company, so compared to the other NBFIs in the market, they do not use a wide range of marketing. CVCFL usually uses referrals and sends relationship managers to different businesses to acquire clients. Furthermore, they target clients of a specific nature, so a wide range of marketing is useful in their case. CVCFL provides loans to the following customer segments:

- Companies with a good credit rating.
- Small entrepreneurs who need to buy new goods or expand their business.
- Company executives who want to purchase vehicles.
- Women entrepreneurs

### 2.4 Organogram of CVCFL

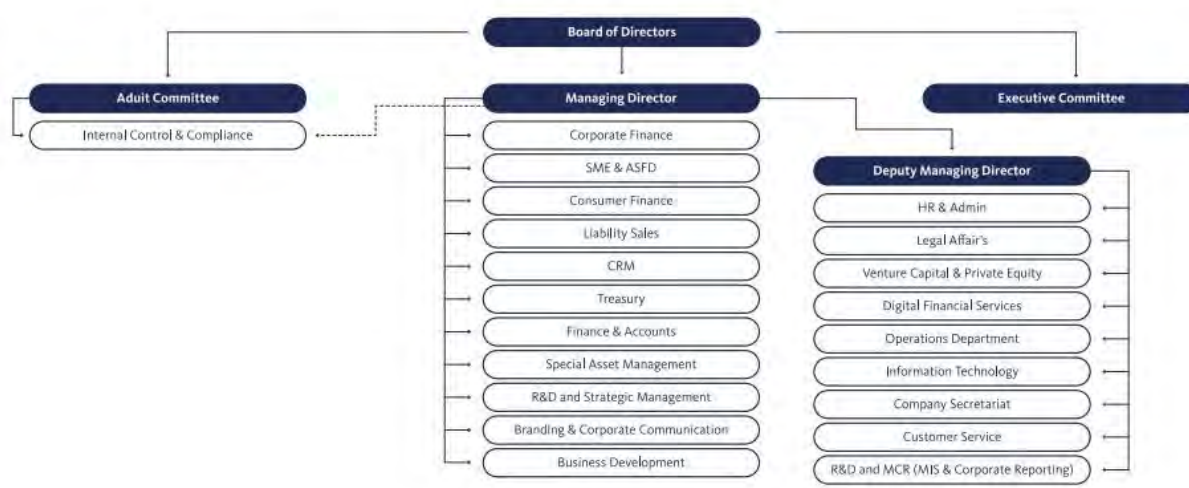


Figure 5 The Organogram of CVCFL

Source: CVC Finance Limited Annual Report 2021

#### 2.4.1 Management Practice of CVCFL

The management practices are nothing special. They follow a top-down approach to their management. The board of directors only provided instructions when required, or else the Managing Directors (MD) provided and planned most of the company's initiatives and only reported the action to the chairman. Corporate finance, SME (small and medium entrepreneurs), consumer finance, strategic planning, branding and communication, CRM, Treasury, accounts, special asset management (SAM), and business development directly

report to the MD. While the Human Resource Department (HRM), Legal Affairs, Venture Capital & Private Equity, Digital Financial Service, Operations Department, Information Technology, and Company Secretariat report to the Deputy Managing Director (DMD), who then reports to the MD,

## 2.5 Financial Analysis

### 2.5.1 Solvency of CVCFL

For the measurement of the solvency of CVCFL, we will look into the debt-to-equity ratio, debt-to-asset ratio, and equity multiplier.

### 2.5.2 Debt to Equity Ratio

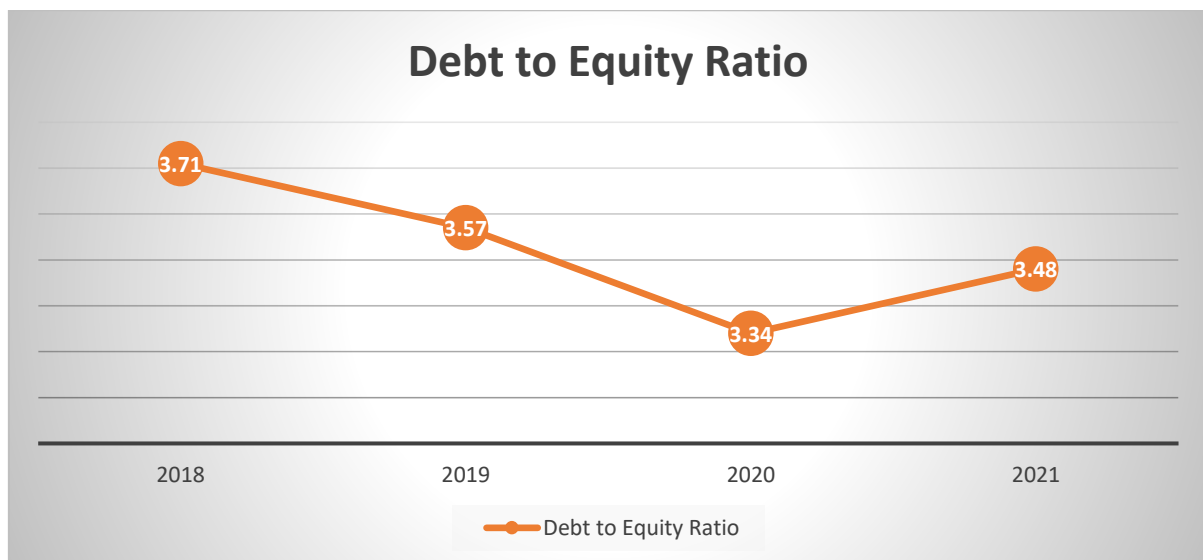


Figure 6 CVCFL Debt Equity Ratio

In the above chart, we can see that during 2018 and 2019, the debt-to-equity ratio (D/E) was 3.71 and 3.57, respectively. This was the highest in four years. It indicates that CVCFL had taken on a significant amount of debt compared to its equity during these two years. This can indicate that CVCFL was at high risk of defaulting at that time. But later in 2020, they decreased it to 3.34, which is 6% lower than 2019 and 10% lower than 2018. This might indicate that they wanted to lower the risk during this time, as 2020 was the year when the COVID pandemic took place. But again in 2021, the D/E increased to 3.48, which is an increase of 4.19% compared to the previous year. But in an NBFIs such as CVCFL, we cannot know whether this D/E is a problem or not without knowing the overall situation. The outcome of a high or low D/E might be affected by the situation of the current economy. Its high D/E might

be profitable in a good economy and bad in a poor one. It may also depend on the condition of the market in which the organization operates.

### 2.5.2 Debt to Asset Ratio

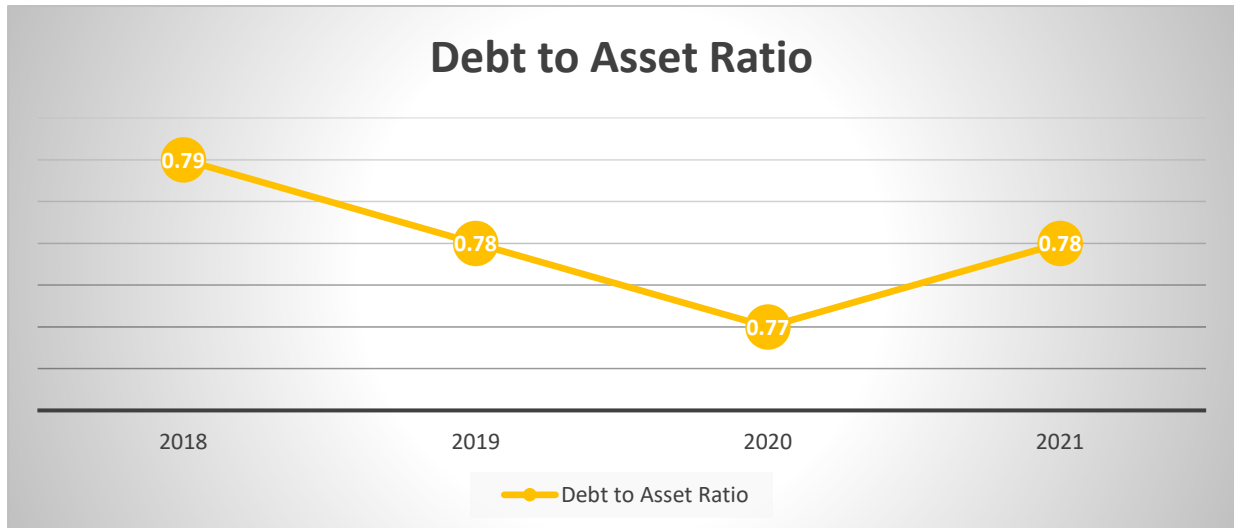


Figure 7 CVCFL Debt to Asset Ratio

In the above chart, we can see that during 2018 and 2019, the debt-to-asset ratio (D/A) was 0.79 and 0.78, respectively. But during 2020, it decreased to 0.77. This trend shows that CVCFL was trying to lower their D/A so that they could become more financially stable and less risky, as 2020 was the year of the pandemic. But during 2021, it can be seen that the D/A returned to 0.78. This might be to utilize their assets to recover some losses they faced during the pandemic. This might also have something to do with the high debt-to-equity ratio mentioned before.

