

Report On
**Overall Analysis of E-Banking and Information Management System of Sonali Bank
Submitted**

By

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17104077

Major in Accounting and E-Business

An internship report submitted to the BRAC Business School (BBS) in partial fulfillment of
the requirements for the degree of
Bachelors of Business Administration (B.B.A)

BRAC Business School (BBS)

Brac University
October, 2021

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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 have acknowledged all main sources of help.

Student's Full Name & Signature:

Towhid Newaz Akash
17104077

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Abir Ahmed Chowdhury
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LETTER OF THE SUBMISSION

07, October, 2021

To,

Abir Ahmed Chowdhury

Lecturer (Finance & Banking)

BRAC Business School (BBS)

BRAC University

66 Mohakhali, Dhaka-1212

Subject: Application for the Lodgment of the Final Internship Report on “Overall Analysis of E-Banking and Information Management System of Sonali Bank“.

Dear Sir,

In this report, I have exhibited a paper titled An "Overall Analysis of E-Banking and Information Management System of Sonali Bank“.

This is the crucial provision of the BBA program. I deem myself lucky to possess the opportunity to experience the internship program of BRAC Business School following your invaluable supervision. I found it to be, both a delight and a challenge for me, to operate beneath your supervision, which can never reciprocate from my obligation towards you.

This was a pleasure to work as a “General Banking Intern” for Sonali Bank in the Mirpur Industrial Branch. For selection and recruitment process, I submitted my CV in the Principal Branch, Mirpur, Dhaka, which went to the HRD (Headquarters), Motijheel, Dhaka. Then, they should an interest and I had to send a forwarding Letter from OCSAR, BRACU. Lastly, I had to go the staff college located in Uttara, Dhaka with the necessary documents and recommendation letter and there I had to give two choices of the branches I want work in and sign in official document and finally submit a document provided by Staff College to my designated Branch.

Finally, I would appreciate the opportunity to convey my heartfelt gratitude for your assistance in drafting the report, I will be happy to clear up any confusion you may have in this respect. I have attempted my best to finish the report with the essential data and recommended proposition in a significant compact and comprehensive manner as possible.

Regards,

Towhid Newaz Akash

BBA Program, BRAC Business School

ID: 17104077

Major in Accounting and E-Business

October, 07, 2021

Non-Disclosure Agreement

This agreement is made and entered into by and between Sonali Bank Ltd. and the undersigned student, Towhid Newaz Akash, of Brac University.

**This page is for Non-Disclosure Agreement between the Company and The Student

Towhid Newaz Akash
BBA Program, BRAC Business School
ID: 17104077
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October, 07, 2021

Preceding authorities Sign, Seal and Date

Preface

This report is a result of three months Internship Program ready as the fractional prerequisite of the BBA program of the Department of School of Business Studies, BRAC University, Dhaka.

The work on this report was completed as an internship program at the Sonali Bank Limited, Mirpur I/A Branch, Dhaka-1216. The report was allotted by Abir Ahmed Chowdhury, Lecturer, BRAC Business School, and Ms. Shanzida Shahab Uddin, Manager, OCSAR, BRAC University, and approved by Md. Monsurul Arif Khan, Deputy General Manager, Human Resource, Division, Head Office, Dhaka.

The association connection began on 21 June 2021. The report is entitled "An Overall Analysis of E-Banking and Information Management System of Sonali Bank". This is the feedback that the division wants from the students who participate in an association after the fruition of the theoretical portion of the BBA program.

Keywords: E-Banking-Services, Information-System, Customer-Trust, Customer-Problems

Acknowledgment

It is my delight to make a move to acknowledge the guidance, assistance, and perseverance of educated individuals to whom we express our gratitude; without those, I would not be able to complete my report.

I want thank to my honorable faculty Abir Ahmed Chowdhury of BRAC University, Bangladesh, for giving point-by-point input and guidance on this task. He has consistently given us His significant ideas for making this task.

We should also convey certain other names without which we would be unable to obtain some important data, such as the Internet, various books, research papers, and BBA students from various universities. They saved their time liberally and took the difficulty of noting detail and aided us to complete our review. We likewise recognize their assistance and co-activity with much appreciated.

Supervisor's Permit

This is to confirm that Towhid Newaz Akash, ID No: 17104077, BBA Program, BRAC Business School, Major in Accounting and E-Business, has completed the temporary position report on "An Overall Analysis of Sonali Bank's E-Banking and Information Management System" as the fractional satisfaction of a Bachelors of Business Administration (BBA) degree from BRAC University.

This internship report has been arranged beneath my recommendation and it is of the true exertion completed effectively.

Workplace Supervisor Sign, Seal and Date

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List of Acronyms

B.B.A	Bachelors of Business Administration
SPO	Senior Principle Officer
CIB	Credit Information Bureau
ABB	Any Branch Banking
ATM	Automated Teller Machine
SMS	Short Message Service
SBL	Sonali Bank Limited
SECI	Sonali Exchange Company Inc
CSR	Corporate Social Responsibilities
GM	General Manager
PO	Principal Officer
BHD	Bahraini Dinar
MD	Managing Director
DMD	Deputy Managing Director
DGM	Deputy General Manager
AGM	Assistant General Manager
JPO	Joint Principal Officer
SO	Senior Officer
PDCRB	Pension and Death Cum Retirement Benefit

ACR	Annual Confidential Report
BSC	Bankers Selection Committee
BIBM	Bangladesh Institute of Bank Management
BBTA	Bangladesh Bank Training Academy
WOM	Word Of Mouth
TVC	Television Commercial
CAR	Capital Adequacy Ratio
EPS	Earnings per Share
ROA	Return on Asset
ROI	Return on Investment
ROE	Return on Equity
EVA	Economic Value Added
RMSPlus	Remittance Management SystemPlus
TMD	Treasury Management Division
CCTV	Closed Circuit Television
GTS	Government Transaction System
BEFTN	Bangladesh Electronic Fund Transfer Network
SBCS	Sonali Bank Clearing Structure
CBS	Core Banking Solution
MSMEs	Medium, Small, and Micro Enterprises
SME	Small Medium Enterprise
EFT	Electronic Fund Transmission
KYC	Know Your Customer
NPSB	National Payment Switch Bangladesh
TIN	Taxpayer Identification Number
ITCL	Information Technology Consultants Limited
SWIFT	Society for Worldwide Interbank Financial Telecommunication
RTGS	Real-Time Gross Settlement
VOP	VAT Online Project
SPFTL	Sonali Polaris FT Limited
BACH	Bangladesh Automated Clearing House
BACPS	Bangladesh Automated Cheque Processing System
POS	Point Of Sale
MS	Microsoft
SBEFTN	Sonali Bank Electronic Fund Transfer Network

1.0 Chapter: Outline of the Internship

1.1 Information of Student:

Name of the Internee: Towhid Newaz Akash

BRACU ID: 17104077

Degree Program: B.B.A (Bachelors of Business Administration)

Majors: Accounting & E-Business

1.2 Information of Internship

1.2.1 Period and Company Info

Period: 12 Weeks (3 Months), From 21 June 2021 to

Company Name: Sonali Bank Ltd.

Department: General Banking

Address: Mirpur Shilpa Elaka Branch, Section-11, Mirpur, Dhaka

1.2.2 Internship Workplace Overseer's Info:

Name: Mohammad Alamgir Hossain

Position: Manager (SPO)

1.2.3 Scope of the Job:

As part of my internship program, I was stationed at Sonali Bank Ltd, Mirpur Shilpa Elaka Branch for 3 months (12 weeks) with Monthly reporting criteria at Sonali Bank Staff College, Uttara, Dhaka. Throughout the internship, I assisted most of the employees with their desk jobs, and through job rotation, I was able to learn a lot from different aspects of banking, such as customer service, my daily job involves assisting at the start of my internship, I was having a lot of difficulties adjusting to the new environment. In this situation, on the other hand, my workplace supervisor made certain that I grasped every element of the banking operations and culture, and other workers were also quite helpful. The manager taught me many elements of organizational behavior, and I also learned how to listen to others and respond from him since he is an outstanding communicator. In addition, I understood the importance of devotion, the

necessity to collaborate with others, and how to keep track of my tasks. In addition, I learned how to establish a strong network and connections by treating people with respect and admiration; these behavioral methods will certainly prove to be important assets in my books. Looking back, after finishing this organization's internship program, my superior proved to be competent and experienced in all areas, as well as having the foresight to behave appropriately. Try to explain why the internship program is important; it inspired me to work for a government or independent agency. When there was less job pressure, it was acceptable to take a tea break. If anyone made a mistake, the seniors tried their hardest to correct it, never being unpleasant or using harsh words to anyone; and if any area had too much work pressure, employees from other areas stepped in to help share the load. Everyone had to be on time when reporting, and employees could not be late; however, if they had a personal issue, they may leave the office with the manager's approval; on rare instances, one may be obliged to work longer hours, and otherwise, staff may be made to leave by 5 p.m. These benefits enticed me to apply for a position with the government.

1.3 Conclusions of Internship:

1.3.1 Contribution of the student to the firm

Customer Service

Throughout my internship, I served numerous customers in several ways from several divisions of the branch, as consumers were stationed directly and indirectly to me, in completing our account opening paperwork, money transfer forms, pay order forms, and credit card applications. Similarly, double-check that all necessary legal and needed papers were changed, gathered, and attached, as well as that the forms were correctly filled out. Also, assisted clients in need of checkbooks by handing out ready-to-use checkbooks, providing appropriate documents, and directing them to particular counters.

Clearing and remittance

Receiving all incoming checks from clients, validating the check, providing access to the spreadsheet, sending copies of the checks to the main office through the scan machine, and the filling was all part of this department's responsibilities at the time. In addition, I had to assist the customer with remittance withdrawal documentation preparation.

CIB Form (Credit Information Bureau)

For loans, a CIB form was required, so my regular duties included filling out all of the customer's information fields in the server and sending it to Bangladesh Bank's in-query to ensure that he was not a loan debt dodger in any of the country's banks, which has proven to be extremely helpful in reducing banking fraud.

Client communication

Maintaining the continuity of their service by keeping the client on the phone and ensuring that the required paperwork arrived on time at our end, and making calls and sending emails as needed.

Updates to the database and register

I had to double-check the voucher registration, maintain track of the vouchers by strewing them about in various departments at different times, and fill ledgers and account registers in the accounting department.

