Report On

Building Investor Confidence : Overcoming Credit Rating Limitations SME Financing in Bangladesh in the Fintech Era

By

Zarin Tasnim

20204050

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partial fulfillment of the
requirements for the degree of
Bachelor of Business Administration (BBA)

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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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Zarin Tasnim

Student ID: 20204050

Supervisor's Full Name & Signature:

____

Sayla Sowat Siddiqui, PhD

Assistant Professor

BRAC Business School

Letter of Transmittal

Sayla Sowat Siddiqui,PhD

Assistant Professor

BRAC Business School

BRAC University

66 Mohakhali, Dhaka-1212

Subject: Submission of Internship report

Dear Sir / Madam,

This is my pleasure to display my entry level position and provide details regarding' Credit Rating service Procedure of Vertex LLC BD , which I was appointed by your direction.

I have attempted my best to finish the report with the essential data and recommended proposition in as significant a compact and comprehensive manner as possible.

I trust that the report will meet the desires.

Sincerely yours,

____

Zarin Tasnim

20204050

BRAC Business School

BRAC University

Date: November,2025

Vertex LLC

Dear Zarin Tasnim,

It is our pleasure to offer you the position of **Intern** at Vertex LLC with a start date of 8th July, 2025, and ending on 7th November, 2025. As the company grows, you will be eligible for various company benefits, including, five (5) days paid leave, specific travel compensation for company visits only.

We believe your skills could be a great match for our company. As an Intern, your main task will be:

a. To support project managers in creating project plans, timelines, and milestones by conducting research, gathering data, and contributing to the development of project scopes and objectives.
b. To assist in maintaining project documentation, including progress reports, meeting minutes, and action items and help in generating regular reports for stakeholders and team.
c. To aid in coordinating tasks among team members, ensuring smooth communication and collaboration across different departments or teams involved in the project.
d. To assist in resource tracking and allocation, including budget management, expense tracking, and identifying cost-saving opportunities.
e. To conduct research on industry best practices, trends, and methodologies related to project management, and analyze data/provide insights to improve project performance.
f. To contribute to the identification of process improvements within project management methodologies and suggest innovative approaches to enhance project efficiency and effectiveness.
g. To perform and comply with any other duties that the company employees from time to time, as and when deemed fit.

Your employment with Vertex LLC will be contracted for four (4) months at weekly hours of twelve hours per week (12hrs/week) in-person, and the rest in any suitably convenient mode, not exceeding a total of forty hours per week (40/hrs/week). An evaluation will be made at the end of two months, and further at the end of the tenure, for any prospect of a permanent position that may be offered, provided the scope and the parties are attuned to their needs and availability.

Please confirm your acceptance of this offer by signing and returning this letter by 7th July, 2025.

Sincerely,

Ibadur Rahman Ratul
Founder, Vertex LLC

Signature: Zarin

Full Name: Zarin Tasnim

Date: 7th July 2025

Vertex LLC

01742-344517
House 22, Road: 19/A, Banani, Dhaka
www.vertexllcbd.com
info@vertexllcbd.com

Executive Summary

This internship report offers a critical review of how the Fintech-based model of credit assessment practice can work to overcome the limitations that exist in the traditional credit rating for small and medium enterprises (SMEs) in Bangladesh, and ultimately work towards creating greater investor confidence and financial inclusion. It is devoted to the discussion of the negative aspects of traditional credit rating systems-"dependence on financial record and collateral" as an example-in the past leading to issues in the way SMEs could access finance and further impeding innovation and growth in this critical part of the Bangladeshi economy.

The placement experience during this internship was located at the Ideology Department, at the company of Vertex LLC; the company is a visionary investment management and consulting firm, which focuses on ensuring business innovation and strategic growth within the current fast globalizing and digitalizing economy. The contribution that Vertex LLC has made in advising the enterprises in Bangladesh to modernize their business strategy has been critical through its expertise particularly in the incorporation of new technological solution in order to spur growth.

This internship provided me with a practical understanding of how alternative data sources and Fintech applications are already transforming the SME financing ecosystem of Bangladesh as a result of hands-on exposure to the credit evaluation approaches of Vertex LLC. Primary data were gathered through interviews with the owners of SMEs, the executives and investment professionals at the investment firm, Vertex LLC, and a comprehensive analysis of the local practice in regulatory approaches, as well as global Fintech innovations. The benefit of the analysis was the exclusive viewpoint according to which the hybrid model of the credit rating standards of the global market and other data analytics provided by the local market participant, including Vertex LLC, offers a more thorough evaluation of creditworthiness of SMEs.

Finally, this report indicates how the accuracy and inclusiveness of credit risk assessment can be significantly enhanced by using Fintech, where transactional, behavioural and social data, as well as conventional credit measures are used. It proposes the implementation of blended assessment models as practiced by the Vertex LLC besides strategic policy adjustments as the next step towards supporting the SME access to finance and sustainable economic development in Bangladesh.

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Abstract

The internship report seeks to discuss how credit evaluation models using Fintech can meet the shortcomings of traditional credit ratings to the Small and Medium Enterprises (SMEs) in Bangladesh. Conventional credit scoring processes can be inaccurate in characterizing risk of SMEs thus limiting access to finance and investors losing interest due to these factors. This paper explores how new Fintech technology can support the promise of more complete and accurate credit decision-making by adding additional data sources to the equation. This study has concentrated on surveying the following stakeholders in the sector such as investors, Fintech operators and the owners of SMEs to see their opinions on the incorporation of non-conventional information into the system of credit scoring. Based on Fintech case studies and the applicable literature, the paper suggests that by utilizing these technologies it is possible to enhance the process of assessing the credit worthiness and the confidence of investors. Finally, the report aims to provide quality research knowledge to fill the financing gap of the SMEs in Bangladesh, bring them financial inclusion and economic sustainability by providing better credit evaluation techniques.