### 2.5.3 Equity Multiplier

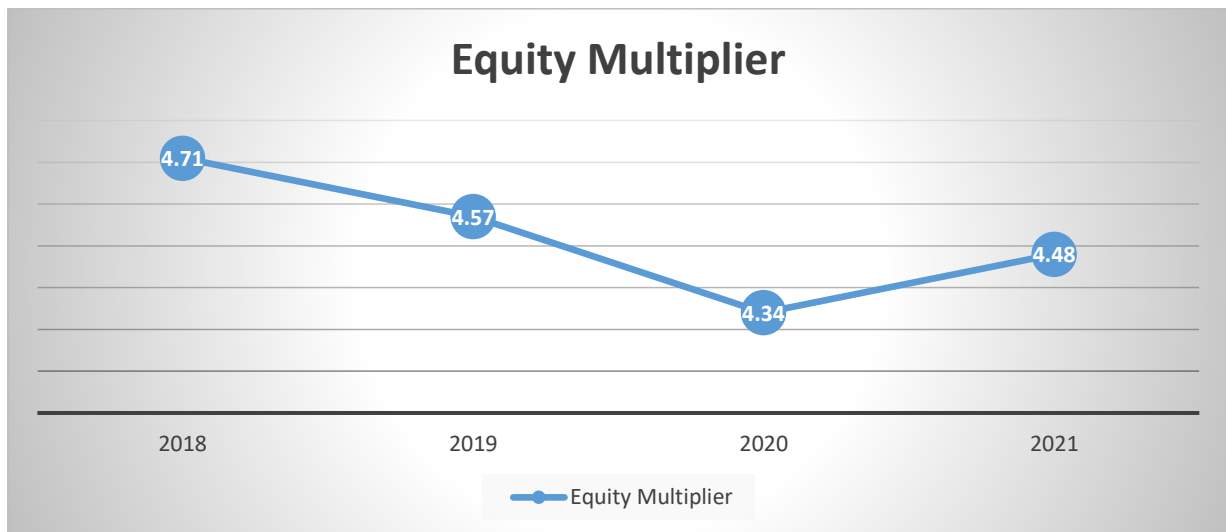


Figure 8 CVCFL Equity Multiplier

In the above chart, we can see that in the case of the equity multiplier (EM), CVCFL follows the same trend as the debt-to-equity and asset ratios. Only having a lower ratio of 4.34 during 2020 and a higher ratio of 4.71, 4.57, and 4.48 during 2018, 2019, and 2021, respectively. From the above high debt-to-equity and debt-to-asset ratios, along with the equity multiplier, it can be said that CVCFL has taken on a significant amount of debt and that it is highly leveraged.

A high D/E ratio, D/A ratio, and EM all point to CVCFL being severely indebted and perhaps facing insolvency in the case of an economic or financial crisis. However, it is critical to emphasize that any institution's risk profile and financial health are influenced by a number of criteria, including the quality of its assets, the efficiency of its operations, and the effectiveness of its risk management procedures.

### 2.5.4 Profitability of CVCFL

For the measurement of the profitability of CVCFL, we will look at the net profit margin, return on equity, and return on assets.

## 2.5.5 Net Profit Margin

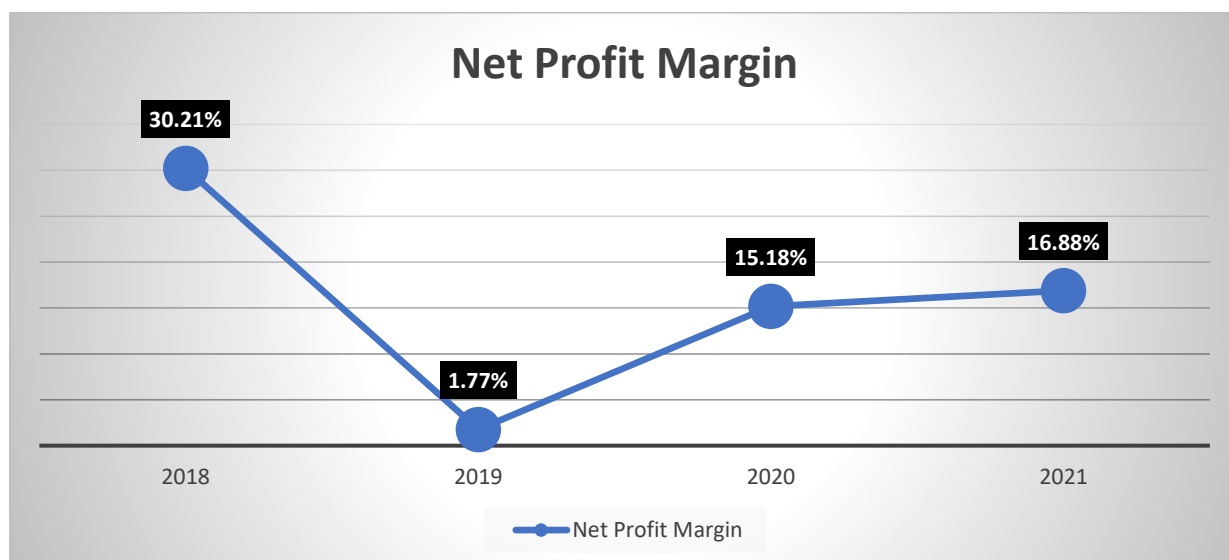


Figure 9 CVCFL Net Profit Margin

In the above chart, we can see that in 2018, CVCFL had a high profit margin of 30.21%, but for some reason it fell to 1.77% during 2019, which might be due to the start of the pandemic, but it stabilized again during 2020 to 15.18% and 16.88% during 2021. Though the reason for the low profit margin during 2019 is not clear, the low profit during 2020 and 2021 may be due to the bounce back of the economy from the pandemic.