1.3.2 Remunerations to the student

Gaining practical experience

Before my internship, all I knew about banking was what I learned in school: how to use different sorts of accounts, banking rules, bank revenue-generating operations like money lending, bank costs for various services, and so on. Working on these topics over the past three months has allowed me to broaden my practical knowledge. Improving Communication Skills I can effectively interact with people of all backgrounds and classes as a result of these experiences; I can speak with over fifty people in a single day, interact with my teammates as well as the customer, and receiving phone calls from time to time at the front desk has greatly improved my communication skills.

Meticulosity

From the start, I confirm that banking is all about proper documentation and processing of this pending paperwork; a single blunder could lead to a heinous act, for example, the amount in the figure and word must be the same in the event of cash deposit, cash delivery, and the transaction must be correct with the right entry in the transaction profile and the register book, and if there is an omission, the transaction must be corrected, and each agenda must be thoroughly analyzed, this internship has improved my ability to work with focus over time.

Abiding procedures and protocols

Sonali Bank Ltd strictly adheres to Bangladesh Bank's laws and regulations, it was critical to double-check that every work was legal and controlled before directing it. Working in the accounts section required me to understand all of the Bangladesh bank's criteria; the account opening form was unique, and I had to make sure that it was properly recorded and that the account was established according to those regulations.

Equanimity

Many tasks must be done while under duress. I was also working in the online money transfer and check clearing divisions at the same time. Furthermore, the coupons must be examined. To do all of the tasks at the same time, the Knowledge of Modern Banking Banking is heavily reliant on technology in today's society. Computer software handles Any Branch Banking (ABB), cheque clearance, ATM card services, cash deposit, and cash withdrawal, account number, SMS banking, and so on. The SBL Server was noticeably slow. As a result of this problem, the police face several obstacles every day. Nonetheless, students are not allowed to use the program on their own; however, the personnel was really helpful and knowledgeable and how to utilize the program.

Professionalism

I was taught workplace etiquette, punctuality, what not to say in front of others, how to deal with furious clients, workplace culture, and how to enhance my common sense. In addition, I learned the importance of a bank's dress code. These aren't only for bank chores; they'll help me in my future career as well. I was forced to keep office hours as an intern. I required permission from my supervisor if I needed to leave the bank sooner for significant personal reasons.

1.3.3 Difficulties and Problems (faced throughout the internship period)

Fortunately, I was able to work with the bulk of the branch's staff, who assisted me in several ways. In addition, I can confidently state that I met empathetic supervisors from both the workplace and academic side during this time, as they were always pleasant and I felt comfortable talking to them about any difficulties or issues I was having. Finally, several of the employees mentioned that they will miss me because they considered me to be a member of their team for the past three months.

I consider them to be my coworkers even though I do not have the opportunity to be a part of them. Furthermore, my internship experience has taught me that there is no such thing as a free lunch. Despite certain difficulties, I was able to complete my assigned tasks without difficulty

throughout my internship. I eventually developed strategies that assisted me in dealing with difficult situations; the first difficulty was that I was acquiring new technology abilities while still being unable to give quick customer support. As a result, customers were frequently angry, and my boss suggested that I try to provide quick service. In my situation, a client complained to the management after getting services, and dealing with this sort of customer was difficult for me. Apart from that, the Lockdown had engulfed everything; everyone in the workplace had to adhere to the roster due to Bangladesh Bank's regulations, and because I was an intern, I was not granted a permanent ID card, which proved to be a significant barrier to entering the office. This experience has shown me that academic study and practical labor are not the same things.

1.3.4 Commendations (to the company on forthcoming internships)

Easy to apply: Undergraduate and graduate students must complete an internship. In general, applying for internships early is a smart idea. Otherwise, it is difficult to obtain training. Sonali Bank's intern recruitment procedure is significantly more complex and less computerized. If there is a digital platform for interns to plan their applications, it will be beneficial to them.

The Office crowd: The gathering should be overseen by the management. It is important to educate interns on how to deal with large groups of people and operate under pressure. In any event, in order to avoid annoyance, the office manager should anticipate this situation.

Interns should be issued identification cards by a bank: ID cards are required for banking personnel. The greatest identification cards on the market give visual evidence of an employee. ID cards may play an essential part in a bank's security program, and creating the proper care is critical to managing assurance items. Banks can design complete ID cards to meet their needs by calculating the following segments. For example, many interns encounter difficulty in complying with safety norms and regulations due to a lack of a suitable ID card.

2.0 Chapter: Organization and Analysis

2.1 Company Introduction

Sonali Bank Limited is the biggest government-owned entity preceding in the commercial bank industry of Bangladesh and it was instituted towards Nationalization as the order of the Bangladesh Bank in 1972. According to corporate profile information, the bank has a capital (authorized) of 6000Tk. crore and (paid-up) 4530Tk. crore, as well as Swift code

"BSONBDDH," around 20 thousand workers, over 1200 branches and its headquarter is located in Motijheel business area, Dhaka.

2.2 Company Overview

From the History, The Bank was formed via the merger of National Bank of Pakistan, Bank of Bahawalpur, and Premier Bank, according to Bangladesh Bank from the order 1972 of Nationalization structure of the president's decree no. 26, 1972 (SBL, 2021).

Sonali Exchange Company Inc. (SECI), a fully-fledged subsidiary business, was established in the United States in 1994 to extend Sonali Bank's services in the international banking area, and the bank has nine branches with its funds.

The Bank and The government of Bangladesh collectively commenced services in the UK in 2001, and it now has 6 branches in the UK.

On June 3, 2007, from the official website of SBL (2021), the Government and Sonali Bank Limited signed a Vendor Agreement and afterward registered as a company called "Sonali Bank Limited."

Sonali Bank Limited received a banking grant in approval from the Bangladesh Bank on June 5, 2007, to expedite banking activities via improvement in administration facilities and co-operation norms, and Sonali Bank Limited began banking operations as a corporation on November 15, 2007.

On September 14, 2009, the merchant banking service has started to expand the bank business and before the establishment of a subsidiary company proclaimed "Sonali Investment Limited" to aid the people of Bangladesh to invest and evolve towards achieving economic development.

From the official site SBL (2021), Shariah-based Islamic banking initiatives emerged over Islamic banking casements in Dhaka, Chittagong, Sylhet, Khulna, and Bogra on 29 June 2010, and CSR activates are being satisfied by establishment of the "Sonali Foundation." Following that, SBL assists people in social activities (CSR), such as paying pensions and retirement benefits to public-private officials, paying retirement and retirement benefits to public and private schools, colleges, madrasas, and so on, awarding scholarships to students, providing

various social security benefits, buying and selling government savings, and paying government food rations.

The amount of branches of Sonali Bank Limited is currently 1228, which includes branches within the province and overseas among them out of 1226 branches within the nation, 745 are in rural regions and the remaining 467 are in metropolitan cities. International trade is conducted through 45 branches (authorized merchants or AD branches) around the country, as well as two abroad locations are Kolkata and Siliguri of West Bengal, India. For the smooth operation of the bank's operations, the bank has 11 GM offices, 46 PO offices, and 16 regional offices. The bank's total performance is managed by 45 divisions at its headquarters, and it has about 1.25 crore different types of customer accounts.

In addition, the bank has its representational agencies in Riyadh and Jeddah, and Kuwait in Saudi Arabia. Though Malaysia's May Bank and IME (M) SDN, BHD, remittances from Bangladeshis residing, in Malaysia in alliance with Sonali Bank Limited, are getting to the country. From the official site SBL (2021), notwithstanding an account number in any branch, remittances of WESTERN UNION, IME, TRANSFAST, and EXPRESS MONEY are handled in SPOT CASH, CASH OVERT THE COUNTER practice and remittances of other banks and exchange houses (SBL, 2021). The bank has remittance agreements with about 60 banks and trade organizations in several regions, including the Middle East. The bank's international commerce exercises are being carried through 45 approved branches of the bank for overseas trade and 617 international acquaintances in several countries of the globe.

The bank has an abundance of skilled personnel. In this case, among their aims is to improve the bank's trade with this manpower and to expedite the commercial venture of the nation. At the moment. The bank has remittance agreements with 55 banks and trade organizations in several regions, including the Middle East. Sonali Bank Limited now has over 20,000 officers and workers, with about 18,000 officers and 1500 employees.

To prepare bank officials and employees and enhance their skills at work, there was no option in the past. From the official site, at present, there is one training institute each in Chittagong, Rajshahi, Khulna, Bogra, and Mymensingh along with "Sonali Bank Staff College" in Dhaka to set forth training activities (SBL, 2021).

Sonali Bank Limited has been operating dedicatedly in each field to enhance the socio-economic position of Bangladesh. A variation of deposit commodities has been interposed to stimulate the public to be self-reliant. Agriculture and industrial schemes have been accommodating the people of the township and provincial regions by different credit systems including loans, imports, export loans, agricultural loans, small business credits, SME finances, consumer goods loans to deliver economic affluence by strengthening the country's trade.

The Bank administers public daily banking projects and government treasury transactions on behalf of the government in regions where Bangladesh Bank does not have branches.

2.3 Management and Human Resource Practices

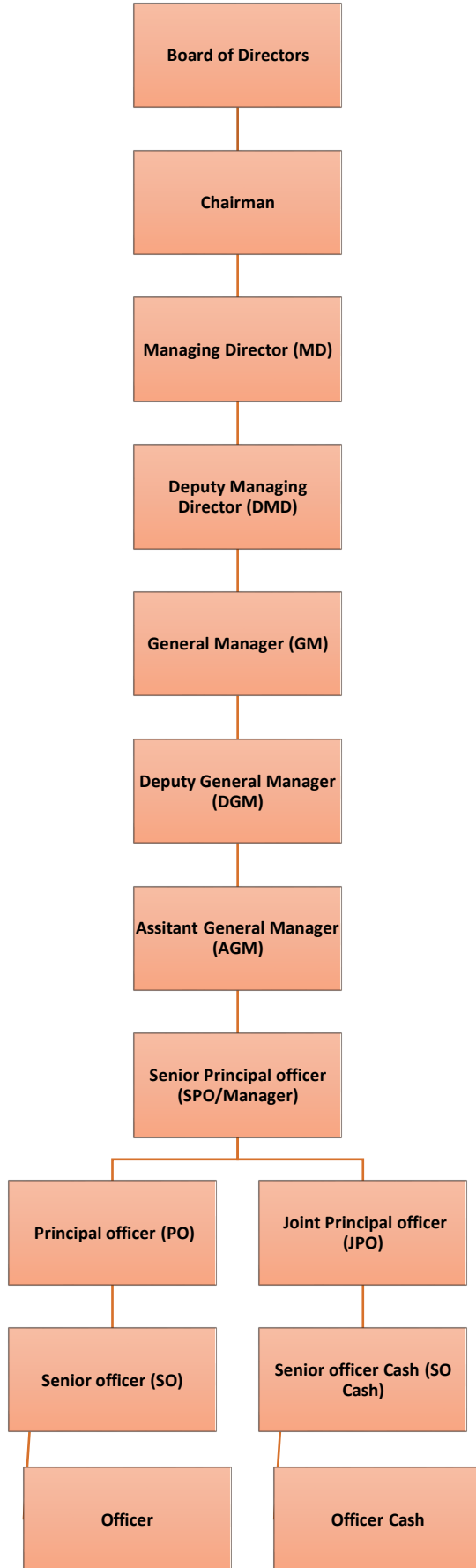
From the standpoint of board members, the independent committee, and branch managers, the bank employs a hybrid leadership style that is authoritarian, democratic, and laissez-faire. From the official site, policies are created together with the central bank and the government and must be followed by all sections of the company. Ziaul Hasan Siddiqui, the current chairman of the board of directors, and Md. Aatur Rahman, the CEO, execute these policies (SBL, 2021).