Rationale:

The conventional credit rating scores that are used with SMEs in Bangladesh tend not to measure the credit worthiness of the enterprises which ultimately affects their access to financial resources. Most of the conventional lending processes are highly pegged on the financial paperwork and the physical properties thus rendering the developing SMEs that lack substantial materials in the form of collateral, to secure the funds they require. This restrictive environment also paralyzes the growth and development of the SMEs in Bangladeshi economy. Fintech offers alternative data credit models that are innovative and that are relying on a range of wider information that can be utilized to enhance credit judgments. And with the merging of both digital footprints, transactional data and social indicators, Fintech-based models can gain a better picture of the risk profile of an SME. This comes in useful since lenders and investors can now identify and see through legitimate business despite lack of traditional paper work. It makes the lending decisions more accurate and fast by using sophisticated algorithms and machine learning to optimize the credit evaluation process. The addition of Fintech models is also useful in establishing a greater trust among the investors and thus more money is funneled into the SME sector. This strategy is in line with the intention to achieve financial inclusion so that hitherto excluded SMEs can be integrated into the formal financial markets. Thus the logic behind the report is that new credit evaluation methods should be promoted to mitigate the weaknesses of the traditional models.

Problems Statement:

The current credit scoring systems largely overlook the alternative data and hence we possess a big blind spot when it comes to assessing the risk and feasibility of Bangladesh SMEs. The use of historical financials and collateral also poses a hindrance to the new and innovative SMEs that cannot offer a significant amount of documentation. Consequently, a number of viable business ventures struggle to acquire finances thus limiting the chances to invest in their businesses and increase the scale of operations. This causes the long term funding shortfall within the SME sector and is one of the elements that suffocates economic growth and employment creation. The lack of adequate and unreliable data in the credit ratings also influences investor confidence because of increased premiums and low investments. The current models are not responsive to the changes in the market and are not leveraging technology to make smarter and data-driven decisions. Absence of other data integration like the transaction history, digital engagement, omission of important predictors of business health. The creditworthiness of SMEs will then be distorted in favor of larger, more established businesses due to this. This ostracism is continuing to promote inequality within the financial market that does not allow the whole sector to develop. The statement of the problem shows the urgency that currently exists in the domain of implementing the innovations in the area of credit assessment to overcome the deficiencies.

Scope:

The issue addressed in the scope of the report is the study of the Fintech-based models of credit analysis in the Bangladesh SME environment. It will specifically examine the perceptions and experiences of the investors, Fintech providers, and SME owners of the new credit assessment methods. Through review of local and international case studies, the report is aimed at learning practical implication of alternative data integration in credit scoring. The research methodologies to be used are surveys and interviews to ensure that the opinions of stakeholders and real-life challenges are obtained. The regulatory context as well as technical progress that affect the Bangladesh credit evaluation practices are attended to. The report focuses on the performance and adoption obstacles to using Fintech solutions compared to the traditional systems. It is directed toward potential gains of adopting the digital transformation in enhancing access to finance by the SMEs. The geographic and economic factors that are specific to Bangladesh are considered to make the recommendations relevant locally. The focus is on innovative models to achieve financial inclusion and sustainability of SMEs induced. Finally, the work contributes to the information about the improved assessment of credit and the following stimulation of development of the SME sector.

Limitation:

Some of the limitations present in the report include limited access to detailed Fintech data in Bangladesh that could have compromised the completeness of the findings. The opinions of the stakeholders are based on a certain geographic and economical background and might not be relevant to a wider environment. The rapid pace of Fintech implies that not all mentioned models/technologies are up-to-date or substituted by innovations. The reliable data gaps or the discrepancy in the manner of SME reporting digital activities which affect the accuracy of the alternative credit assessment may exist. The challenges to the widespread implementation of Fintech-based innovations can be regulatory constraints and the reluctance of the traditional financial institutions. Survey samples can be limited and this will influence the statistical power of the analysis in general. There are certain qualitative insights that are highly pegged on the perceptions of the stakeholders and may result in bias or subjectivity. Systems analysis becomes challenging due to the absence of standard data collection frameworks of alternative sources. The report does not fully explain the external factors that influence a company such as development of macroeconomic factors or change of policies. Irrespective of these limitations, the paper tries to offer meaningful recommendations on how credit evaluation of SMEs can be enhanced by using new Fintech solutions.

Chapter 1: An Examination of Conventional Credit Scoring Models & Its Drawbacks for SME

Traditional credit scoring models of SMEs in Bangladesh mostly involve standardized models, guided by regulatory guidelines and rating agencies. These frameworks take risk into consideration on the basis of various financial health, operating efficiency, quality of management, collateral value, characteristics of the industry, score sheets and methodologies which are approved by Bangladesh bank.

Roles and Responsibilities at Vertex LLC

As an intern at Vertex LLC, my primary role was to support the development and enhancement of the existing SME credit rating system in the company. My work had a close connection with the Ideology Department, in which I assisted in creating, assessing, and enhancing credit evaluation models offered by Fintech. I could have gained some practical understanding in this work by learning how alternative data, behavioural indicators and digital financial patterns could be used to increase the accuracy of the score on risk of Bangladeshi small and medium-sized businesses.

The analysis of the conventional credit rating inputs and the establishment of the limitations that SMEs face within the framework of the standard assessment was an important part of my job. I reviewed recent scoring sheets of the rating agencies such as CRAB, CRISL, and NCR, financial statements, borrower data and regulation documents. This enabled me to find out easily those areas where conventional methodologies fail to provide proper assessment of innovative or asset-light SMEs. My role was to chart these gaps and align them with various data channels that Vertex will employ in its hybrid approach to assessment.

I was also required to create data sheets, risk profile updates, and comparative analysis between conventional and fintech-driven models and internal reports that were to be used by the senior management. The activities allowed me to acquire some hands-on experience in credit risk analysis, default foreseeing concepts, and how credit rating practices used in the global market can be applied locally to the SME setting.

Moreover, I was also engaged in the area of partnership development in the company of Vertex LLC, which is typically related to HR and external relations, along with my primary credit rating work. I also helped to introduce the possibility to collaborate with schools, hospitals and a bank. This included contacting institutions, negotiating terms of partnership and preparation of proposals. These activities increased my communication skills, negotiation skills, and stakeholder management skills though they are secondary to my major research duties.

The experience with Vertex LLC, in general, was highly beneficial to my knowledge of the current credit assessment models and allowed me to get acquainted with the real-life issues involved in SME financing in Bangladesh. My balanced learning experience and doing work on both technical and operational aspects of credit assessment and institutional relations allowed me to directly correlate with the purposes of the internship program and the range of my academic experience and goals.