## 2.5.6 Return on Equity

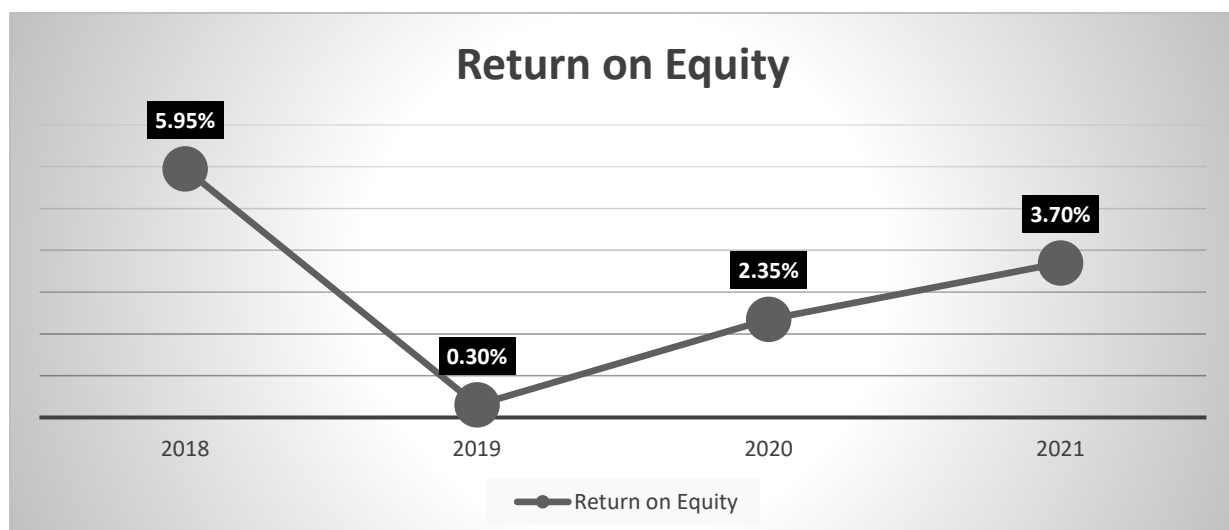


Figure 10 CVCFL Return on Equity

The return on equity (ROE) is a financial term that indicates the amount of net income earned per BDT of equity invested. As we can see, CVCFL earned 5.95% per BDT invested during



2018. Which, due to the pandemic, fell to 0.30% during 2019. But it slowly started to recover during 2020 to 2.35% and 3.70% during 2021.

### 2.5.7 Return on Asset

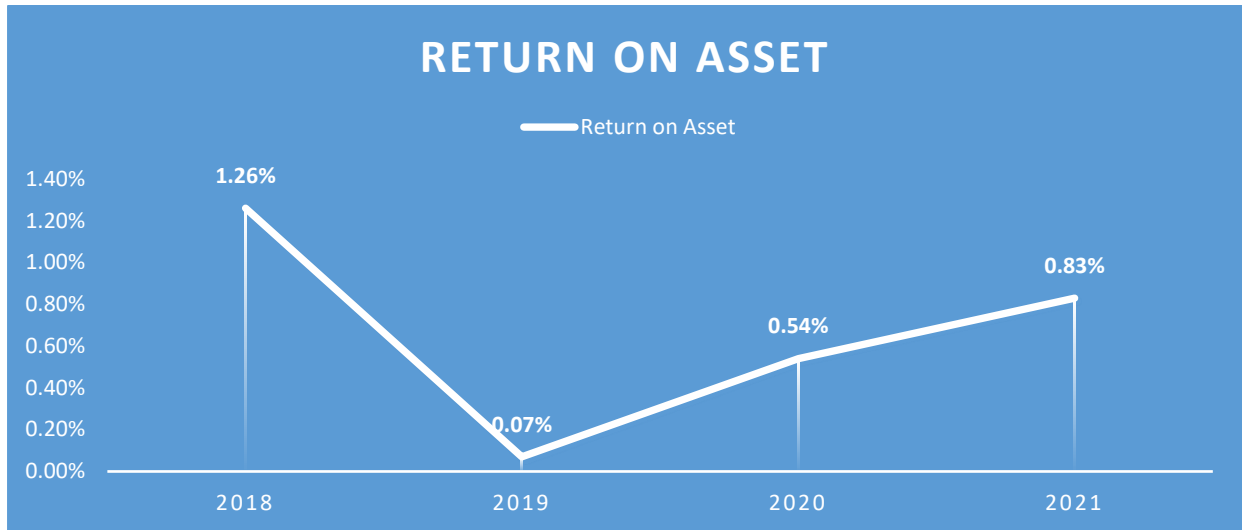


Figure 11 CVCFL Return on Asset

Return on assets (ROA) is usually used to measure profitability by indicating the amount of net income generated per BDT of assets invested. As we can see in the above chart, it has the same trend as the ROE we have seen before. CVCFL earned 1.26% per BDT invested during 2018, which decreased to 0.07% during 2019, but slowly started to recover during 2020 and 2021 to 0.54% and 0.83%, respectively.

From the net profit margins of ROE and ROA, we can see that the overall profitability of CVCFL has improved compared to what it was before the pandemic.

## 2.5.8 Liquidity – Loan to Deposit Ratio

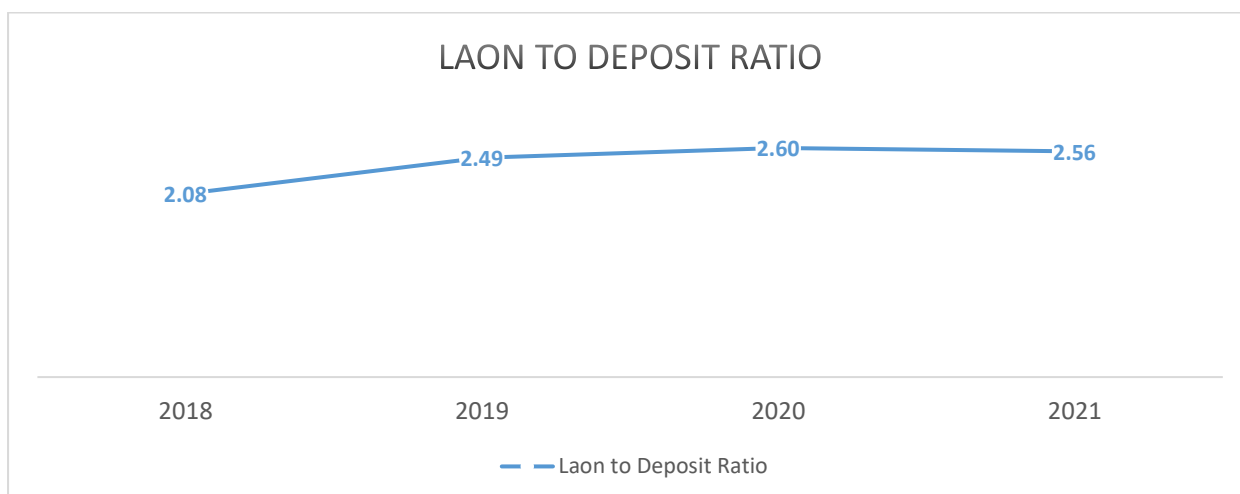


Figure 12 CVCFL Loan to Deposit Ratio

The loan-to-deposit (LTD) ratio is used to measure the amount of loans a bank has made relative to the number of deposits it holds. A higher LTD ratio indicates that a bank is lending out more money than it has in deposits, while a lower LTD ratio indicates that a bank is lending out less money than it has in deposits. In the above chart, we can see that CVCFL's LTD ratio has increased from 2.08 in 2018 to 2.60 in 2020. Meaning they have lent more than the deposit they have. Though it decreased to 2.56 in 2021, it was not a big change. The high LTD is good for CVCFL, as this means that there is high demand for their product.

## 2.6 Accounting Practices

The financial statements of the CVCFL were prepared on a going concern basis following the accrual basis of accounting except for the cash flow statement, which is stated at market value in accordance with International Accounting Standards (IAS) and International Financial Reporting Standards (IFRS) as adopted in Bangladesh by the Institute of Chartered Accountants of Bangladesh, except in circumstances where local regulations differ, and the Companies Act 1994, the Financial Institutions Act 1993, Securities and Exchange Rules 2020, and the (Listing) Regulations 2015 of the Dhaka and Chittagong Stock Exchanges, and other applicable laws and regulations. The financial statements have been presented in accordance with the criteria of DFIM Circular No. 11 dated December 23, 2009, published by Bangladesh Bank's Department of Financial Institutions and Markets (DFIM).

The financial statement of the CVCFL is from January 1 to December 31. Furthermore, the financial statements are presented in Bangladesh Taka (BDT) currency. Which is the functional currency of CVCFL. The books of accounts for term finance operations are maintained based on the accrual method of accounting. The interest earnings are recognized as operational revenue periodically. CVCFL charges depreciation to amortize the cost of the asset over its useful life using the straight-line method in accordance with IAS 16. Amortization is also calculated using the straight-line method.