Otherwise, branch managers and committees take a different approach; they try to involve employees in specific instances, committees must vote, and in certain cases, an expert member is added to grasp the complexities and make judgments. Otherwise, branch managers usually attempt a laissez-faire leadership style because they communicate the daily activities through meetings and give a free space for employees to work and also supervise and guide employees on a need basis.

2.3.1 Human Resource Planning

Organogram from the interviews and the official site SBL (2021), Generally, Sonali Bank recruits from the officer or officer Cash and senior officer or senior officer Cash, as every current employee have to perform their duty in their current position for at least 3 years, after that if they meet the roster, they can get promoted, which is disclosed through the official website. Also, taking into account retired officers, available positions, new branch openings, and many more factors attribute to available vacancies. Once the HR department has assessed the prospective jobs and vacancies that need to be filled, they send a report or charter to the Bangladesh Bank, which then authorizes it so that the bank may make the required preparations for job advertising. Other than, the mentioned position, the position of Chairman and CEO can be advertised, as the

position needs to be assessed every two years, and selected by the Board of directors and the banking department of the Finance Ministry.



2.3.2 Human Resource Selection process

Sonali Bank Limited takes the recruitment and selection process through a joint selection test with Bangladesh Bank with Rupali Bank, Janta Bank, and many more. Though Sonali Bank can make job circulars for their separate positions, the following steps are discussed as a joint exam:

1. Job Announcement: the skills, qualifications, knowledge, and competencies that are associated and as described in the various descriptions. After that, the job advertisements go to various job portals.
2. CV Submission and Payment: Potential participants must submit their full CV and needed data on the official site of E-recruitment Bangladesh Bank and pay the application fee of 200/- using a payment gateway. The application receipt is provided to the candidates' email addresses for all submitted applications.
3. Application Receipt, Advert for Admit Cards, and Selection Test: Once the application receipt is received, potential applicants must keep the application number and advertise and inform the exam centers using the application number via the official website, newspaper, and other employment portals. Then the potential applicants are assessed through a written and interview test phase-wise, and every applicant passed in the phases is notified through official notice and the official website. The questions of the written selection tests are made in collaboration with IBA, Dhaka University or BIBM, and the Bankers Selection Committee (BSC) of Bangladesh Bank, which includes general knowledge, aptitude, and language communication. Also, the interview board contains employees from each of the banks.
4. Shortlisting Applications: The shortlisting of the employees is done with the applicants that passed the selection test, meanwhile the applicants can announce which Bank they want to join, or the banks can assess through their subjective evaluation from the interview board. Then, the potential applicants go through a background check conducted by their potential employer through the help of the Bangladesh police. After the background checks, the applicants are notified in the same way.
5. Final Approval and appointment: Once they get the final approval, the applicants then receive an appointment letter mentioning the position, branch, and joining date. When they join, they will receive on-the-job training, and depending on the roster, they will receive a long course

training, which is typically seven days at a certified staff college with housing and dining facilities.

2.3.3 Compensation System

SBL employees are compensated by the gazette of the National Pay-Scale 2015 (Finance Ministry, 2015). Withstanding Employee Benefits. General Employees since September 13, 1981, workers have been obligatory to fund at least 10% and up to 25% (on declaration) of their base income to a provident fund. Employees who have access to a contributing provident fund are eligible for gratuity of two months' concluding basic pay for respectively completed of employment duration. Two administrative committees oversee the Provident Fund, Pension Fund, and Gratuity. The incumbent receives the leave encashment benefit Benevolent Fund, which was established primarily to award scholarships to deserving students among the offspring of Bank employees. Other than that, there are retirement Pension and Death Cum Retirement Benefit (PDCRB) Arrangement, Death Relief with Grant Scheme, and a variety of other schemes.

2.3.4 Performance Appraisal and Evaluation

Performance evaluation is critical for increasing the productivity of employees in any industry, so SBL implies criteria through ACR (Annual Confidential Report) , academic degree, banking diploma, duration of employment, and other standard criteria are used (Anjum et al., 2021). In this case, the ACR method involves rating scale evaluation by the branch manager and if the position is higher than the branch manager, then the management.

SBL's ACR is separated into two sections, where the first section assesses qualitative factors such as mental fortitude, personality, punctuality, and work ethics, and the second section is made up of quantitative facts in which the individual is rated based on indications specific to their job.

The Fundamental Standards of Performance Assessment and Marks Allocation for Promotion of HR Policy Manual 2016 reflect the assessment methods and point allocation for advancement to the post of Deputy General Manager at Sonali Bank Ltd. A minimum qualifying score of 90 is required for the position of Assistant General Manager (AGM). Applicants with marks higher than 77 will be eligible for advancement based on seniority, while the others will be chosen on merit.

The grading scale for 50 points of ACR is as follows: very good- 2.50, good- 2.00, average- 1.00, and below-average- 0.00.

2.3.5 Training and Development

Sonali Bank is constantly concerned with the advancement of its workers' careers via the development of its people and at SBL, one of the most important instruments for professional development is training (SBL, 2021). To assess the training and development process, Sonali Bank prefers training analysis. For its workers, the bank provides off-the-job and in-house training, as well as on-the-job training.

Sonali Bank Limited operates a Staff College in Dhaka and six training sites around the country. Other institutions include the Bangladesh Institute of Bank Management (BIBM), the Bangladesh Bank Training Academy (BBTA), and others, conducted employee training programs and seminars (SBL, 2021).

Recently, Sonali Bank Staff College organized training sessions on green banking. In contour with environmental law, encouraging personnel to operate their corporate and financial undertakings by using inventories appropriately.

The difficulty is to maintain a corporate culture that is businesslike and devoted to SBL's goal. HR policies are intended to foster long-term professional development by releasing untapped potential. In 2019, the bank invested Tk 104.81 million in human resources to create a productive staff.

2.4 Marketing Methodologies

2.4.1 Strategy for marketing

SBL concentrates on offering high-quality services at a cheap cost; they are a household name in Bangladesh, and their service speaks for itself, yet they have achieved all of this success without engaging in big marketing and branding initiatives. Aside from being a state-owned bank, they have a reputable market position due to their services, customer service, and trustworthy attitude.

Product, price, and communication strategies are all part of a marketing plan. Marketing strategy must be in sync not just with customer needs, but also with the strategies of competitors. A good

marketing program combines all of the components of the marketing mix into a coherent plan targeted at accomplishing the company's marketing objectives.

Product: Sonali Bank has a big client base and must satisfy its requirements. Even though Sonali Bank has a restricted number of products, it has a tiny quantity that is just insufficient. Sonali Bank's product offerings must be expanded in order to fulfill the demands of its clients.

Price: Sonali Bank charges 2.5-5% interest on savings accounts and 5-10% interest on current accounts. It does not charge the customer for the service. In comparison to other banks, the initial deposit required to open a bank account with Sonali Bank is TK.1000.

Promotion: Sonali Bank makes ineffective use of advertising. It gives out flyers and booklets to customers to educate them about their goods. It does not prioritize communication strategy as several of its competitors do.

Place: Sonali Bank was one of Bangladesh's first banks to open. What is interesting, though, is that the bank formed its **MARKETING DIVISION** in 1995. To remain competitive, Sonali Bank must prioritize its marketing activities. Marketing activities are important in today's competitive business.

2.4.2 Clients, targeting, and positioning

SBL is promoting itself to its customers as a trustworthy bank that also practices green banking. Customers may trust the bank because it is run by the government. Aside from that, they've come up with the concept of green banking. As they are eco-friendly, it appears that they are attempting to influence their consumers' mindsets. The bank is aiming at poor, lower-middle-class, working class and people of all spheres in Bangladeshi households with little or no educational background who live in various parts of Bangladesh yet require reliable financial services. SBL is also targeting individuals outside of Bangladesh, such as Siliguri and Kolkata, and these consumers require the bank service that has been given.

Table 1: Customer Segmentation

Graphical segmentation	Demography segmentation:	Psychological Segmentation:	Behavioral Segmentation:
Every corner of Bangladesh, International boundaries for example: Siliguri, Kolkata. Exchange House UK, USA. In future work with government and beneficial market place.	Most services focus on government base scheme as people get beneficial and schemes for the all shorts, specially working class, of Bangladesh	Common people, such as lower Middle low class. And the working class, whose need for financial services like paying tax.	Find out the unaware and known about services and schemes, in terms to currently using, potential, scatter, and first time user, most of the services for mature, educated or job holders' and low income groups. Service charge is low but behavior Between clients is trustworthy.

2.4.3 Marketing channels

In the supply of services, this bank seeks direct channels. As if they had their own offices and mobile and online banking on the side, which allows them to provide financial services directly to their consumers.

2.4.4 Product development / new services and competitive practices

SBL in Bangladesh currently has no competition because it has the largest network of branches than other banks, government or privately owned, in Bangladesh, and also has the most reserves in their vault of any bank. Economic speculations and government allocation have a role in the creation of their new services or schemes.

- Economic factor: depending on the central bank's and governments monetary policies, as well as the ease of access to establish a service for a certain focus market. The economic policy in which it is susceptible to money supply and demand leads the bank to develop such a plan to preserve reserves funds, but it must be evaluated by the Central Bank when introducing it to the market.