Current Global Credit Rating System

A credit rating system is a framework to determine the creditworthiness of borrowers, whether it's a government, corporation, or financial instrument (like bonds). It indicates the probability that they will pay back their debt.

For individuals, the credit rating system is typically in the form of a credit score, such as FICO, Experian, TransUnion or Equifax. This is a score based on credit history, how you pay your bills, what you owe, and your financial habits.

For corporations, banks, and governments, credit rating agencies offer ratings that give investors an idea of the risk of default on bonds or loans.

Major Credit Rating Agencies in the world

The international credit rating system is dominated ***by three large rating agencies***, sometimes known as the ***"Big Three":***

- ➢ ***Standard & Poor's (S&P)*** - USA based, and provides ratings for governments, corporations and structured finance products.

- ➢ ***Moody's Investment Service*** - USA based, famous for bond ratings, Global Financial Analysis.

- ➢ ***Fitch Ratings*** - UK/USA Based, ratings for sovereigns, financial institutions and corporations

Other countries may have similar local agencies, but these three agencies have worldwide recognition and their ratings are well-used by international investors, banks and financial institutions.

These Credit rating system is graded through letter :

Low risk Rating-Investmental:

Agency	Rating	Meaning	Moody's Equivalent
S&P and Fitch	AAA	Highest quality; minimal risk of default	Aaa
S&P and Fitch	AA	Very strong; low credit risk	Aa
S&P and Fitch	A	Strong; some vulnerability to adverse conditions	A
S&P and Fitch	BBB	Adequate; moderate risk	Baa

High Risk Rating-Noninvestmental:

Agency	Rating	Meaning	Moody's Equivalant
S&P and Fitch	BB	Speculative; some risk of default	Ba
S&P and Fitch	B	High risk; vulnerable to adverse conditions	B
S&P and Fitch	CCC	Very high risk; potential for default	Caa
S&P and Fitch	CC / C	Extremely high risk	Ca
S&P and Fitch	D	Default; has failed to meet debt obligations	C

Current SME Credit Rating Scheme in Bangladesh

Traditional system of SME credit rating in Bangladesh has been established through regulatory directions of Bangladesh Bank and following standard methods followed by the domestic rating agencies including CRAB (Credit Rating Agency of Bangladesh Ltd.), CRISL (Credit Rating Information and Services Ltd.) and NCR (National Credit Ratings Ltd.). These agencies depend on a mix of quantitative analysis (financial ratios, profitability, liquidity and capital structure) and qualitative analysis (profiles of business risk, management expertise, industry outlook, legal compliance). Ratings are often based on a numerical or alphabetical scale (e.g. ARSME 1 to ARSME 8) to indicate a firm's relative creditworthiness with regular updates required as per the guidelines of Bangladesh Bank in accordance with Basel II. The system exists in order to promote informed lending decisions and stability in regulation, as it is designed to be standardized and transparent.

However, the rating process is still heavily dependent upon financial documentation, historical performance data and valuation of tangible assets, in favor of bigger, more well-established SMEs. The majority of banks and lenders rely the majority of their loan decisions on these agency ratings, frequently with prescriptive criteria on collateral and documentation.

The methods that have an impact on SME financing

Despite efforts to formalise and standardise Entrepreneur ratings, there are several significant obstacles:

- ➢ Due to the bias in traditional banking procedures towards asset-based lending, SMEs without significant fixed assets—specifically, land or property—have less access to finance. As a result, nearly half of Bangladesh's SMEs are either underfinanced or unbanked.
- ➢ The majority of SMEs are unable to create comprehensive and trustworthy reporting on finances, audited financial statements, or complex business strategies, which lowers their chances of receiving funding and high ratings.
- ➢ Current frameworks rarely account for alternative data such as transaction histories, digital footprints, supply chain data or social behavioral indicators that are lacking essential data on SME's risk and growth potential.
- ➢ Potential Agency Conflicts Rating Agencies are paid by the companies they rate, which raises concerns about objectivity and potential biased-rating schemes or issues of granted integrity.
- ➢ Lack of Credit Guarantees and Risk-Sharing - Lack of institutions such as Credit Guarantee Corporations implies risk-sharing is not adequate to spread the risk over lenders and investors, which makes them less willing to fund SMEs.
- ➢ Many SMEs are in sectors where business is currently evolving (e.g. tech, service sectors) and where traditional models don't capture innovative business models and future earning potential, and thus are misclassified and underestimated in terms of their creditworthiness.

Effect on Investor Confidence and SME Growth

The persisting shortfalls of conventional scoring have a direct impact on the investment environment as well as on the development of SMEs in Bangladesh:

- ➢ Due to the inaccuracies in risk profile and overdependence on rigid frameworks, local and foreign investors get apprehensive about the SME investments, leading to increased risk premiums and hesitation in deploying funds.

- ➢ Long-Term Financial Exclusion Due to low ratings, up to 40% of SMEs with real growth potential are denied formal financing, which hinders either firm-level and economic advancement.

- ➢ Institutions are not taking advantage of prospects for more complex and precise investing strategies, and they have been reluctant to embrace risk-sensitive or fintech-driven lending solutions.

- ➢ Bangladesh's goals for equitable and sustainable economic development are hampered by persistent funding shortfalls for SMEs, which prevent creation of jobs, expansion of markets, and GDP growth.

- ➢ In the absence of a trustworthy rating system, lenders and investors either avoid SME sectors or demand strict loan conditions, which exacerbates the financing gap and deters entrepreneurship.

In sum, the existing SME credit rating frameworks in Bangladesh, despite the progress in regulation, are constrained by documentation barriers, collateral bias, no alternative data integration and conflicts of interest. This means lower investor confidence, fewer growth opportunities for SMEs, and wider implications for the country's economic future. Future chapters will demonstrate how models driven by fintech can help to overcome these issues to build investor confidence and unlock growth potential of Bangladesh's SMEs.

Chapter 2:Fintech-powered Models for Credit Evaluation and Integration of Alternative Data

Overview

Fintech has brought algorithmic models of risk with machine learning, artificial intelligence and big data analytics, which have replaced traditional approaches based mostly on historical financial statements and collateral. These models are analyzing huge data points beyond legacy financial records. Fintech platforms like Ant Group, Kabbage and local Bangladeshi players are now automating the prediction of credit risk, processing of loan application in real-time and providing peer-to-peer lending based on digital profiles.