## **2.7 Industry and Competitive Analysis**

### **2.7.1 Porters Five Forces Analysis of CVCFL**

#### **Threat of New Entrants: Low**

Entry barriers in Bangladesh's financial services industry are extremely high. This is due to legal constraints, capital requirements, and the necessity for established client trust. This reduces the risk of new entrants, giving CVC Finance Limited a competitive advantage as an established player in the industry.

#### **Power of Buyers: High**

Buyers of financial services in Bangladesh have varying degrees of bargaining power. Individual consumers may have little bargaining power, but companies and institutional clients usually have greater bargaining power due to their larger size and ability to negotiate terms. But CVC Finance itself is a small company, and this might be a disadvantage for them while negotiating with corporate clients to attract customers.

#### **Power of Suppliers: Moderate**

This supplier's bargaining power is Moderate. Though there are not many risk-free investment sources in Bangladesh, Multiple bigger banks and NBFIs can offer better satisfaction to the client. Furthermore, depositors most of the time chose banks over NBFIs and also considered the size of the organization while trusting them with their hard-earned income. The CVCFL is a small player and might not have the bargaining power.

#### **Threat of Substitutes: High**

The risk of replacements varies in Bangladesh's financial services industry. Traditional banking services and non-bank financial institutions provide substitutes, while emerging fintech

enterprises provide innovative solutions. CVC Finance must always adapt, invest in technology, and develop different value propositions to mitigate the risk of replacement.

**Competitive Rivalry: High**

Competition in the financial services industry in Bangladesh is severe, with 61 traditional banks and 35 non-bank financial companies vying for market supremacy. Furthermore, fintech companies are gaining pace and posing a threat to established industries. CVC Finance must differentiate itself through product offerings, customer service, technological advancements, and market positioning in order to sustain a competitive advantage.

Overall, in the context of Bangladesh, CVC Finance Limited faces moderate threats from suppliers, while the intensity of competitive rivalry, the threat of substitutes, and power of buyers are high. They must continue to innovate, invest in technology, and deliver superior customer experiences to remain competitive in the evolving financial services landscape of Bangladesh.

**2.7.2 SWOT Analysis of CVCFL**

<p><b>Strength</b></p> <ul style="list-style-type: none"> <li>• Diversified portfolio of financial products.</li> <li>• Strong relationships with major financial institutions and strategic partners in Bangladesh.</li> <li>• Experienced and knowledgeable management team.</li> </ul>	<p><b>Weakness</b></p> <ul style="list-style-type: none"> <li>• Revenue creation depends on a few main markets.</li> <li>• Limited with in Dhaka only.</li> <li>• Very susceptible to interest rate risk and market volatility.</li> </ul>
<p><b>Opportunity</b></p> <ul style="list-style-type: none"> <li>• Increasing market share through the acquisition of smaller financial institutions.</li> <li>• Increase in Women entrepreneur.</li> <li>• Partnerships with fintech companies to leverage technology.</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>• Larger and more established financial institutions engage aggressively.</li> <li>• Financial services are negatively affected by economic downturns and market volatility.</li> <li>• The loss of customer trust due to recent financial Scams.</li> </ul>

Figure 13 CVCFL SWOT Analysis

## **2.8 Conclusion**

CVC Finance Limited is a rapidly growing financial organization founded in 2015. They provide a comprehensive range of financial services to consumers, small and medium-sized businesses, and large corporations. Their mission is to provide new financial solutions through the use of technology. The Chairman of CVCFL, Mr. Mahmood Hussain, has 20 years of experience both locally and abroad. He and the management team run the company according to the board's direction. Furthermore, CVCFL, being a small company, does not perform a wide range of marketing and only gains customers through referrals and sales personnel. According to their financial reports, CVCFL is severely indebted and may face insolvency in the event of an economic or financial crisis. According to Porter's five forces analysis, CVC Finance Limited faces moderate threats from suppliers, while the intensity of competitive rivalry, the threat of substitutes, and the power of buyers are high. To conclude, we can say that they must continue to innovate, invest in technology, and deliver superior customer experiences to remain competitive in the evolving financial services landscape of Bangladesh.

## Chapter 3

# The Role of Artificial Intelligent in Streamlining Assurance and Supervision Procedures for CVC Finance Limited

### 3.1 Introduction

Banking and financial services are life line for a country. Specially a developing country like Bangladesh. Bangladesh is on course to become the 24th largest economy in the world by 2036, thanks to its capacity to attract major foreign investments (**Bangladesh to Become 24th Largest Economy by 2036, 2021**)<sup>1</sup>. Furthermore, there is a positive relation between banks financial system and the economy. The banking system plays a major role in mobilizing and delivering capital to the economy, hence contributing to growth (**Nguyen, 2022**)<sup>2</sup>. Bank and financial institutions provide loans, LC, and services to organization to perform business. In exchange Banks and financial organizations expect interest as profit. But Bangladesh is ranked 2<sup>nd</sup> on the most amount of Nonperforming Loans (NPL) in Asia (**NPL and Its Impact on the Banking Sector of Bangladesh, n.d.**)<sup>3</sup>. This is because the banks and financial services are not able to monitor the loans while performing assessments of client in a timely way, maintaining accuracy of risk assessment and compliance. One of the main reasons behind this is that the employees of bank have perform countless task at the same time. This sometimes causes many employees to cut corners and perform calculation incorrectly. Additionally, this may also case the employees to gather the wrong data. The employees of a financial institution are expected to perform many tasks within a short amount of time. Lastly, employees also receive benefits if they are able to bring high stake client and provide them with loans. Which also means the assurance of the client's details may also be in the question. But these things are usually not detected unless it is too late or after the organization has lost the money. But

now this can be stopped. With the introduction of Artificial Intelligence (A.I) we can solve these problems easily.

### **3.1.1 Background**

CVC Finance Limited (CVCFL) is a financial services firm that provides its clients with a comprehensive variety of financial products and services. Assessing clients is one of the firm's major obligations, which involves analyzing clients' financial health and estimating their creditworthiness. However, CVCFL's present supervision and assurance methods are time-consuming, and reporting for approval is prone to mistakes owing to the pressure to complete client assessments in a timely way, making increased accuracy, risk assessment, and compliance difficult to achieve.

One contributing to this difficulty is that CVCFL utilizes a small number of personnel to do a variety of jobs for which division of duties is not maintained. Furthermore, job quality is not monitored, and staff do not always adhere to the business guideline while reviewing clients. Furthermore, effective management is lacking, as a result of which many workers prioritize their personal agenda over that of the firm. This can result in biased reporting. Finally, the report is relied on by both the board of directors and the client. The board of directors approves loans based on the correctness of the reports, and clients are able to comprehend their own condition and know what their capability is and what amount of loan they should take, emphasizing the need of precise and trustworthy customer analysis.

In order to resolve the challenges associated with the present system, CVCFL must significantly strengthen its supervision and assurance processes. The use of Artificial Intelligence (AI) as a viable solution to simplify these operations and minimize the time necessary for client analysis while assuring accuracy, risk assessment, and compliance can be investigated. CVCFL may increase the efficiency and effectiveness of its operations, maintain regulatory compliance, and deliver the best quality financial services to its clients by integrating AI-based technologies. This report intends to identify specific areas where AI may be used to improve CVC Finance Limited's supervision and assurance operations.

### **3.1.2 Problem Statement**

The current processes used in supervision and assurance operations for CVC Finance Limited take a long time, but due to the pressure of completing the client analysis on time, the reports

provided for approval are prone to errors, which are inefficient, making it difficult to achieve the highest accuracy, risk assessment, and compliance.

### **3.1.3 Objectives**

The objectives of this report are to assess the potential benefits and challenges of using artificial intelligence to improve or replace CVC Finance Limited's manual supervision and assurance processes while maintaining accuracy in risk assessment and compliance standards.