- The government formed: In such instances, the government allocates funds. The government and the central bank permitted or sanction certain schemes to operate in a specific market.

2.4.5 Strategies for Advertising and Promotion

Banks cannot have an efficient marketing organization due to their vast distribution network and personnel inefficiencies. To oversee the bank's product marketing operations, Sonali Bank formed a marketing section. Because of its standing as a national commercial bank, the bank enjoys a significant market share and a positive reputation.

Personalization and the power of word-of-mouth are fundamental to advertising. They use their website to give customers the information they need, as well as word of mouth (WOM). WOM uses its employees to spread good words in public.

Collaboration marketing is conducted with Postal Services for ATMs, TVCs with Xoom.com, Facemask with MoneyGram, and many more have been seen.

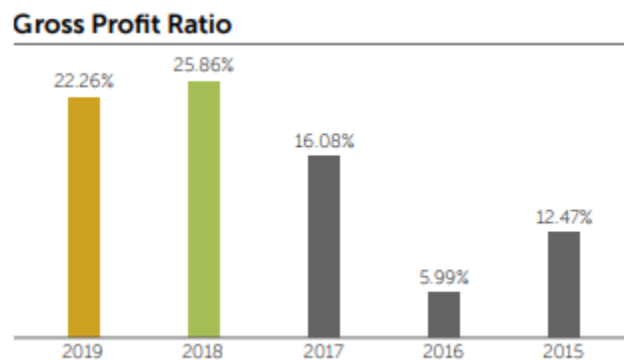
Internal marketing is commentated by banners, calendar, diary, and festoons are distributed to each branch with messages based on occasion, subject matter, or social cause.

2.5 Accounting Applications and Financial Performance

2.5.1 Financial Performance

2.5.1.1 Gross Profit Ratio

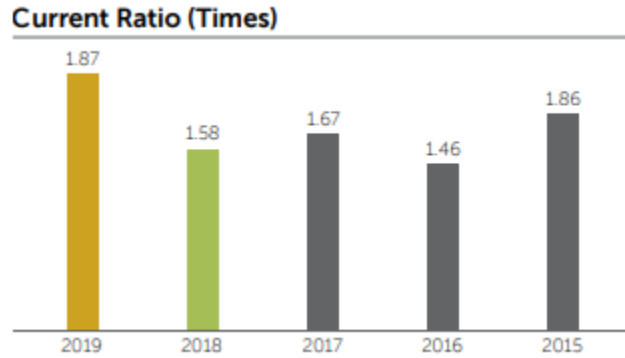
Figure 1: Gross Profit Ratio



We can see in the chart that gross profit of Sonali Bank declined in 2016, but gradually went very high and it was remaining in better condition in other years. That means Sonali Bank was able to make much more profit. So, this activity easily attracts more investors. With higher gross profit, Sonali Bank can all sorts of costs or debt obligations.

2.5.1.2 Current Ratio (Times)

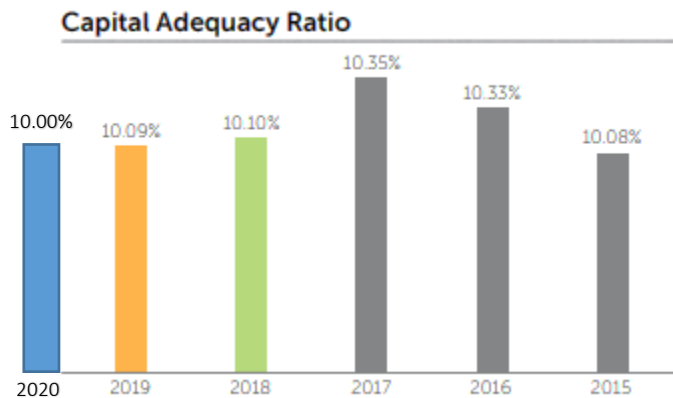
Figure 2: Current Ratio (Times)



The chart shows us that the current ratio went up and does from 2015 to 2018, but it raised sharply in 2019. This is a very good sign and accomplishment for the bank. This means SBL has the ability to clear their debts with their current assets. Moreover, they will also be able to clear up the small debts without any pressure.

2.5.1.3 Capital Adequacy Ratio

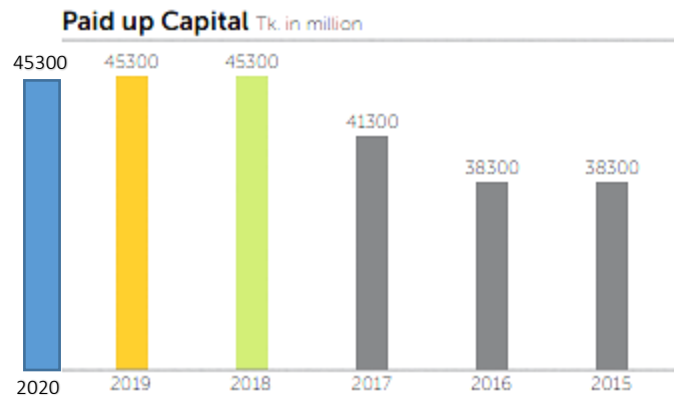
Figure 3: Capital Adequacy Ratio



Hayes (2021) suggests the CAR (Capital Adequacy Ratio fundamentally) resolves a financial institution's monetary asset to its danger, to the level weighted credit openings. The minimum requirement of this ratio is 10%. So, SBL was able to maintain the minimum requirement of this ratio perfectly. Thus, SBL has the ability to withstand small financial losses or any downstream.

2.5.1.4 Paid Up Capital

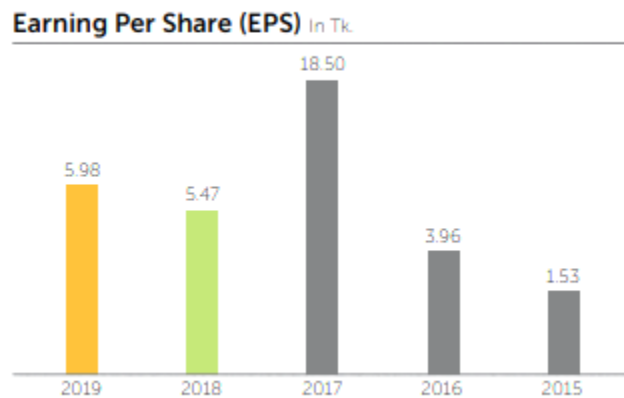
Figure 4: Paid Up Capital



The capital (paid-up) in 2015 was 38300, and it remained unchanged in 2016. Then it continued to rise in 2017 and 2018, before leveling out in 2019. The capital expansion has an additive effect on the overall share capital of the company. The organization's total assets grow in tandem with the increase in share capital.

2.5.1.5 Earnings per Share (EPS)

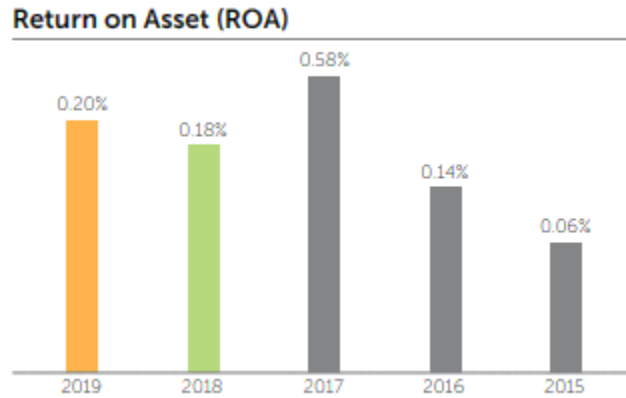
Figure 5: Earnings per Share (EPS)



SBL's EPS surged in 2017 but plummeted in 2018, but it maintained a strong performance in 2019 by growing rather than decreasing. EPS shows how much money a company generates for each share of stock it upholds and is a widely used metric for determining corporate value. Also, a greater EPS indicates more significant value since financial investors would pay more for an organization's offerings if they believe the company has higher advantages in comparison to its offer cost. As a result, SBL has a better chance of attracting more investors.

2.5.1.6 Return on Asset (ROA)

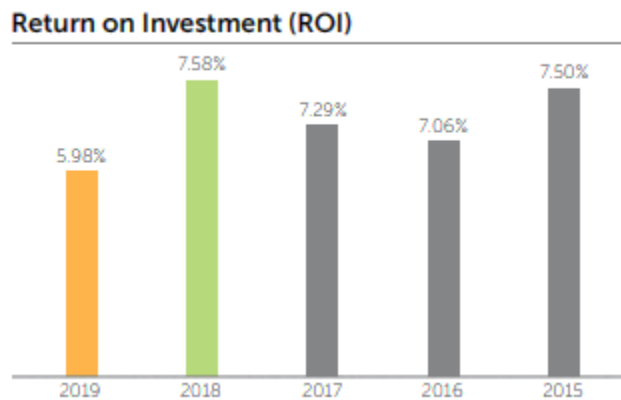
Figure 6: Return on Asset



Sonali Bank Limited's return on assets is quite low since we all know that a return on assets of more than 5% is regarded as acceptable. SBL barely has a 0 return, as shown in the chart. However, their performance is improving year after year, which is a good indication for the bank.

2.5.1.7 Return on Investment (ROI)

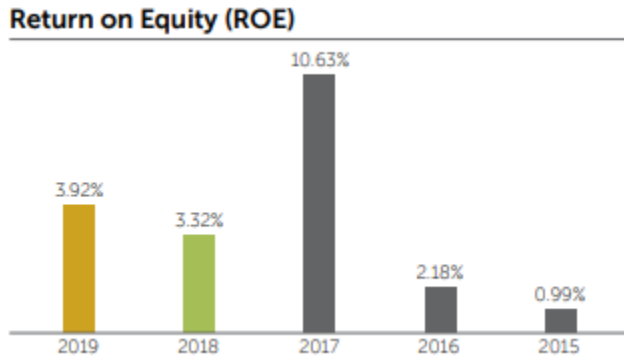
Figure 7: Return on Investment (ROI)



We can see that throughout the years, SBL was able to achieve good gain from their investment. That means they were able to gain a good return from the project they were invested. Though, it would decline in 2019, due to some reform the organization's top level management.