Alternative Data Types And Their Relevance

Social data: Online reputation, website analytics, and social media engagement - emphasise credibility and customer trust.

Transactional data: E-commerce sales, digital payments and utility bills that are indicative of financial activity and reliability.

Behavioral data: Patterns of device usage, spending habits and supplier relationships, indicating the stability of operations.

These alternatives are very important for SMEs that do not have formal paperwork but show good digital behaviour, therefore attracting lenders and investors looking for more dynamic profiles.

How Fintech Models Use Alternative Data

Fintech-driven models gather, aggregate and analyze alternative data via automated web crawlers, payment integrations and consent-driven APIs. Algorithms score transactions on the volume of transactions, digital reputation and behavioral stability, enabling credit providers to differentiate between high potential SMEs and higher risk ones, even if these businesses are "unrated" by traditional agencies. This improves signal quality for lenders and investors, thus overcoming the limitations of Bangladesh's established credit agencies (CRAB, CRISL), which largely rely on fragmentation-prone, historical reporting.

Role of the Technology and Credit Assessment Approach of Vertex LLC

Vertex LLC is leading a combination-hybrid approach, combining information from global standards (such as Moody's or S&P - for international credibility) and local agency information with the rich alternative data streams offered by Fintech platforms. This approach seeks to:

➢ Aggregate traditional scores (from CRAB, CRISL) with Fintech derived signals for a composite risk profile.

- ➢ Introduce analytic models that are able to fill in missing or incomplete credit histories by using transactional, social and behavioral data.
- ➢ Ensure legal and investment transparency by comparing Vertex's work's outcomes to globally recognised methodologies while keeping an eye on Bangladesh's unique environment and SME realities.

Chapter 3: Stakeholder Views of Fintech Credit Schemes & Impact Analysis and Strategic Proposals to Improve SME Credit Availability

The chapter reviews subtle views of the key stakeholders in the SME financing ecosystem- investors, fintech players and SME owners regarding the implementation of fintech-based models of credit assessment. Based on interviews, polls and practical experience during the internship at Vertex LLC, the analysis reveals the excitement and the apprehension that are helping in the incorporation of these new models.

Perceptions of Stakeholders towards Fintech Credit Modelling Investors:

This is an enlightened perception of investors over the fintech-based credit ratings, in acknowledgment that the capacity to introduce alternative data is one of the significant remedies to the old, documentary-based forms. They assume that the fintech models can offer greater real-time dynamic assessment of SME performance and potential by minimizing information asymmetry and improving risk assessment. However, investors also mention the problems with.

- ➢ Consistency and trustworthiness of sources of data.
- ➢ Compliance with law and privacy.
- ➢ They rely on being transparent to a greater extent to trust their models of fintech.
- ➢ Failure to meet the regulatory requirements by such organizations as Bangladesh Bank due to absence of common rules may cause uncertainty or unwillingness to put the capital into action.

Fintech:

Meanwhile, mechanical and predictive credit scoring is viewed by fintech companies as a potential achievement for market inclusion. Many companies that have been excluded from formal credit markets by traditional ratings can take part in their platforms, which enable SMEs to be assessed on a broader range of characteristics, including transactional and digital habits as well as social reputation.

Operators recognize that

- ➢ The disparities in data standardisation and the dispersed digital footprints
- ➢ Establishing solid relationships with institutions and regulatory bodies remains a significant problem.
- ➢ They place less emphasis on the significance of SMEs' and investors' ongoing education in fostering trust in the impartiality and equity of the fintech evaluation.

SME owners:

The reaction of SME owners to fintech models is not insignificant and they are aware that these systems will ease entry into the market as opposed to the barriers to entry caused by the traditional focus on collateral and cumbersome financial records. Digital credit checks promise to unlock the door to formal finance, not only to businesses that are younger, inventive or less well-endowed. Nevertheless, these business people are justified in their complaints about their lack of understanding of how algorithmic scoring systems operate, their learning about their online information and how they keep their valuable business data safe. Their readiness to cooperate with the fintech solutions is frequently related to the encouragement the operators provide them with and to the perceived transparency of the evaluation.

Vertex LLC:Case study insights

In the framework of the internship at Vertex LLC, the observations related to the case study indicate that a hybrid approach to scoring, which is based on traditional agency ratings and expanded with alternative data fintech used, is well-received and is appreciated by all stakeholder groups. It enables investors to display the full range of risk profiles made available through this strategy, and fintech operators to display the effectiveness of their models in an already developed investment management framework. The owners of SMEs who joined the pilot programs of Vertex express that they have more positive feelings of empowerment and hope and talk that they are gaining easier access to capital and that they understand more about the eligibility requirements. Above all, long-term conversation, recurring feedback circuits, and technological enhancements have been instrumental in building long-term confidence and engagement.

To conclude, stakeholder perceptions on fintech credit models are filled with a sense of optimism balanced by realistic thoughts on data integrity, challenges in regulatory alignment and user education. A good example of the potential of collaborative, hybrid solutions as a means of introducing both financial inclusion and investor confidence to the Bangladeshi SME sector is the experience of Vertex LLC.

Evaluation of Fintech Credit Models' Effects

Fintech credit assessment models have begun to revolutionize the SME financing situation in Bangladesh by offering an alternative to accessing capital by enterprises who are usually under-financed due to draining documentation and collaterals. These models rely on the digital footprint, the history of transactions and behavioral data and they generate a more dynamic target in the assessment of the risk and potential of SMEs. Because of this, there has been an increasing degree of investor confidence and this has been facilitated by the increased transparency, faster decision-making and the addition of hitherto unbanked or unrated businesses. The lending activities that are facilitated by fintech also aid in giving economic activity by reducing the cost and time of granting credit and promoting financial inclusion to the SMEs, which are the key players in the economic development in Bangladesh.

Applications for Fintech Credit: Deficits and Obstacles

In spite of such improvements, the implementation and effectiveness of fintech models still have critical loopholes. The majority of SMEs, however, are still lacking digital records or business documentation that would allow algorithmic scoring to be more accessible and reliable. Scalability of fintech credit solutions is also constrained by data fragmentation, regulatory ambiguity, different accessibility to the digital infrastructure, and differences in access to the digital infrastructure. It is not yet clear to what extent and how accurately other data may be obtained and the extent to which privacy and data security are ensured in the fintech ecosystem.