### **3.1.4 Significance of the Issue**

The issue of poor supervision and assurance methods for customer assessments is a major concern at CVC Finance Limited since errors might arise when analyzing customers' financial stability and creditworthiness. These errors can have serious ramifications for both the client and the business, such as credit defaults or denials of credit to potential customers, which result in financial losses for the firm and a loss of customer confidence and faith in the services that a CVCFL can provide. Noncompliance might also have legal and financial ramifications for the organization. In order to offer accurate, trustworthy, and fast client analysis, CVCFL must solve these challenges and strengthen its supervision and assurance methods. The potential involvement of AI in expediting these operations can help CVCFL overcome these problems and fulfill its goals more effectively and efficiently.

### **3.1.6 Preliminary Literature Review**

#### **1. Machine Learning Algorithms Used to Predict Credit Card Default Payment**

The paper by Gui, (2019) aims to apply multiple machine learning algorithms to analyze the default of credit card payment. The author further mentions that the Federal Reserve Economic Data states that the delinquency rate on credit card loans is at a record high across all financial institutions. For this reason, it is important for financial institutions to have risk prediction models to be able to determine the most related traits of persons who are more likely to fail on credit card loans. This was provided by University of California Irvine (UCI) Machine



Learning Repository. The data set contains 30,000 instances and 25 attributes of customers default payment in Taiwan.

The data was used to run exploratory analysis, data preprocessing technique, logistic regression, decision tree, random forest, Adaboosting, gradient boosting, neural networks, logistic regression and random forest. From the above machine learning model, the Adaboost model and logistic model has the highest accuracy of 81.41% and 78.37% respectively. According to the author, the paper aim was to train multiple supervised learning algorithms to predict customer's behavior on paying off credit card balance. The author, says that he is confident that the accuracy data will increase if the data on the creditors were of longer period.

## **2. Artificial intelligence and machine learning have a significant influence on credit risk assessment by addressing issues such as information asymmetry, adverse selection, and moral hazard by utilizing alternative data sources such as public data.**

Credit risk is an essential issue in banking and finance since the process of making a loan involves a lot of effort to analyze the chances of receiving the money back. (Danėnas and Garšva 2010). According to the author Mhlanga, D. (2021) Individuals in developing nations that are financially disadvantaged, notably women, youth, and small businesses, cannot secure the customary forms of collateral or identification required by financial institutions such as banks to be granted loans. The author using a literature review approach and content analysis discovered that by using AI and machine learning to alternative data, the issues that affect the credit market, which are usually exhibited through disparities in data, such as moral hazard and adverse selection, may be solved. AI-powered social networks can signal information much more accurately than human agents, which can assist to overcome the problem of disparities in data in the loan market. When compare with traditional financial indicator, it was seen that A.I powered machine algorithm had and accuracy of 95% in predicting weather an entity will go

bankrupt or not. Using the following method, during the 2017-2018 fiscal year, the default rate on MyBucks' loan portfolio was lowered by 18% in South Africa.

To conclude, the author says that Credit risk is an essential subject in banking and finance since it necessitates a great deal of attention to analyze the chances of receiving the money back. Big data will enable economic agents to conduct credit evaluations using machine learning algorithms, allowing low-income workers and the impoverished to obtain loans. To allow this, financial institutions must invest in AI and machine intelligence.

### **3. The Impact of Artificial Intelligence on the Effective Applying of Cyber Governance in Jordanian Commercial Banks.**

In this paper, the author Ghazi M. Qasaimeh (2022) studies the impact of Artificial Intelligence (A.I) on cyber governance in Jordanian Commercial Bank. The aims to study the existence of an effective intergraded system for managing all accounting work using modern technology for cyber governance. The author, in order to follow the relationships between variables, identify their trends, and assess their effects on the problem, used a descriptive analytical approach. The foundation of the analytical approach was the data analysis and generalization of the results. In characterizing the primary study variables and determining their level of success in Jordanian commercial banks, the descriptive technique was utilized. The surveys were examined using SPSS software, which was provided to 13 banks. The study indicated that there is a positive correlation between the A.I and cyber governance in Jordanian Commercial Bank. To conclude, the study discovered that the effective implementation of cyber governance in Jordanian commercial banks is significantly impacted by artificial intelligence. Commercial banks must rely on more sophisticated systems in order to increase their reliance on the effective implementation of cyber governance.

### **3.1.6 Preliminary Methodology**

The preliminary information-gathering process will be a blend of primary and secondary methods. The primary approaches include audit items, code and compliance, government regulation, audit manuals, and file reviews performed during the internship period. Secondary sources include a literature review, the government's report, and a yearly audit report.

## **3.2 Findings and Analysis**

### **3.2.1 Current Process of CVC Finance Limited in Supervision and Assurance Process**

According to CVCFL 2021 annual report they have provided about BDT 4129.38 million in loans and advances. If we hypothetically consider that CVCFL issued a loan of 10 million each then can be said that they have provided an about 400 loans. For providing each loan the employee of CVCFL has to perform an initial assessment of each client. Firstly, the manager receives the application from the client, then the application is checked along the document that the client is required to submit and the NBF is required to collect according to the rules and regulations of Bangladesh Bank (BB). Secondly, they have to check and analyze the document and see if the client is able to return the loan if approved. Thirdly, they have to check the credit status of the client through BB. Then they have to check the security against which the loan will be given. Then the memos are made for the board to see and after which if the board approves the loan is provided. But this is not the end, after the approval the client will be monitored weekly or monthly and perform recovery process if needed.

The full process from start to till the loan is provided consists of 10 steps. These steps consist of client analysis and risk assessment and verification. Which takes a long time. Furthermore, as we know CVCFL is only a small organization and if they only provide 200 loans, they have to perform 2000 steps. But the problems are that they do not have a long time to perform this

analysis. They are given 10 days to do so from start to finish. While thinking about this you should also keep in mind that the employees have to perform others duties also. Additionally, they have to monitor the risk assessment of the client to monitor them weekly or monthly which consists of monitoring their business operation, if payment is being made, if other institutions have provided them any loans, how the clients industry is doing, if the client has made the payment on time, will they be fined etc. With so many duties to be performed it may be hard for the CVCFL to maintain good supervision and assurance process.

### **3.2.2 What's problem with Current Process of CVC Finance Limited in Supervision and Assurance Process?**

Manually performing this type of complex credit risk management can be challenging. Firstly, the amount of data volume and complexity required for high-accuracy analysis is not possible through human labor alone. Humans can have difficulty effectively managing the complexity and volume of data, resulting in mistakes or overlooked risks in risk assessment. Secondly, subjectivity and bias may be introduced. This can be done voluntarily or involuntarily. For this reason, traditional approaches do not have the impartiality and reliability that automated systems have. Thirdly, credit risk assessment involves the use of advanced models and analytics to determine the likelihood of default. It is difficult to implement these models due to their need for a better understanding of statistical methodologies, financial modeling, and risk management concepts. Flaws or errors during implementation will affect the efficiency of the model. Fourthly, to maintain supervision, regulatory compliance is essential for credit risk management, as it requires an understanding of regulatory guidelines and reporting requirements. Finally, comes the constraint of time and cost; manually performing such a complex task requires high efforts, which require a huge amount of time and labor. Less time will mean a loss of accuracy, quality, etc. In contrast, automation streamlines these processes,

reducing time and resource requirements while decreasing the cost. Furthermore, it is possible to perform this in real time, which is not possible if performed manually.

### **3.2.3 How Artificial Intelligence can help CVC Finance Limited in Supervision and Assurance Process?**

Credit risk has long been a significant and thoroughly investigated issue in banking. Credit risk remains the most critical and complex risk to manage and analyze for many commercial financial institutions. In the past few years, several of the world's largest banks have developed powerful technology to increase the efficiency of the credit risk management process. Credit scoring algorithms aim to analyze a company's risk profile and then assign different credit ratings to businesses with differing probabilities of default (Mhlanga, 2021)<sup>4</sup>. Credit risk can present itself in a variety of ways, and it is always dictated by the kind of debtor and the type of financial instrument. The government, a private corporation, and an individual, for example, are all unique debtors with distinct characteristics (Gu et al. 2018)<sup>5</sup>. Furthermore, loan issuance and derivatives of financial transactions are not the same thing. As a result, many statistical, mathematical, and intelligent models are utilized in forecasting and analyzing risk (Gu et al. 2018)<sup>5</sup>.