2.5.1.8 Return on Equity (ROE)

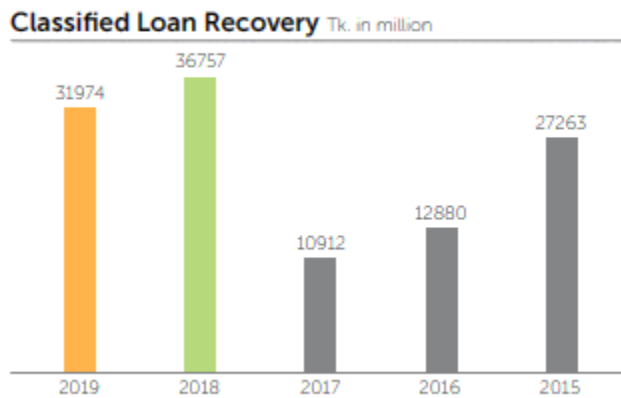
Figure 8 Return on Equity (ROE)



A higher return on equity is thought to be beneficial to the company. A rate of return on equity (ROI) of 15-20% is considered excellent. The only year SBL did well was in 2017, but it fell dramatically in 2018, but they were able to increase it in 2019, which is still not good for the bank because greater ROE might result in larger financial debt.

2.5.1.9 Classified Loan Recovery

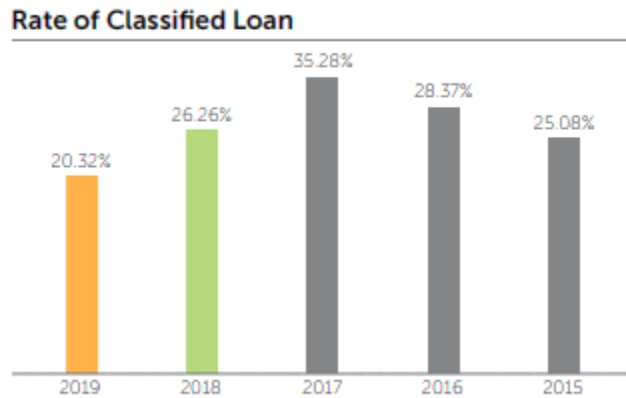
Figure 9: Classified Loan Recovery



SBL's categorized loan decreased dramatically between 2015 and 2017, which is beneficial for the bank. However, it surged in 2018, but they can pull it down slightly in 2019, which is a good indication for the firm.

2.5.1.10 Rate of Classified Loan

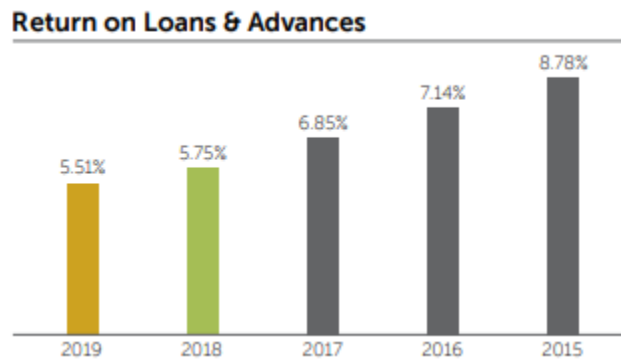
Figure 10: Rate of Classified Loan



SBL's classified loan increased dramatically between 2015 and 2017, which is highly bad for the bank. However, it continued to fall in 2018, but in 2019, they were able to bring it down somewhat, which is a good indication for the firm.

2.5.1.11 Return on Loans & Advances

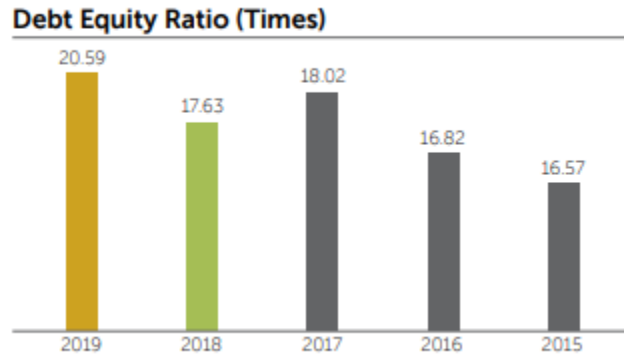
Figure 11: Return on Loans & Advances



It signifies the ability to profit from the distributed loans and advances which is declining at an alarming rate as you can see from this chart.

2.5.1.12 Debt Equity Ratio (Times)

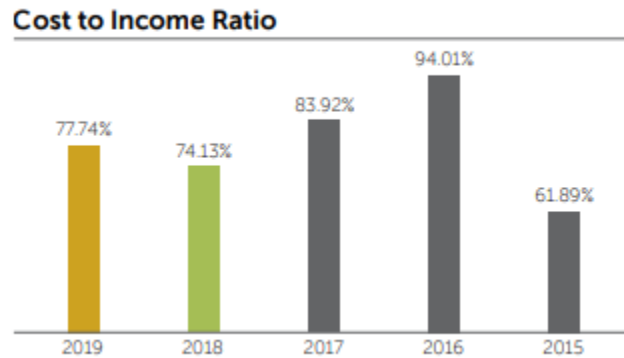
Figure 12: Debt Equity Ratio (Times)



Fernando (2021) suggests that a corporation with a high D/E ratio is seen as more hazardous by lenders and financial backers, which indicates that the business is funding an outsized percentage of their probable development through borrowing. In case of SBL, it may be inclined to government aids or borrowing from the central bank. The figure shows that the D/E ratio has risen over time, indicating a risk to the business.

2.5.1.13 Cost to Income Ratio

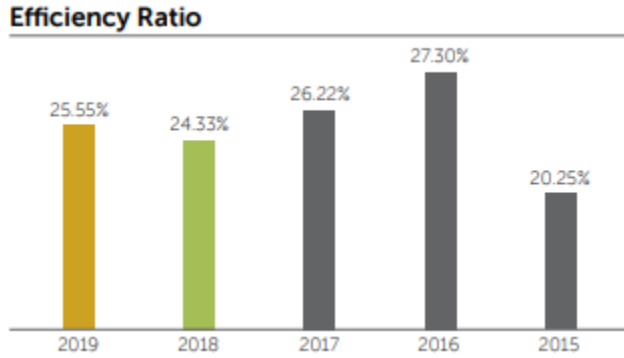
Figure 13: Cost to Income Ratio



We know that if the cost of income ratio is higher than the previous year that means the organization is performed poorer than last year. After 2016, SBL kept performing better. They had lower cost than income until 2018, but in 2019, the cost gained more than 2018.

2.5.1.14 Efficiency Ratio

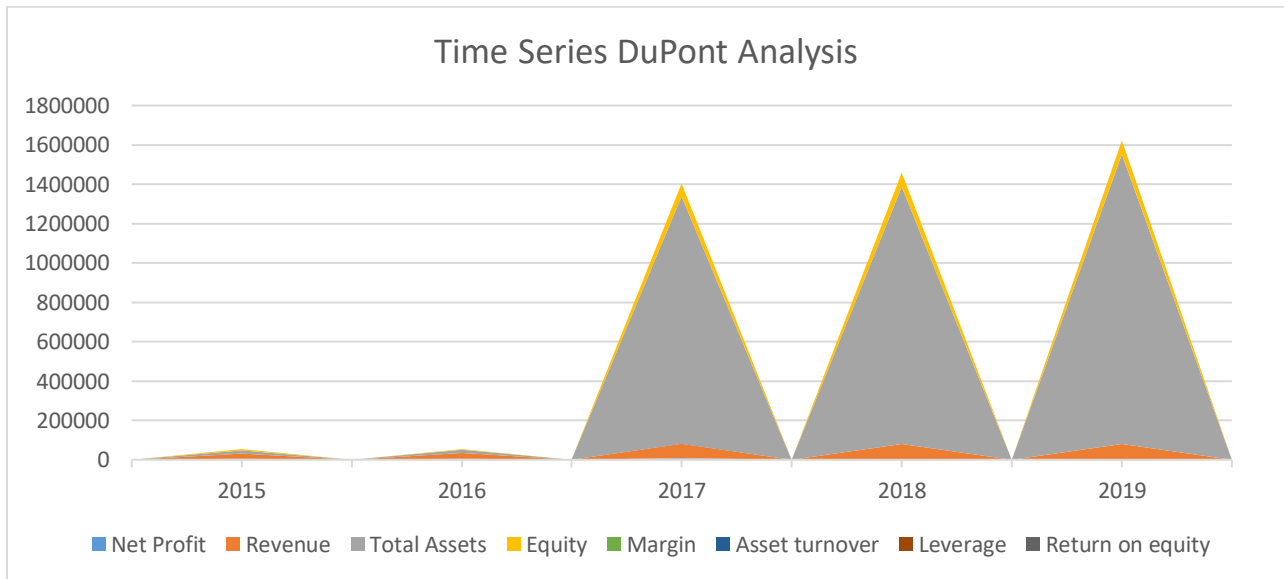
Figure 14: Efficiency Ratio



The optimal rate of efficiency ratio is believed to be 50% or less. If the efficiency ratio rises, it indicates that a bank's costs are rising or its earnings are falling. As a result, we concluded that SBL's efficiency ratio was consistently quite low, implying that their income was dwindling rapidly. It was less than a third of the way there. However, following 2016, they were able to boost it somewhat in 2019.

2.5.1.15 DuPont Analysis

Figure 15: DuPont Analysis



Data in figures to Million Taka

Table 2: DuPont Analysis

Time Series DuPont Analysis					
	2015	2016	2017	2018	2019
Net Profit	3939.42	4137	7092	2,264	2710
Revenue	28886.27	31061	74353	78,321	76,810
Total Assets	13505.9	14262	1256712	1,306,842	1,472,601
Equity	7749.93	6279	66087	70,137	68193
Margin	14%	13%	10%	3%	4%
Asset turnover	2.1	2.2	0.1	0.1	0.1
Leverage	1.7	2.3	19.0	18.6	21.6
Return on equity	51%	66%	11%	3%	4%

The DuPont ratio helps as a paradigm for evaluating essential performance, established via the DuPont Corporation, and it is a beneficial practice of dissection to numerous chauffeurs of Return on Equity (ROE), as this scrutiny may be used by an investor to associate the functioning competence of two similar firms, and management can practice it to ascertain areas of strength and weakness that need to be addressed (Drury, 2021). In the case of SBL, Asset Turn over, ROE, and Profit Margin are declining steeply, but the financial leverage can sustain.