Also, the regulatory systems will have to change in such a way that they can accommodate innovation without compromising the financial stability, consumer protection or investor confidence.

Stratified Suggestions

For the purposes of this paper, Vertex LLC and legislators recommend the following tactics to improve SME credit evaluation and promote broader financial inclusion:

- ➢ Create regulatory sandboxes to test innovative financial technology offerings and credit scoring models, and encourage greater clarity in regulations to make them more innovation-friendly.
- ➢ Encourage digital record-keeping among SMEs and bolster fintech platforms' capacity to find and validate alternative data in order to advance data standardisation and interoperability.
- ➢ Invest in stakeholder education programs that create trust in the objectivity and fairness of fintech algorithms to focus on SME owners and investors.
- ➢ Advance hybrid credit scoring models that transparently transfer traditional risk assessment to fintech-derived metrics to offer more comprehensive borrower profiles.
- ➢ Improve the digital infrastructure and connectivity and make available fintech services to SMEs in rural and underserved areas with easy access.
- ➢ Collaborate with government, banks and fintech companies on designing incentives to get SMEs to move towards formal financial participation
- ➢ Ensure strong standards for data privacy and cybersecurity in fintech operations to ensure confidence in the business and to protect sensitive enterprise information.

If these recommendations are implemented, the SME sector of Bangladesh can expect to gain better access to timely and affordable credit and investor confidence, spurring inclusive economic growth and sustainability.

Chapter 4: *The Rat Effect on Loan Recovery: An Example of Bangladeshi Credit Rating Limitations*

Abstract

The case study examines behavioral economics, credit rating and restructuring of loans within the Bangladesh financial industry. It also focuses on the unintended side effects of institutional reward systems and regulatory compliance measures that are apparent in Vertex LLC Bangladesh as the target institution, which lead to loan defaults. The case follows the

restructuring of a loan by Mr. Faraz who is a middle-sized business person and whose default on loan had been experienced yet it appeared to have been followed. The paper offers the Rat Effect of behavioral-economic dynamics: a behavioral-economic phenomenon which complements the occurrence of appearance of improvement through masking systemic and behavioral malfunctions. Through the features of similarities between the collapse of colonial policies and the current financial order, the analysis sheds light on the distortion of the long-term recovery behavior by the short-term incentives. The findings indicate the need by the financial institutions to go beyond compliance-based evaluation to the evidence-based monitoring approach with more emphasis on operational and behavioral sustainability.

Learning Outcomes

1. Examine how institutional design and behavioural incentives affect the frequency of loan defaults.

2. Recognise the Rat Effect as a financial management behavioral-economic framework.

3. Determine the shortcomings of Bangladesh's post-restructuring monitoring and credit rating systems.

4. Consider the managerial and ethical ramifications of biases in performance measurement.

5. Make recommendations on how to match institutional incentives with long-term borrower recovery.

Introduction

Over the past 20 years, Bangladesh's financial sector has experienced tremendous growth, marked by the expansion of the credit market, SME financing, and the digitisation of finance. Despite the development of these, institutional integrity is nevertheless threatened by the persistent issue of non-performing loans (NPLs). To avoid loan classification downgrades, the majority of banks and financial institutions are devoting their entire existence to short-term financial restructuring initiatives. However, these policies typically reward just paper compliance rather than the debtors' rehabilitation.

My internship experience in Vertex LLC Bangladesh, a financial consulting and investment management corporation, was a task to evaluate the shortcomings of current credit rating models and to examine the default cases that take place regularly. The assignment showed a very startling trend: borrowers reverted to default following restructuring even after showing signs of improvement. It was based on this observation that behavioral response in the credit ecosystem - the way in which both borrowers and institutions respond to incentive systems and observable indicators of progress - was investigated.

Background and Context

The restructuring policies that were implemented by Bangladesh Bank are a strategic intervention policy in order to cushion the financial stability and give breathing space to the distressed borrowers. Such frameworks were aimed at alleviating the burden of repayment of troubled businesses by means of long-term tenure, lower interest penalty, and short grace periods. Theoretically, the policy was to be a compromise between compassion and caution, to give business an organized chance to recover after shocks in the market, and leave the banking system intact. This was especially applicable to the post-pandemic era, when liquidity crises, disrupted supply chains, and unpredictable consumer demand all put millions of businesses in the SME and corporate worlds at risk.

Nevertheless, with the implementation of these restructuring programs in the financial institutions, a trend started to be followed. Most of the restructured accounts began recording better repayment attitudes, although a stalking number of them later returned to default. This cycle provoked some basic issues that the policy was correcting the underlying causes of financial distress or acted as a form of procrastination to eventual failures. It was not the intent of the framework, but rather the behavioral and operational responses to it by both borrowers and institutions that was the problem.

In the institutional context, performance appraisal measures turned out to be one of the most significant distractions. Loan officers and credit managers were frequently rated through measurable performance indicators such as the number of active accounts, the percentage of loan renewals, or short-term loan recovery rates as opposed to sustainable recovery rates by the borrowers in the long run. As a result, employees were implicitly motivated to concentrate on the visible improvements that could be reported upwards even though these improvements might have been hiding weak areas. This culture of superficial compliance was developed as a result of focusing on the appearance of the portfolios rather than actual rehabilitation. The institutions were being rewarded to recover loans on paper, yet back in the background, the systemic risk was building up.

On the borrower side, behavioral responses were also elicited in a similar manner. Several customers who were given restructuring privileges took the relief as a message of indulgence. They did not discuss the inefficiencies in their business models or increase operational discipline but usually focused on keeping minimum payments in order not to be classified as defaulters. This restructuring therefore was a behavior cushion - whereby the creditors continued to make it look like everything was going well even as their financial status kept worsening. This is quite similar to what behavioral economists refer to as moral hazard where safety nets tend to inadvertently promote risky or dishonest action as a result of a perceived decreasing likelihood of punishment.

It is a two-fact behavioral trend which is not only temporary institutional self-preservation but also complacency of the borrower and this is what the present research identifies as The Rat Effect. It was named after the case of Hanoi that was colonized in which rat tails were rewarded and thus people bred more rats instead of killing them. Likewise, the reforms introduced to the loans by the government of Bangladesh were meant to bring about the actual recovery, but in most circumstances, they led to the symbolic repayment behaviours that may have worked in the reports, but that could not be recurrently applied to stabilize the circumstances over the long-term.