If CVCFL uses Artificial Intelligence to stream line its supervision and assurance process it will be able to attain the following benefits:

1. **Improve Efficiency:** The automation of credit risk management operations will allow CVCFL to function more effectively. They may simplify their operations by automating functions such as data processing, analysis, and decision-making. This reduces human labor and time-consuming processes. This increase in efficiency will enable greater resource use and will allow them to manage a higher volume of loan applications more effectively.

2. **Improve Assessment Accuracy and Consistency:** Automating credit risk management will improve creditworthiness accuracy. Manual approaches are prone to human mistakes and biases, which can affect the accuracy. In contrast, automated systems rely on predefined algorithms and rules to make consistent and objective decisions. This increase in accuracy and consistency benefits the whole credit risk management system of CVCFL.
3. **Strengthen Supervision:** Automation of credit risk management procedures will strengthen CVCFLs supervision. Using automated systems, regulatory authorities may monitor credit exposures, risk ratings, and borrower behaviors in real time. This real-time monitoring capabilities aids supervisors in promptly recognizing potential issues and taking proactive measures to mitigate such risks. It will enable regulatory authorities to conduct comprehensive and timely assessments of financial institutions' credit risk profiles, ensuring a robust and stable banking system.
4. **Assurance Process:** Automating credit risk management improves the assurance process for CVCFL. Regulatory regulations and norms can be included into automated systems' algorithms, guaranteeing that the requirements are satisfied. This makes it easy to offer correct regulatory reports, audit trails, and documentation. CVCFL may ensure that their credit risk management strategies adhere to regulatory criteria by automating these procedures and encouraging transparency and accountability.
5. **Improved Risk Assessment and Decision-Making:** Automated credit risk management systems will offer improved risk evaluation patterns and predictive analytics. These systems will be able provide comprehensive risk profiles for borrowers and portfolios based on historical data, credit ratings, financial ratios, and other relevant factors. This thorough risk assessment helps CVCFL to make well-informed decisions on credit approvals, risk ratings, and loan pricing.

6. **Cost Savings:** For CVCFL, automation of credit risk management operations will help them in cost savings and resource optimization. CVCFL will be able to make better use of their resources by reducing manual labor and streamlining procedures. Automation removes the need for human data entry and wide labor, leading in cost savings. Furthermore, automated technologies help in the early detection of potential defaults or difficulty loans, lowering losses and boosting overall mortgage portfolio performance.

Finally, we can say that automated credit score risk management will offers benefits such as enhanced performance, higher accuracy, improved supervision, simpler guarantee methods, superior risk assessment, and cost savings. It helps CVCFL to adequately monitor credit risk, comply with regulatory to streamline supervision and assurance.

### **3.2.4 How CVC Finance Limited can implement Artificial Intelligence in Supervision and Assurance Process?**

Sk. Shamim Iqbal a Certified Expert in Risk Credit Management (CECM) has highlighted in an article in The Business Standard (**Can Artificial Intelligence Help Banks Reduce Non-Performing Loans? 2023**)<sup>6</sup> that by evaluating data from various sources such as credit records, transaction histories, and customer behavior, AI may be utilized to assess the chance of debt failure. Banks may identify high-risk borrowers and take preventative actions to lower the possibility of default using actionable data. Artificial intelligence can use real-time scam monitoring to detect fraudulent activities. Banks may utilize machine learning algorithms to analyze transaction data and detect fraud-related patterns. This can assist banks in preventing fraud and lowering the risk of NPLs.

Many foreign Bank have already started adopting A.I in few key areas. In the credit industry, AI is being utilized to improve loan approval, risk evaluation, and portfolio management. Banks frequently employ AI algorithms to develop models with more accurate default

likelihood and loss severity, resulting in better credit forecasting. To create credit choices from SMEs and corporate clients, AI also blends automation and near-real-time client analysis. Credit deaccessioning is one of the first AI applications. Many banks are using A.I for Credit deaccessioning, monitoring & collection, and looking for early warning signals. CVCFL can follow the footsteps of the foreign banks to start its journey as they have been operating in the Bangladesh finance market CVCFL has a huge amount of data gathered already they just need to implement it.

AI employs Machine Learning (ML) techniques to learn from data without the requirement for rule-based programming, resulting in better fit patterns in data. This is done through the use of both classic machine learning methods and deep learning technologies. The following are some of the method CVCFL use to get started:

### **Logistic Regression:**

One of the most extensively used machine learning algorithms It is a supervised learning technique, which implies that during training, a user feeds the algorithm pairs of input signals and desired outputs, and the algorithm develops a way to produce the desired output given a certain input. Following that, without the intervention of a person, the trained model can predict the outcome given new and never-before-seen input. Since it is based on the linearity assumption, the logistic regression model can only represent fundamental linear connections.

For example, let us consider a scenario where CVCFL wants to determine if a customer would fail on a loan based on their yearly income and credit score. The bank has past client data, such as their income, credit score, and whether or not they defaulted. They will input the data and also the output that is “Default” or “No Default” based on payment status. With this, the algorithm will be able to identify the patterns and learn to make the decisions.



### **Random Forest Method:**

The random forest algorithm is made up of a collection of decision trees, and each tree in the ensemble is made up of a starting point sample, which is a data sample obtained from a training set with replacement. About a third of the training sample is put aside for testing purposes. Another instance of randomization is then injected into the dataset using feature bagging, increasing variety and decreasing similarity among decision trees. The forecast determination will differ depending on the type of challenges. Individual decision trees will be averaged for a regression task, and a majority vote—i.e., the most common categorical variable—will produce the predicted class for a classification problem.

### **K-Nearest Neighbors (KNN)**

To put it in simple terms, it is used to find new data by checking its proximity to the old data.

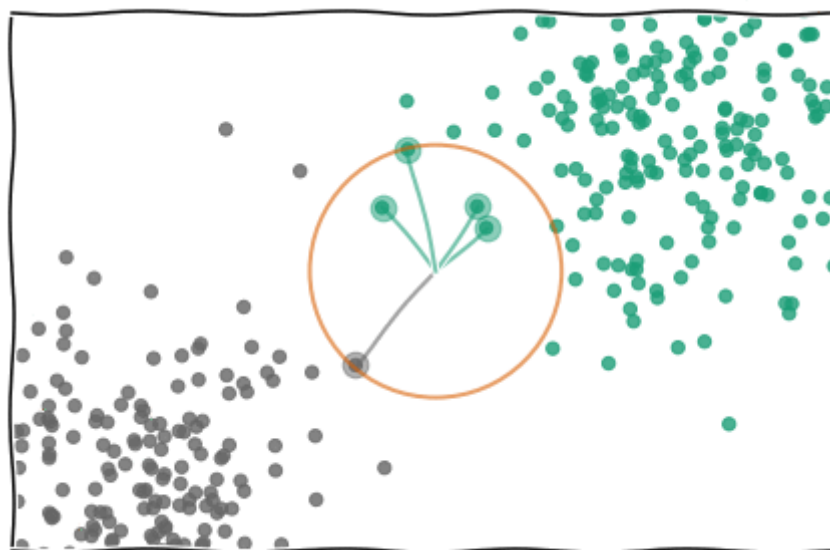


Figure 14K-Nearest Neighbors (KNN)

Source: AI For Credit Risk Management in Banking - Avenga, 2022

## Neural networks (NNs)

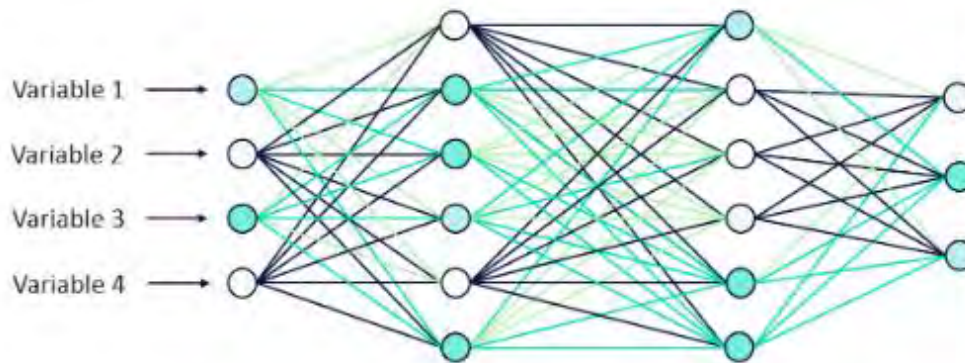


Figure 15 Neural Networks

Source: AI For Credit Risk Management in Banking - Avenga, 2022

These are algorithms that mimic how the human brain functions. NNs have been shown to be effective, particularly for short-term predictions. They are also resilient in that they successfully manage missing data and correlations between input variables. However, because NNs are difficult to interpret, understanding why the model makes the predictions it does is challenging. These methods enable equitable data distribution and the utilization of non-linear patterns in many variables, such as in credit scoring. As a result, banks benefit from more accurate, intuitive credit risk assessments than traditional statistical methodologies.