2.5.1.16 EVA Model Analysis

Figure 16: EVA Model Analysis

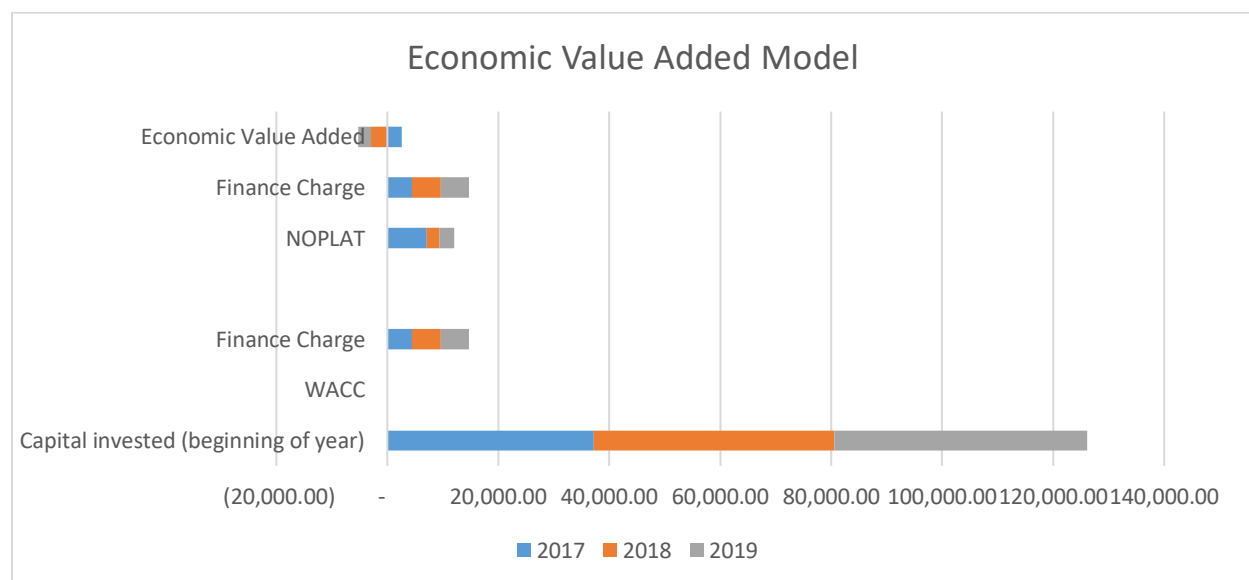


Table 3: EVA Model Analysis

	2017	2018	2019
CAPITAL INVESTED (BEGINNING OF YEAR)	37,166.68	43,409.10	45,522.76
WACC	0.12	0.12	0.11
FINANCE CHARGE	4,460.00	5,209.09	5,007.50
NOPLAT	7,091.00	2,264.00	2,710.00
FINANCE CHARGE	4,460.00	5,209.09	5,007.50
ECONOMIC VALUE ADDED	2,631.00	(2,945.09)	(2,297.50)

The EVA model expressly emphasizes when a firm generates value, and the discounted component is WACC, which declining and stood at negative evaluation, though it sustained a little bit, the value is still negative.

2.5.2 Accounting Applications

2.5.2.1 International Accounting Standards (IASs) and International Reporting Financial Standards (IRFS) compliances

From SBL (2019) the criteria that were used in generating ICAB-accredited financial statements, and they are listed below.

Table 4: International Accounting Standards (IASs) and International Reporting Financial Standards (IRFS) compliances

SL_No	Name of the IASs	IAS No.	Comment
01	Presentation of financial statements	IAS 1	This standard accommodates in Other comprehensive income (OCI), which is a component of financial statements or parts of other comprehensive income (OCI) must be included in a single statement of comprehensive income
02	Inventories	IAS 2	After first recognition, advances are retained at (cost-deductions), adjustments, or charges to other account heads such as property, plant, and equipment, inventories, or expenses.
03	Statement of cash flows	IAS 7	Cash and cash equivalents should be recorded as cash, while CRR balances with Bangladesh Bank is reported as other assets because they are not accessible for usage in day-to-day activities.
04	Accounting policies, changes in accounting estimates and errors	IAS 8	Accounting estimate and error adjustments are linked to changes in assets and liabilities or a component of equity. Prior-period material mistakes must be rectified retroactively. Accounting estimates are changed in the period in which they are changed, as well as any following periods that are affected.
05	Events after the reporting period	IAS 10	For this standard, The World Health Organization (WHO) proclaimed a global pandemic due to COVID-19, a Corona Virus-related respiratory illness. The possible effect of COVID 19-related issues for the Bank's maneuvers and financial performance cannot be determined fairly.
06	Income taxes	IAS 12	SBL's accounting division evaluated the appropriateness and presentation of disclosures per the standard for deferred taxes and also evaluated the completeness and correctness of the data utilized to forecast future taxable income. They enlisted the help of tax experts to evaluate key assumptions, controls, DTA recognition, and measurement.
07	Property, plant, and equipment.	IAS 16	SBL employs the straight-line basis technique of depreciation. Expenses incurred after assets have been placed in operation are capitalized at the purchase price

			minus accumulated depreciation. Repair and maintenance expenses that do not increase the asset's future economic benefit are charged to the profit and loss account.
08	Employee benefits	IAS 19	Please see "2.3.3 Compensation System" of this report
09	The effects of changes in foreign exchange rates.	IAS 21	Foreign currency assets and liabilities as of 31 December 2019 were translated into Taka currency using the average of the applicable foreign currency purchasing and selling rates. According to the standard, foreign currency transactions are translated into equivalent Taka.
10	Borrowing costs	IAS 23	It includes interest on loans and other borrowings, and any borrowing expenses are accounted for in the profit and loss statement.
11	Related party disclosure	IAS 24	Under this standard, if one of the parties has the power to control the other party. The corporation conducted arm's length transactions with its linked parties in the usual course of business and SBL discloses the party amongst board members, Note ref 46 of the annual report.
12	Accounting and reporting by retirement benefits plans	IAS 26	The remaining balance of Pension/Gratuity funds is invested in authorized securities to expand the Fund, with the leftover balance being used by the bank to provide retirement benefits to worker and transparent by Note ref 13.04 of the annual report.
13	Separate financial statements.	IAS 27	Usually, Management is in charge of ensuring that the financial statements are free of substantial misrepresentation, whether caused by fraud or error. On 31 December 2019, they audited the consolidated financial statements of SBL and its subsidiaries as well as the separate financial statements.
14	Investment in associate and joint ventures	IAS 28	This standard was used in conjunction with SBL. Assets and liabilities are converted using the closing rate from USD to BDT in terms of SECI and pounds to Taka in terms of SB.UK. Ltd. In addition, the currency conversion rate for revenue and costs is average and translated from dollars to Taka in terms of SECI and pounds to Taka in terms of SB.UK. Ltd.
15	Financial instrument presentation.	IAS 32	This standard is not being completely implemented by SBL, as Bangladesh Bank's recommendations are opposed to IAS 39. Their measurement, classifications, recognition, and financial instruments are not the same. As a result, this standard cannot be used in the financial report.
16	Earnings per share	IAS 33	This criterion is utilized in the computation of SBL's Earnings per Share, as it appears in front of gain and loss transactions or accounts.

17	Interim financial reporting	IAS 34	Apply for the purpose of internal management
18	Impairment of assets	IAS 36	According to the standard, the board has directed an impairment assessment and assessed the recoverable assets of its auxiliaries for the subsidiaries.
19	Provisions, contingent liabilities, and contingent assets	IAS 37	SBL adheres to the standard to maintain its obligations and provisions. Liabilities incorporate items like advance and advances/speculations/different resources, tax collection, superannuation reserve, and many more. According to Bangladesh Bank guidelines, several liabilities are regarded still to be decided on the balance sheet. Provisions and accumulated expenses are included in financial reports when the bank has a valid or valued obligation as a result of a past event.
20	Intangible assets	IAS 38	SBL completely adheres to the standards outlined in this standard for identifying and recognizing intangible assets.
21	Financial instrument: recognition and measurement	IAS 39	IFRS 9, will replace the present guidance in IAS 39 Financial Instruments: Recognition, Measurement, and Estimation. It also guides the recognition and de-recognition of financial instruments. IFRS 9 remembers improved guidance for the characterization and estimate of financial instruments, another standard credit misfortune model for determining monetary resources, and the new broad fence accounting requirements.
SL_No	Name of the IFRSs	IFRSs No.	Comment
01	Business Combinations	IFRS 3	Applied against the mergers and acquisition activity associated with the Bank and foreign monetary exchanges
02	Non-Current Assets Held for Sale and Discontinued Operations	IFRS 5	In cases of disposal of fixed assets have been addressed.
03	Financial Instruments: Disclosure	IFRS 7	In certain situations, Bangladesh Bank regulation classifications perceive, measure, and display financial instruments in ways that differ from those suggested by the International Accounting Standards Board (IASB).
04	Operating Segments	IFRS 8	Discloses information of operating segment of the bank and subsidiaries.
05	Financial Instruments	IFRS 9	It supersedes the current guidance in IAS 39 Financial Instruments: Recognition and Measurement. According to Bangladesh Bank's assessment, any substantial impact of IFRS 9 would be mostly on impedance arrangement estimates. Bangladesh Bank cannot analyze any possible influence on its budget summaries since it has not provided any round to change its current debilitation, order, and estimate procedures to align with IFRS 9.

06	Consolidated financial statements	IFRS 10	The budget reports of Subsidiaries are included in the Consolidated Annual Budget for the period from the start of control to the end of control. Subsidiaries are elements restricted by the gathering and are part of the wider group of businesses under the parent company's management.
07	Disclosure of interests in other entities	IFRS 12	The government entities' interest and share proportions have been disclosed.
08	Fair value measurement	IFRS 13	Classified as "fair value via benefit and loss Account" or "available for sale" - where any adjustment to the reasonable worth after the fiscal year is expected to be in each accounted individually.
09	Revenues from contracts with customers	IFRS 15	Obligatory for annual reporting periods beginning on or after January 1, with early acceptance permitted, which supersedes previous acknowledgment guidance, such as IAS 18 or IAS 11. In light of basic examination, it is still unclear if IFRS 15 has a tangible impact on its financial reports or not.

2.5.2.2 Maintaining Accounting Cycle

The accounting cycle is the process of recognizing, evaluating, and documenting an organization's or farm's accounting operations. Sonali Bank Limited's annual report depicts the bank's overall performance by displaying financial statements and other accounting information. They did keep records of every bank transaction and followed all of the procedures of the accounting cycle. They identified their transactions, entered them in a diary, posted a ledger, recorded a trial balance and worksheet, adjusting journal entries, and produced financial statements. There is no way for any business to generate a financial statement without first taking the necessary procedures.