This situation was very vivid in the case of one of the business clients of Vertex LLC Bangladesh, who is a man, Mr. Faraz. His restructured loan saw an increase in the performance metrics of the company albeit temporarily but at the expense of more underlying decay in operations. The situation reflected a more fundamental underneath structural maladaptation of behaviour reality and regulatory laxity, whereby the institutions under pressure to show improvement created the circumstances that led to the same kinds of failures that the institutions were attempting to eradicate.

The Protagonist

Mr. Faraz, who was the main character in this case, was a middle-level entrepreneur who dealt with imports and distribution of electronic appliances in Bangladesh. His business has been growing moderately and steadily over the past nine years due to a good reputation and financial discipline. His track record of paying on time and having transparent transactions with them had seen him become a favorite client among the financiers. Nevertheless, similar to most small and medium enterprises, his business was greatly affected as the post-pandemic slowdown impacted it. His business was put in a vulnerable situation due to disrupted supply chains, dwindling consumer demand, and increased cost of imports.

Faraz will seek a 80 lakh BDT working capital loan with Vertex LLC Bangladesh in an attempt to purchase stability to his company. The fact that he had proven creditworthiness and that he had collateral to back it up resulted in the prompt loan issuance. The investments were to revive his cycles of imports, replenish high-demand appliances, as well as cover operational expenses in case of market uncertainty. The first few months were going well and all went well with installments paid up and both the borrower and the institution optimistic about it. Vertex LLC listed the account as low-risk and they were satisfied with the consistent behaviour of the borrower.

But this started to change when the macroeconomic conditions deteriorated. Inflation was rampant, there was an increase in exchange rates which increased the price of imports and the buying capacity of the consumers went down. This meant that the sales volumes of Faraz reduced but the fixed costs stayed constant. In several months, he started having difficulty with liquidity. Delays in payments increased, signifying financial distress. Upon the realization of these challenges, Vertex LLC embarked on the process of restructuring its loan in compliance with the regulation of Bangladesh Bank.

According to the revised conditions, Faraz received a six months grace period, minimized penalty fee and a longer repayment term of 36 months. This was to bring some breathing space and enable the business to be stable again. This seemed to succeed at first, and Faraz started paying again in small but frequent amounts. The classification of the account changed to non-performing to under observation. In house, the reorganization was touted as a success in recovery and this gave credit to the credit management model of Vertex LLC.

However, under or behind this facade of development, there were other structural and behavioral problems. Another audit later demonstrated that the revenue of Faraz was being channeled to personal expenditure thus defacing the boundary between business and household money. He lost his relations with important suppliers and was compelled to pay in advance which further worsened the liquidity condition. Sales did not improve significantly and so did the efficiency of operations, i.e. the seeming repayment recovery was not backed by actual business turn around.

This trend was a representation of what was referred to in the case as the Rat Effect. Similar to the case in history with colonial Hanoi, where people bred rats so that they could receive rewards, the behavior of Faraz was also a distortion of incentives. He was able to pay little to fulfill superficial requirements of compliance, which was rewarded by the system at Vertex LLC. The company internal measures preferred visible repayment activity to actual rehabilitation of business hence concealing internal weakness.

Vertex LLC was in an ethical dilemma at this point. Is it keeping the pretense of a successful restructuring to protect its institutional reputation, or is it telling the truth about the re-default of the borrower and acknowledging its shortcomings in supervision? The case brought out one of the usual vices within the financial sector, which is the performance appraisal systems that focus on the short term measures, as opposed to the long term recovery outcomes

Eventually, the loan taken by Faraz failed once again revealing the ineffectiveness of compliance evaluation. In the case of Vertex LLC, the incident was the trigger to reform. The institution found that there can only be temporary relief to financial restructuring without monitoring of behavior. It has come up with a Post-Restructuring Verification Framework, which incorporates cash flow checks, digital tracking, and behavioral scoring indicators. This was done in an effort to align incentives to actual recovery, that is, to reward borrowers who showed actual operational success as opposed to those who just followed the rules.

The case of Mr. Faraz is a chilling story of how the unintended effects of the good intentions policies may be triggered in such easily. It lays emphasis on the relevance of behavioral intelligence in financial management- the fact that figures do not reveal the real image of the wellbeing of the business. It was a lesson to organizations such as Vertex LLC that they cannot view the recovery of loans against the rate of which the loan is being paid but rather through the sustainability of the business, which is the foundation of the loan. The case, therefore, is the Rat Effect at its best- whereby things appear to improve as the truth is that they are weak and where success on paper can actually in life turn out to be an indicator of silent onset of failure.

Organizational Overview

Vertex LLC Bangladesh is a financial consulting and investments management company that is dedicated to sustainable financial business in the emerging credit market in Bangladesh. It is a credit risk analysis and investment structure and partnership program documentation company which primarily serves the small and medium size business (SMEs) and the novice entrepreneurs. It carries a mission statement of closing the gap between the investor and the businesses, by providing ethical financial advice, credit checking and facilitation of transparent investments. The reputation that Vertex LLC has earned over the years is the reputation of the analytical rigor and an integrity of approach, which serves the national interests of financial inclusion and responsible lending.

The hierarchy has been able to support the presence of a number of divisions within the organization such as credit assessment, investment consultancy, and financial monitoring that are driven by the need to ensure that the lending decisions are informed by sound economics fundamental principles. Its quantitative and qualitative models used by its analysts are the debt service coverage ratios, liquidity projections, credit scoring systems and the managerial capabilities and business flexibility. Collecting such a strategy is an indicator of the necessity of the company to ensure that it balances between financial discipline and entrepreneurial development.

However, Vertex LLC, as most corporations within the industry, has found it difficult to generate performance reviews and precise borrower results. Internal success metrics of the firm were frequently based on short-term measures- frequency of repayment, decrease in non-performing loan ratios or the restructuring of active accounts. Although such metrics gave an instant relief to the management and regulators, they did not reflect the underlying financial strength or stability of the borrowers. Consequently, post restructuring assessments tended to stick to repayment data without crucial behavioural and business performance indicators. This excessive focus on apparent compliance, not only concealed systemic flaws, but also led to the phenomenon of superficial recovery reporting where people would claim recovery and move on, which is why there is such an urgent need in the institution to enforce a more behaviorally-oriented approach to credit monitoring.