These are just some of the ways in which CVCFL can start the implementation of A.I.

### **3.2.5 How can CVC Finance Limited ensure that the Artificial Intelligence based supervision and assurance process will be effective and will not compromise accuracy, risk assessment, and compliance?**

Thought the term Artificial Intelligence (A.I) has been around for a long time. The current form of A.I is completely different from what we had before. One of the main problems being faced

is that the industry leaders are not familiar with the effects of A.I. This in turn, make things very difficult for organization that are trying to do something with A.I but does not have the right mind set and precaution to deal with the backlash if something goes wrong. A.I come with a lot of benefits but to attain this benefits a lot of risk has to be taken. For ensuring the effectiveness and integrity of A.I based supervision and assurance process.

1. Rich Training Data: The A.I system should be trained on data that represent wide range of scenarios. The data should be carefully selected to minimize the biases and increase the accuracy.
2. Transparent Algorithms: The algorithm used to train the A.I should be transparent so that experts can easily understand and audit the algorithm. By following a transparent algorithm base the decision-making process becomes easy to make.
3. Testing and Validation: Rigid testing and validation techniques should be used to assess the AI system's correctness, dependability, and performance. This can include conducting controlled experiments, comparing AI findings to human evaluations, and benchmarking against accepted standards.
4. Ongoing Monitoring and Feedback Loops: Continuous performance monitoring of the AI system is required to discover any deviations, biases, or mistakes that might endanger accuracy or compliance. Implementing feedback loops in which human experts review and provide advice on AI judgments can help the system improve.
5. Ethical Considerations: It is vital to consider ethical considerations while designing and deploying AI systems. Fairness, transparency, and accountability must be stressed. Regular ethical reviews with a diverse range of stakeholders and experts can help detect and mitigate potential biases or risks associated with the AI system.

These are just few of the thing that CVCFL can implement to stop the A.I based supervision and assurance from being compromised.

### **3.2.6 Benefits and Challenges**

The benefits of CVCFL in implementing AI-based assurance and supervision are huge. But at the same time, the challenges that will be faced while doing so are also countless. Firstly, let's talk about the benefits. CVCFL will become the first NBF1 to adapt to such change, and as CVCFL operations are still small, it is possible for them to take on this challenge. Furthermore, the use of AI will be beneficial for CVCFL, as they will be able to maintain a large number of clients at low costs. Furthermore, the time saved in auto calculation will make their services much faster. These are only some of the benefits. However, as time goes on, the benefits will also increase. Secondly, the challenges of using AI in Bangladesh are huge. Though we are familiar with the term digital Bangladesh, a lot of the processes and documentation are paper-based. Additionally, Bangladesh has not introduced rules and regulations related to this. Also, as an NBF1, CVCFL has to follow the rules and regulations of Bangladesh Bank, and unfortunately, it will take them a long time to reform their laws to help support AI. Though it currently does not have any regulations against AI, if CVCFL invests in AI in a certain direction and BB later regulates that direction, it will be a big loss for CVCFL.

### **3.3 Summary & Conclusion**

To summarize, banking and financial services are essential for a developing country such as Bangladesh. However, Bangladesh is ranked 2nd in the most amount of nonperforming loans (NPL) in Asia due to the difficulty of monitoring loans and performing assessments of clients in a timely way. One of the reasons behind this is that the employees of banks have to perform countless tasks within a short amount of time and receive benefits if they bring in high-stakes clients. Artificial intelligence (AI) can help solve these problems. CVCFL suffers from this

problem; their current supervision and assurance methods are time-consuming and prone to mistakes due to the pressure to complete client assessments in a timely way, and artificial intelligence is a way for them to solve this problem. Furthermore, through the preliminary literature review, we can see that AI has already played a major role in credit risk management in many financial institutions, such as the commercial banks of Jordan. Also, if CVCFL utilizes AI for the automation of credit risk management, It can be used to automate functions such as data processing, analysis, and decision-making, reducing human labor and time-consuming processes. This might enable CVCFL to manage a higher volume of loan applications more effectively and improve creditworthiness accuracy, supervision, assurance, risk assessment, and cost savings. CVCFL can use AI to perform debt failure assessments, identify high-risk borrowers, detect fraudulent activities, analyze transaction data, and detect fraud-related patterns. CVCFL can follow in the footsteps of foreign banks by using machine learning (ML) techniques such as logistic regression, the random forest method, K-nearest neighbors, and neural networks. But while performing the following CVCFL, one should make ethical considerations to ensure effective supervision and assurance of AI systems. So, if CVCFL is able to do so, they will be the first NBFIs to implement AI-based assurance and supervision while benefiting from low costs and faster services. However, the challenges of using AI in Bangladesh are huge, as Bangladesh has not introduced rules and regulations related to AI. CVCFL must follow the rules and regulations of Bangladesh Bank to support AI, which could be a big loss if BB regulates it.

To conclude, the world is changing, and soon many organizations will replace their core systems with AI. Currently, CVCFL is a small organization, so they have the advantage of moving towards new technology while having a low-risk transition. Unfortunately, the surrounding organizations, especially the government organizations, are using outdated

technology, and so the instigation of many systems in the short term may not be profitable, but in the future, they will have the advantage.

### **3.4 Recommendations/Implications**

So far, we have been talking about how the role of artificial intelligence in streamlining assurance and supervision procedures will help CVCFL. The following are some of the recommendations regarding the implementation of AI in streamlining assurance and supervision procedures:

- 1. Undertake a Feasibility Study:**

When deploying artificial intelligence, CVCFL should conduct a complete feasibility study to investigate the technical, operational, and financial aspects of using AI-based assurance and supervision methodologies. This study will aid in determining the advantages, risks, and challenges connected with implementation.

- 2. Create a Clear AI Strategy:**

CVCFL should develop a comprehensive artificial intelligence strategy outlining use cases, application areas, and the expected outcomes of introducing AI into assurance and supervision procedures. It should also consider the ethical implications and guarantee that they follow present regulations.

- 3. Establish a Stable Data Infrastructure:**

AI systems are strongly reliant on high-quality data. For this reason, CVCFL should invest in constructing a strong data infrastructure capable of collecting, storing, and managing important data for AI applications. This includes developing data integration protocols to provide continuous data flow for AI algorithms, as well as adopting data governance rules to assure data privacy and security.

4. **Working together with AI Experts and Fintech Partners:**

CVCFL may consider cooperating with AI experts and fintech startups specializing in AI-based finance and risk management solutions. Also, Collaboration with industry leaders will provide critical insights, expertise, and technical support to ensure the effective implementation of AI in the organization's assurance and supervision operations.

5. **Employee training and change management:** AI deployment will cause a cultural shift inside CVCFL. To ensure successful adoption, the company should engage in employee training programs to assist them develop the skills and knowledge required to work effectively with AI technology. Also, change management processes should also be put in place to deal with any potential opposition to change and enable a smooth transition to AI-based operations.

CVCFL must approach AI deployment with caution and strategy, taking into consideration the unique challenges and opportunities in the Bangladeshi context.