Of course, they use accounting software to keep track of their everyday transactions, which pass through the central banking system, and the program records these transactions automatically and posted in particular accounts. The program then categorizes them according to the billing cycle and records them step by step. The program then generates unique files for each transaction and places them in the appropriate locations. SBL records your transactions in this manner with ease and precision.

2.6 Operations and Information System Management

2.6.1 Operations Management

SBL (2021) elaborated to have five reportable sections, which are imperative commercial sections. The premeditated commercial sections endeavor various commodities and co-operations and operated independently based on administration and in-house reportage configuration. For some premeditated commercial unit, the Administration Commission evaluates in-house administration statements every quarter. The subsequent summary illustrates the procedures in all of the reportable sections:

1. Loans and Advances has a Timetable for repayment/maturity basis that covers loans, deposits, and other activities and balances with corporate and retail consumers. In this case, the areas are Business Loan, Agricultural Loan, Rural Credit, Industrial Project Loan, SME Loan, Agro-based Industrial Project Loan, Small and Cottage Industries Loan, Working Capital Loan, House Building Loan, Consumers Credit, Special Small Loan, Probashi Karmasangsthan Rin, Education Loan, Term Loan to Freedom Fighters, Foreign Education Loan, and Export-Import Trade Loans, among other services, are available.
2. The Bank's Treasury Division (Treasury Management Division-TMD) addresses market risk, including liquidity, interest rate, and foreign exchange concerns. It is now a profit center with its trading and investing operations. The Bank is required to have some special notice accounts and current deposit accounts with other banks and financial institutions both inside and outside the nation. Engages in the funding and maintenance of CRR and SLR, asset-liability management in borrowings and installation, currency swap, and financing in liquid assets such as short-term inductions and corporate and state debt securities.
3. SBL has two foreign branches are located in India in Kolkata and Siliguri, and they administer banking activities, monetary remittances, and other operations in compliance with the mandate of the headquarters and other sanctions governed by Indian banking legislation.
4. Sonali Exchange Company Incorporated (SECI), USA, is a sister corporation of SBL conducts business in the United States and engages in monetary transfer, the issuance of

checks, payment instruments, and traveler's cheques, as well as other operations authorized by US banking law.

5. Sonali Investments Limited: Founded to produce any merchant banking motions, like Underwriting, issue management, portfolio management, and other transactions

2.6.2 Information System Applications

SBL has triumphantly transformed into the most scalable E-banking organization in Bangladesh. SBL (2021) implies that since the initiation of the avenue towards computerization in 1989, about 1226 domestic and 2 foreign branches out of 1224 are administering digitalization banking assistance by "intellect CBS software". The bank has launched the SMS banking service, which is a popular facility among new customers. 45 out of 48 approved merchant branches of SBL are performing their business using this system. It is proving that the Bank is thoroughly acquiescent to the guideline of the Central Bank's IT policy:

1. Sonali Bank Limited has become Bangladesh's largest online bank by providing online services with the installation of sophisticated CBS software in all domestic branches.
2. CCTV (Closed Circuit Television) systems have been implemented in about 600 branch offices to guarantee appropriate security, and the installation of CCTV systems in the remaining branches is in the works. In addition, CCTV systems have been implemented in over 120 ATM booths.
3. Tax, VAT, and Customs Duty are paid online using the NBR's Sonali Bank E-payment portal, which was established in 2012. Since February 15, 2015, printed "Challan" copies generated by this portal have been received at bank counters via the ePay Bank medium.
4. Reporting operations, reception, and payment of Government chest are handled using online software in 60 district-level chest branches. About a year ago, the bank launched "Online Challan Verification" or "A-Challan" to ensure openness and accountability.
5. About 1226, the "Government Transaction System" (GTS) program was created. Treasury branches of banks are used to record all government transactions.
6. A web-based software called "Remittance Management SystemPlus" (RMSPlus) was built in-house and assigned to all domestic branches for accepting international remittances as well as receiving and paying inland or local remittances.
7. Currently, about 400 branch offices from various locations, including over 100 in Dhaka City, have been brought under the BACH program, and running smoothly and safely.
8. The Bangladesh Electronic Fund Transfer Network (BEFTN) technology has been effectively implemented in all of the bank's branches.
9. Since January 9, 2014, the Sonali Bank Clearing Structure (SBCS) has been installed over 100 Dhaka City branches to automate the inter-branch clearing system.

10. Trade and finance sensory facilities have now been included in CBS, and 45 of SBL's 48 certified merchant branches are using this system to do business.

11. Given the widespread availability of mobile phones and to satisfy the ever-changing financial demands of their valued clients, the bank has launched the SMS banking service, which has proven to be remarkably popular with new customers.

2.6.2.1 Information and Communication Technology: Security Risk

Information and Technology Guidelines are systematic procedures to policies required to be formed and to assure the protection of data and structures. In this standard, all kinds of data, from automatically produced, acquired, collected, composed, scanned, to typewrite. The terms of this guideline apply to:

1. All of the IT systems of Sonali Bank Limited.
2. All actions and operations are expected to assure data security, including convenience perspective, material preservation, network protection, emergency restoration, and trade continuity preparation, tools and program utilization, info placement, and copyright and distinct intellectual property rights protection.

The implementation of Core Banking Solution (CBS), a comprehensive database system is combined from the branch offices to the main database, which is mostly complete and data is quite easily accessible by superior administration and also a critical Source of information to the critical decision-making manner. It demonstrates that SBL fully adheres to the Central Bank's IT policy standards.

2.7 Assessment of the Industry and Competition

2.7.1 Sonali Bank SWOT Analysis

During my brief work at Sonali Bank, I found a few viewpoints identifying with the Bank's solidarity, opportunity, weakness, and risks, which are mostly. I believe I am influencing the Bank's show, which is stated below:

Strengths:

- It has a strong administration because it is the largest bank. Strategic is the underlying setup and business area.
- Their planning structure for things is very highly admirable.
- Sonali Bank's resource situation is highly favorable, and there is no asset emergency at the moment.
- Sonali Bank has the necessary power and flexibility to support the market economy's test.
- As a nationalized banking organization, it typically receives government assistance in the totality of its responsibilities and new operations if they are appropriate.

Weaknesses:

- There is a staff shortage at Sonali Bank since there has been no new enrollment for a long time.

- The official cycle of bureaucracy hindered the day-to-day inner labor process.
- A lack of motivation for laborers, as well as a poor compensation structure
- The management-worker relationship is not always appropriate.
- Government rules and standards might cause problems for banks in various situations.
- A lack of fresh invention and insufficient laborers, as well as a lack of imagination.
- Heavy obligation burden and a shaky production network

Opportunities:

- The creation of a new speculative space.
- The scope for computerization will open a significant doorway of opportunity.
- Efforts to assemble at any field, at any cost.
- In the event of an asset emergency, Sonali Bank receives government assistance because it is a government-owned company.
- Boost recovery by establishing logical recuperation objectives.
- Implement a need-based preparation program, web-based banking, and complete computerization of bank operations.
- Branch development and higher master employees with a fantastic proposal.

Threats:

- Banks that have recently been privatized and are unfamiliar to the public.
- Government rules and regulations
- Facing intense competition from other commercial banks and financial institutions.
- Loan recovery frameworks are quite weak, and solutions do not always perform as intended.
- Implementation of stricter financial regulations and norms.

2.7.2 PESTEL Analysis for the Banking Industry of Bangladesh

KENTON (2021) suggests that PESTEL is an agenda or tool used by advertisers towards dissect and filter of large-scale ecological (outer promoting climate) variables that influence a business. In this case, Bangladesh is experiencing a swift and crucial alteration in the banking industry over the past several years. Not only in our nation, but all over the world, the component of banking has been rapidly changing, owing mostly to mechanical progress, globalization, and liberation. This shift all over the world has completely impacted our country's financial business, resulting in the modification of this sector in our country. Currently, the situation is such that banks must compete in the commercial center with both local and foreign businesses. Hence, let us go deeper with the PESTEL analysis of the banking industry in Bangladesh:

Political: Finances appear to be all-powerful, yet state laws have an impact on the status of finances. The government can interfere in financial matters at any time and pass over control to politics. The country has developed a stable political environment throughout the years. Since 2008, the ideological organization is known as the "Awami League" has sponsored the decision-making meeting. The "Awami League" is administered by the Honorable Prime Minister Sheikh Hasina. The major opponents of the Awami League are two other ideological groupings known as the Bangladesh Nationalist Party (BNP) and the National Party. Ideological organizations have a major effect on the banking sector. The organizers of the past nine associated banks have a strong track record in politics.

Economic: The financial industry and the economy are inextricably linked. How pay streams, regardless of whether the economy is booming or not, impact how much money banks may access. Hye (2020) states that Bangladesh's GDP was valued at \$302.57 billion in 2019, according to World Bank data and Trading Economics forecasts, and the GDP accounts for 0.25 percent of the global economy. The three major financial domains have all contributed to the trajectory of monetary development (Agriculture, industry, and administration). Bangladesh's GDP increased by 8.2 percent in the 2019 fiscal year compared to the previous year.

Hye (2020) also emphasizes Business increased by 12.3 percent (compared to 12.1 percent in 2018), with the flood increasing by 14.2 percent (compared to 13.4 percent in 2018), while administrations progressed by 6.8 percent (compared to 6.4 percent in 2018). Between those two points, agricultural development decreased to 3.9 percent (compared to 4.2 percent in 2018). Monetary intermediaries showed a positive trend, albeit at high rates.

Monetary development in Bangladesh was generally driven by the distribution of profits from the instant clothing sector (RMG), settlements sent by migrant workers, the development of the agricultural sector, the expansion of medium, small, and micro enterprises (MSMEs), the slowing of population development and, as a result, the expansion of public welfare network projects.

Social factors: According to Hossain (2021) per capita pay is now about \$2250, but it is also made up of the pay of the super-well-off, super-rich, and top-level wage group. Every year, ranchers in town regions earn close to \$500. If the typical allocation of pay and plenty isn't stimulated and ensured, destitution won't diminish. The rapid growth of web-based innovation and the widespread use of informal communication are also having an impact on business. Client requirements, interests, and inclinations will be pieced together by social aspects. Banks should carefully consider their client segments as well as their offer items and perks.