Findings(Primary/Secondary)

Primary documents obtained by the internal records of Vertex LLC indicated that after the loan restructuring, Mr. Faraz started paying the loan in small but regular installments. These payments were not very significant, but sufficient to shift his loan to non-performing category to under observation. This seemingly positive turn over meant everything to the management, the client was now paying again and the plan of restructuring appeared to be bearing fruit. Periodic communications on such small gains were regarded as signs of fiscal discipline and dedication. This perception, however, was deceptive after an elaborate financial audit was done.

The audit revealed that there were a number of serious inconsistencies that compromised the so-called progress. The company had a low financial discipline and low corporate governance as a substantial amount of business revenues were channeled into personal spending. Moreover, business and personal bank accounts were not clearly divided, so it was not possible to trace the true cash flow and evaluate the real profitability. When relations with suppliers continued to worsen Faraz had to make advance payments to keep inventory, further liquidity became constrained. Meanwhile, inefficiencies in the everyday operations were still being experienced- poor inventory turnover, higher administrative costs- to diminishing profit margins and still running short of cash.

Secondary evidence collected by analyzing the industry indicated that this was not a lone instance. The same trends were witnessed in different financial institutions with restructured loans being prematurely glorified as successes. Rather than being a way of long-term risk reduction and long-term recovery, restructuring programs turned out to be a way of sustaining short-term performance indicators.The fact that the borrowers wanted to appear healthy keeping the nominal payments in the pretext of compliance had turned out to be a good indicator of the performance of the sector. Factually this weak promise was a sham that concealed the financial weakness of the borrower and delayed the actual transition. What this finding revealed was a widespread issue with the credit management policies pursued by institutional forces where the semblance of payback activity received increased consideration than the actual rehabilitation of the firm.

Managerial/Ethical Dilemma

Once his re-structured loan with Mr. Faraz went bad again, Vertex LLC was in a dilemma, caught in a grey administrative and ethical dilemma. First, the restructuring was an in-house success case, which was applied to show how the company is performing well in credit management and recovery strategy. The increment had been looked on as indicated by the steady payouts, however small they were. This hopefulness was transferred to the senior management and external stakeholder reporting that also promoted the notion that the financial stability of the client has been stabilized as a result of intervention by Vertex LLC. But when the next audit showed that the so-called recovery was not a sham and the loan had failed again the entity had a hard decision to make either continue the mask of success going or is it time to admit that it was negligent and tarnished its image?

Ethical implications to this decision were severe. On the one hand, the fact that the reputation of the institution was held did not change permanently and it was a one-time security measure.Failure to confess might put Vertex LLC in the spotlight of criticisms by investors, regulatory authorities, and customers. It could also demoralize internally and cast a question of analytical rigor within the firm. Most financial institutions are under the burden of ensuring that loan recovery can be made to look attractive as this directly contributes to performance measurement, investor confidence as well as market positioning. The temptation to place more emphasis on image management as opposed to transparency may be high in this environment. To keep presenting the case of Mr. Faraz as a success in restructuring would help the company avoid immediate damages in its reputation and avoid possible investigations by the Bangladesh Bank and other financial regulators.

Conversely, an option to transparency was ethically more appropriate, but it was risky to the institution. The re- default disclosure would suggest that the credit monitoring system and re-structuring assessment systems at the firm are weak. It would also indicate a flaw in the incentive systems which were giving noticeable compliance to real recovery. However, this openness can lead to deeper institutional reform. By admitting to its mistakes, the Vertex LLC was able to take time to reorganize its internal frameworks and to recreate the credibility of the stakeholders, and to create precedence that would make other participants in the financial industries to act in the same manner ethically. Transparency can result in a culture of responsibility in which sustainability in the long term was more than the short term appearances were valued.

This predicament also revealed a larger scale of war that is prevalent in the financial industry that is the war between short-term performance targets and long-term accountability. Bankers are also inclined to compare financial institutions with short term indicators such as the repayment percentages, the restructured volume of loan or reduction of non-performing loans. Nevertheless, they are quantitative measures that fail to capture the qualitative element of recovery such as operational health, managerial discipline and behavior change of the borrowers. In turn, managers and staff have an incentive to reach quantifiable targets as opposed to fixing the flaws of the company. This constitutes an institutional moral hazard where the institutions will appear successful in paper but with the latent risks present.

In addition to one borrower's delinquency, Vertex LLC's desired organisational structure presented an ethical conundrum. Although it would be detrimental in the near run, the transparency was in line with the company's stated values of sustainable recovery and ethical finance. However, hiding the truth would undermine these very ideals and bring back the Rat Effect, which the case study was meant to highlight—that favourable outcomes encourage behaviour that goes against the institution's goals.

After all, it was a leadership issue that called for both courage and moral clarity. The management of Vertex LLC had to decide between the cost of disclosure and the moral obligation to uphold honesty and integrity.By deciding to tackle the problem in the open, the company might take a failure and convert it into a lesson, as it will serve as an example to empower the internal processes and promote the changes in the industry. Making an apology would be a sign of maturity and an indicator of a desire to do responsible finance-characteristics which (eventually) would add to reputation rather than take it away.

Therefore, the Mr. Faraz example embodies a general fact in financial management: institutional openness and ethical integrity are strategic assets rather than limitations. An organization's reputation may be momentarily preserved by hiding issues, but only accountability and change can ensure its sustainability and long-term trustworthiness.

Theoretical Integration

The Rat Effect can provide a strong theoretical framework to interpret how the mismatch between incentives may result in unintended and counterproductive consequences in the financial institutions. The term was coined in reference to a notorious policy blunder in colonial Hanoi (where a bounty program was established by the French administration to stop a rising rat population). The citizens paid per rat tail they brought, as they thought it was likely to encourage mass extermination. But the policy was that a backfiring person started breeding rat to get rat tails and in other instances, released captured rats into the city so that the infestation could go on. The incentive structure rather than solving the problem aggravated the problem. This historical anecdote embodies the spirit of behavioral economics: human behavior is, in fact, strategic in response to incentive systems, and frequently it tries to undermine the aims of the incentives.