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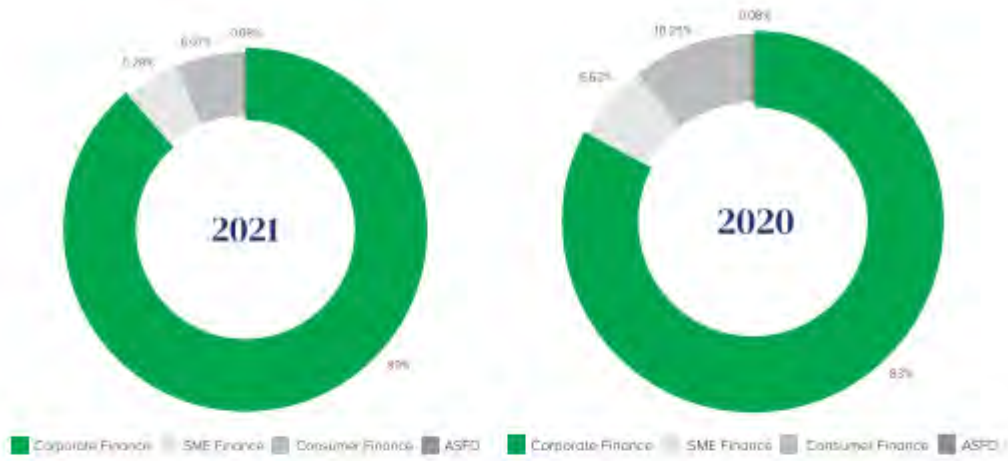
## Appendix A.

year	2021	2020	2019	2018
<b>Total Liability</b>	4,472,371,734	4,211,956,774	4,403,371,016	4,433,913,830
<b>Shareholders Equity</b>	1,286,458,450	1,261,977,770	1,232,272,697	1,194,828,029
<b>Total asset</b>	5,758,830,184	5,473,934,544	5,635,643,713	5,628,741,859
<b>Debt to Equity Ratio</b>	3.48	3.34	3.57	3.71
<b>Debt to Asset Ratio</b>	0.78	0.77	0.78	0.79
<b>Equity Multiplier</b>	4.48	4.34	4.57	4.71
<b>Profitability</b>				
<b>NPAT</b>	47,580,680	29,705,073	3,744,670	71,128,049
<b>operating income</b>	281,889,142	195,635,980	211,332,028	235,465,854
<b>Total Equity</b>	1,286,458,450	1,261,977,770	1,232,272,697	1,194,828,029
<b>Total asset</b>	5,758,830,184	5,473,934,544	5,635,643,713	5,628,741,859
<b>Net profit Margin</b>	16.88%	15.18%	1.77%	30.21%
<b>Retrun on Equity</b>	3.70%	2.35%	0.30%	5.95%
<b>Retrun on Asset</b>	0.83%	0.54%	0.07%	1.26%
<b>Liquidity</b>				
<b>total loan</b>	4129.38	3977.22	4133.96	4261.69
<b>total deposit</b>	1610.55	1526.91	1661.49	2051.01
<b>laon t deposit ratio</b>	2.56	2.60	2.49	2.08

### PROFIT BEFORE & AFTER TAX



### Calculation of Financial Ratio



**LOANS & ADVANCES (IN MILLION BDT)**



**TOTAL DEPOSITS (IN MILLION BDT)**

**CVC Finance Limited**  
**CONSOLIDATED PROFIT AND LOSS ACCOUNT**

For the year ended 31 December 2021

Particulars	Notes	Amount in Taka
		December 31, 2021
Interest income	18.0	523,137,770
Less: Interest expenses on borrowings, deposits etc.	19.0	(319,719,698)
<b>NET INTEREST INCOME</b>		<b>203,418,073</b>
Investment income	18.1	16,029,583
Commission, exchange and brokerage	20.0	3,073,202
Other operating income	21 (a)	70,507,606
<b>TOTAL OPERATING INCOME</b>		<b>293,028,464</b>
Salaries and allowances	23.0	68,434,808
Rent, taxes, insurances, electricity etc.	24.0	17,456,189
Postage, stamps, telecommunication etc.	25.0	1,260,636
Stationery, printings, advertisements etc.	26.0	1,223,550
Managing Director's salary and allowances	27.0	6,840,000
Directors' fees	28.0	1,520,000
Auditors' fees	29.0	172,500
Depreciation and repair of company's assets	30.0	8,709,027
Other operating expenses	31 (a)	24,672,013
<b>TOTAL OPERATING EXPENSES</b>		<b>130,288,723</b>
<b>PROFIT BEFORE PROVISION</b>		<b>162,739,741</b>
Provision for loan, advances and leases	32.0	81,783,775
Provision for diminution in value of investments	33.0	(215,901)
Provision for Legal fee Receivable	34.0	2,317,485
<b>TOTAL PROVISION</b>		<b>83,885,360</b>
<b>Profit before taxes</b>		<b>78,854,381</b>
<b>PROVISION FOR TAXATION</b>		<b>29,444,380</b>
Current tax	35 (a)	29,235,648
Deferred tax		208,732

**CVC Finance Limited**  
**PROFIT AND LOSS ACCOUNT**  
For the year ended 31 December 2021

Particulars	Notes	Amount in Taka	
		December 31, 2021	December 31, 2020
Interest income:	18.0	5,23,137,770	5,02,762,693
Less: Interest expenses on borrowings, deposits etc.	19.0	(319,719,698)	(436,296,326)
<b>NET INTEREST INCOME</b>		<b>203,418,073</b>	<b>66,466,367</b>
Investment income	18.1	16,029,583	1,665,304
Commission, exchange and brokerage	20.0	3,073,202	24,030,961
Other operating income	21.0	59,368,284	103,473,348
		<b>78,471,069</b>	<b>129,169,613</b>
<b>TOTAL OPERATING INCOME</b>		<b>281,889,142</b>	<b>195,635,980</b>
Salaries and allowances	23.0	68,434,808	64,316,384
Rent, taxes, insurances, electricity etc.	24.0	17,456,189	17,482,242
Postage, stamps, telecommunication etc.	25.0	1,260,636	629,510
Stationery, printings, advertisements etc.	26.0	1,223,550	1,057,499
Managing Director's salary and allowances	27.0	6,840,000	6,705,000
Directors' fees	28.0	1,520,000	952,000
Auditors' fees	29.0	172,500	115,000
Depreciation and repair of company's assets	30.0	8,709,027	9,038,863
Other operating expenses	31.0	16,391,960	7,553,836
<b>TOTAL OPERATING EXPENSES</b>		<b>122,008,670</b>	<b>108,150,334</b>
<b>PROFIT BEFORE PROVISION</b>		<b>159,880,472</b>	<b>87,485,646</b>
Provision for loan, advances and leases	32.0	81,783,775	16,062,007
Provision for diminution in value of investments	32.1	(215,901)	50,128
Provision for Legal fee Receivable	32.2	2,317,485	-
<b>TOTAL PROVISION</b>		<b>83,885,360</b>	<b>16,112,135</b>
<b>PROFIT BEFORE TAXES</b>		<b>75,995,112</b>	<b>71,373,510</b>
<b>PROVISION FOR TAXATION</b>	35.0	<b>28,414,432</b>	<b>41,668,437</b>



Current tax	28,414,432	41,668,437
Deferred tax	-	-
<b>NET PROFIT AFTER TAXATION</b>	<b>47,580,680.00</b>	<b>29,705,073.00</b>
Retained surplus brought forward from previous year	63,730,349	39,966,291
	<b>111,311,029.00</b>	<b>69,671,364.00</b>
<b>APPROPRIATIONS</b>		
Statutory reserve	9,516,136	5,941,075
Dividend equalization fund	57,750,000	-
Special reserve fund	-	-
Retained surplus	44,044,893	63,730,349
	<b>111,311,029.00</b>	<b>69,671,364.00</b>
<b>EARNING PER SHARE (EPS)</b>	36.0	0.40
		0.25

The annexed notes form an integral part of these financial statements.