This was a dynamic that took place in the context of Vertex LLC. The internal performance measures and reward systems of the company were focused on short term measures which included repayment frequency, loan reclassification and adherence to the restructuring conditions. The performance of employees was measured by the apparent performance of the loan portfolios, that is, by the number of loans that were non-performing that became rehabilitated via restructuring. This led to employees and the management team being preoccupied with the illusion of recovery as opposed to a real business recovery. In response to this system, borrowers such as Mr. Faraz, on their part, would pay a minimum amount of money that met technical requirements, despite the fact that their financial conditions were slowly going down. The incentives of the institution, despite their good intentions, became too much of a reinforcement of the behaviors that concealed the actual risk environment.

This phenomenon has a close relation to the moral hazard and incentive distortion theories. Moral hazard is a problem that occurs when one party takes more risky or deceptive actions due to the lack of the whole impact of the actions. Both the borrower and the lender exhibited tendencies of moral hazard in the case. Mr. Faraz just made symbolic payments to stay in the good grace of credit so that he could keep enjoying the credit leniency. Instead, the management of Vertex LLC was encouraged to record these repayments as an indication of progress, as better loan classifications were a liability to the reputation of the institutions and complied with the regulatory impact. The result was a cycle of each side becoming complacent with each other as the economy continued to deteriorate.

This dynamic discusses the deceptively created incentives that result in skewed decision-making in terms of behavioural economics. Individuals will respond to concrete and measurable incentives like reaching a payback goal or a particular credit rating rather than abstract goals like long-term financial security. Organisations that concentrate metrics that show looks above substance are creating the consequences of false accomplishment on a feedback cycle. This distortion turns recovery programs into a performance where the emphasis is on finishing chores rather than addressing fundamental issues.

Consequently, the Rat Effect turns into a symbolic illustration of the deficiency of systemic nature of financial planning. It assists in bridging the gap between behavioural theory and credit risk management and proves that data-driven compliance is unable to counterbalance behavioural understanding. The psychological and ethical aspects should be incorporated in the assessment processes of the institutions in order to accomplish real rehabilitation. This includes the consideration of levels of discipline of the borrowers, the patterns of decisions of the managers and the sustainability of operations besides the normal financial metrics.

Finally, the Vertex LLC case illustrates how the quality of incentives affects the quality of results. Fake stability will result from awarding superficial progress, whereas resilience and trust will be fostered by rewarding genuine performance. If financial institutions comprehend the Rat Effect and know how to deal with it, they will be able to transition from the compliance-focused paradigm to a credit management policy centred around behaviour understanding, ethical oversight, and long-term sustainability.

Decision/Possible Alternatives

1. How could loan restructuring procedures be enhanced by behavioural insights?

2. What dangers arise when financial institutions give compliance metrics top priority?

3.How could incentive schemes promote dishonest borrower behaviour?

4.In what ways may digital monitoring technologies stop defaults from happening again?

5.Should regulators mandate post-restructuring audits?

Discussion Questions

1.In the case of Vertex LLC, which caused the repeat of default of Mr. Faraz, how did the design of the performance metrics add to the problem?

2.How does the "Rat Effect" demonstrate the risks of inappropriate institutional incentives?

3.Which were the ethical issues of this case of Vertex LLC in finding out about the re-default, and in what ways can financial institutions strike a balance between transparency and reputation management?

4.What can be done to incorporate the concepts of behavioral economics in managing credit risks to avoid scenarios such as in case of Mr. Faraz?

5.What are the shortcomings of using the repayment frequency and restructuring compliance as the measure of financial recovery?

6.Was Ms. Vertex LLC aware or in a position to foresee or avert the re-default of Mr. Faraz by means of more successful post-loan monitoring? If so, how?

7.Explain the application of moral hazard in this case by both the loan receiver (Mr. Faraz) and the loan seller (Vertex LLC)?

8.What does this case teach the regulators such as Bangladesh Bank about how to reorganize policy design?

9.What are the effects of institutional reporting pressures on managerial decision making and ethical behavior in financial companies?

10.Which other Key Performance Indicators (KPIs) would be more indicative of actual borrower recovery and business sustainability?

11.How far does the Rat Effect apply outside of financial institutions - can the same be seen elsewhere where incentive-based evaluation is involved?

12.What does the example of Mr. Faraz reveal about the lack of inter-connectivity between evidence-based and compliance-based monitoring systems?

13.Would you give disclosure of the re-default your first priority or preserve the reputation of the institutions in case of Vertex LLC? Justify your stance.

14.How does behavioral credit scoring increase the effectiveness of post-restructuring monitoring systems?

15.What can be done to use technology and data analytics in order to identify the early warning signs of a superficial recovery or fabricated performance?

Chapter 4: Recommendations & Conclusion

Recommendation:

- **Boost Concentration Risk Analysis and Income Assessment**

Instead of relying on household income, Vertex LLC ought to examine the ability of every borrower to make independent repayments. As part of the credit appraisal process, there must be compulsory assessment of an income concentration risk that will identify whether the repayment depends on an individual person.

- **Set Greater LTV Limits for Borrowers at High Risk**

High loan-to-value structures enhance sensitivity in income shock. To ensure adequate equity contributions by borrowers and reduce the severity of the loss, Vertex LLC should offer reduced LTV ratios to homeowners with small PD, single sources of income, or small financial cushions.

- **Enhance Behavioural Risk Assessment**

The behavioural signs of a borrower such as prejudice towards optimism, overconfidence and irrational expectations of repayment should be analysed thoroughly. Systematic interviews, required income stress tests, and affordability checks are some of the techniques of reducing borrower-side moral hazard.

Conclusion

The case of Mr. Faraz & the Rat Effect provides a critical examination of the way institutional design influences financial outcomes. Superficial recovery measures may satisfy reporting requirements, but they do not ensure sustainability. The findings demonstrate the need for financial institutions to adopt a new perspective on success. Operational continuity, fiscal control, and behavioural stability should be used to evaluate loan recovery rather than the frequency of repayments. A step towards this goal can be seen in Vertex LLC's post-case reforms, which included behavioural assessment of credit, income verification, and incentive restructuring

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Note

Some references are company internal interviews, discussions and mostly unpublished materials like Vertex LLC project observations