Technological: Clients, current and potential, have become more sophisticated as a result of technological advancement, and presumption levels have been modified. Anything can happen in terms of the evolution of innovation in our country's existing situation in the coming lengthy period as the country develops. Developing a reliance on innovation to meet the demands of clients translates into further interests in innovation that are required to keep the firm at a fresh pace. The current number of varied associations in Bangladesh is 163.0 million. Islam (2020) suggests that between January 2019 and January 2020, the number of mobile associations in Bangladesh increased by 7.0 million, a 4.5 percent increase. In January 2020, the number of diverse associations in Bangladesh was about equal to the whole population. Between April 2019 and January 2020, the number of web-based media consumers in Bangladesh increased by 3.0 million (+ 9.1 percent), while the social networking of social networks in Bangladesh stayed at 22 percent.

Environmental factors: As there is a growing emphasis on green and more broadly reasonable money, it is critical to solidify it in both monetary company sectors and the worldwide political field. At the moment, our country is progressing; the rules for examining various natural pieces, including political, social, biological, and geological, will be in a good position in the next few days to adjust to changes in the economy and preconceptions.

Green lending is also being used as a new business strategy to meet the needs of natural factors in the financial sector. It has also resulted in a greater emphasis on sustainable details. Furthermore, significant climate change will necessitate consistency and attention to detail in management. The emergence of a pandemic caused by Covid19 will now have an impact on the financial industry.

Legal factors: Barkat-e-Khuda (2019) suggests that various government and non-government sectors, including banking, are anticipating significant upheaval in the coming days. That is a highly focused corporate environment. As of now, it can be noticed that many firms have adopted more stringent standards, rules, and decision-making processes than in the past. While addressing an excellently controlled economic atmosphere, our nation's basic set of legislation has executed its constitution since 1972. Our country has taken shape as a result of those constitutions. Bangladesh Bank serves as the administrative body for any remaining banks because it is the country's national bank.

2.7.3 Porter's Five Forces Analysis

The threat of new entrants: It relates the possibility as the advantages of establishing banks in the industry may be diminished by various rivals, which is based on current borders and the combined reactions of the new competitors to section. When rivals recognize a sharp activity from established competitors, the threats of new entrants appear to be lower. Another competitor is rendered ineffective as a result of these circumstances. Licenses and brand identity are important impediments to new routes. Aside from other important impediments, financial issues of scale are the smallest size criteria for productive activity. Exceptionally focused rules imposed by the Bangladesh Bank have an additional impact on the financial industry. Advances in information technology have increasingly lowered the barriers to division in the financial industry. With the introduction of Internet banking, circulation channels are no longer limited to traditional branch networks. You could go online and look for banks with the greatest financing charges or organizations with the finest features if you wanted to target consumers anyplace in the globe. Similarly, new banks will have the chance to employ information technology to cut costs and increase distribution channels. Another element that might lower the barrier to entry for one segment would be the cheap cost of trade, such as moving money from one bank to another. As an administratively controlled bank, Sonali Bank reflects on the dangers it poses to its new members.

Bargaining Power of suppliers: The financial industry, like any other business, has customers and suppliers. Here and their providers compress an industry by charging exorbitant prices or reducing the quality of the purchased goods. Incredible suppliers can push the financial industry's output so high that they are unable to recover the costs of materials they must suffer.

In general, IT has increased the trading power of financial backers. The rise of telebanking and digital banking has reached out to financial backers.

Depositors may easily discover which bank has the best financing rates and keep their money there, but purchasers do the reverse when shopping for loans (lower down payment costs). As a result, the

number of alternatives accessible to contributors has increased their power to influence corporate expenses.

Bargaining Power of Buyers: Purchasers or debtors might also jeopardize an industry by driving lower costs in the expectation of higher quality. As a result, productivity suffers. Every purchaser's purchasing power is determined by the features of the market situation. People, SMEs, corporate businesses, and other banks are the primary purchasers of a bank. Furthermore, the purchasing power of each consumer has the potential to alter the situation.

Customers' wrangling force is modestly low since it is typically compelled by the council. Here, trade expenses are minimal for consumers to pass on Sonali Bank Ltd, and banking organizations from various banks are easily obtained for clients. Regardless of how other government banks exist, such as Janata Bank, Agrani Bank, and so on, the job does not rely on customer negotiations.

The Threat of Substitutes: Each bank in the industry competes with other banks in the industry by placing a cap on the charges that banks in that sector may charge profitably. Differentiating replacement goods that can perform the same function as the company's item. Creditors and Debtors of banking initiatives, in comparison to the risk of new competitors, are influenced by variables such as customer brand loyalty and tight client relationships. Clients' costs are being exchanged. Substitutes include Sanchay Potro at the store and NGO, ASA, and BURO Bangladesh at the lending desk.

When it comes to replacement risk, the money market is confronted with an increasing number of substitutes, regardless of how the exemption has resulted in massive consolidations and losses. This is often an instant follow-up to today's broadcast correspondence constraint to rule out frequently disturbed partitions outside of establishments with unbranched registration in neighboring business regions. Even though there aren't many alternatives. Organization 15 had no choice but to devise innovative savings programs that would appeal to the general public, reducing the danger of replacements for the money industry. As a result, the services provided by Sonali Bank are virtually comparable to those provided by other banks.

Rivalry among existing competitors: The fierce fight between banks in an industry portfolio to acquire a piece of the pie from one another is referred to as competition. Banks employ various methods such as value competition and advertising based on consumer preferences. Because Sonali Bank is a government-owned institution, its main competitors are commercial banks and other government-owned institutions.

Outside and nearby banks are currently fighting even more openly with one another on a comparable gathering of purchasers. Government banks are quick competitors of Sonali Bank Ltd, vying for a comparable share of the pie and clients. Neighborhood banks also have a lengthy history of trust with their customers, which lends them an air of carelessness. Surrounding banks are eager to mimic, and because the monetary system is especially apparent, the charade is as simple as the fight between competitors requires. Other local banks are vying for the middle and lower classes who are now clients of these banks. They differ from Sonali Bank Ltd in that they have lower prepayments and greater premium payment rates; they are a high risk since clients have very low switching costs.

2.8 Summary and Conclusions

The National Bank of Pakistan, Bank of Bahawalpur, and Premier Bank merged to establish the bank. Since Customers have faith in the bank because it is managed by the government and has pioneered the notion of green banking, and CCTV systems have been installed at about 600 branch offices to ensure adequate security, and also Online and SMS banking has shown to be quite popular among new clients.

Sonali Bank has a good administration and resource position, and there is currently no asset emergency. Though financial indicators show to be troublesome, as this is a government bank, its resources are deployed for the public welfare and hope to gain little profit.

Sonali Bank is experiencing a personnel shortage due to a protracted period of no new enrolment, and the development of a Covid19 pandemic is having an impact on the financial industry.

Sonali Bank Ltd's main competitors are government banks, which are fighting for a comparable slice of the pie and clientele. Other local banks are competing for the middle and lower classes of people who are now clients of these banks. Clients have very low switching costs, thus they pose a significant risk. Neighborhood banks have a long history of trust with their clients, which gives them a carefree attitude, as long as the people have trust in SBL, the bank will prove to be the strong and reliant competition among them.

2.9 Recommendations and Implications

Improving Financial Performance: Though the signs show that SBL has enough assets to cover its liabilities and other financial commitments, it has been worsening over time, which is a poor sign for any business. Because it is a state-owned bank, the majority of its services are geared toward public welfare, yet SBL has to make a profit and fund growth projects in IT systems and customer service to create a sustainable flow of profit and reserve for the foreseeable future.

Green Banking: SBL is attempting to incorporate green solutions into their regular banking operations and allocating resources in this manner. To maintain the effort, resource allocation will only work to a certain extent, but they must reduce their carbon footprint. For example, attempting to use less paper and printing supplies, as well as turning off workstations and counters that are not open or in use.

Paperwork and Filing management: During my internship at the help desk, I saw that individuals are often tempted to take forms and memos at their leisure and in large quantities. Also, the storage and administration of data and paperwork may be more efficient, which should be a priority if SBL wants to have a green banking system.

Digitalization and Innovation: Though SBL is concentrating on innovation, to serve the next generation of clients, the bank must focus on developing a cutting-edge E-Banking system and services that will assure sustainability and relevance in the future.

Human Capital: Though the bank is attempting to hire IT experts, the firm's current and future demands necessitate skilled, dynamic, and flexible workers, who can handle the present scope of work and be proactive to learn and implicate the modernized e-Banking solution of SBL.

3.0 Chapter: Project and Research

3.1 Introduction

E-banking, Electronic Banking, is also known as Online Banking, Home Banking, Electronic Fund Transmission (EFT) is a new banking movement or banking system. This technology has been used by several international corporations since 1992, which is now feasible to upgrade technologies. Specifically, information technology is used to efficiently and effectively create, gather, and process information on banking operations and clients. It adds greater convenience to transactions by allowing you to transfer money from one account to another. When compared to paper-based information, it is easier to use and comprehend, trustworthy, and saves time and money. Information and communication technology is a simple transaction technique, with transactions occurring in as little as one second. To satisfy the growing demand for online real-time financial services, banks, around the world, have increased their size and financial strength, broadened the magnitude of their product lines, and increased research for IT development. The primary idea behind electronic banking is to make banking processes more easy and straightforward by eliminating the need for paperwork, visits to physical locations, and the use of automated teller machines (ATMs). Online banking allows customers to conduct financial transactions, pay bills, create new accounts, and perform other financial tasks from the comfort of their own homes or on the road. It offers financial services to people, including ATM, credit and debit card management, point of sale, check transactions, retail automated clearinghouse, and others. Large clients such as banks, businesses, financial institutions, and others are served by wholesale electronic banking services. These businesses can utilize wholesale banking to manage their cash, conduct wire transactions, meet corporate automated clearinghouse requirements, and so on.

3.1.0.1 Types of E-Banking

E-banking may offer a variety of services to its clients.

Parikh (2014) suggests that based on clientele, there are two types of electronic banking services: retail electronic banking and wholesale electronic banking. Personal banking is sometimes known as retail electronic banking.

E-Banking based on the data Characteristics:

1. The most important level of electronic banking is the informational level. Customers cannot see or update their accounts using this form of E-Banking. It prevents the consumer and the bank from communicating with one another. It offers information about its products and services. This is purely for marketing reasons.

2. **Communicative:** E-Banking at this level provides for some cooperation among the systems of the bank and its customers. It is limited to basic activities such as account queries, loan applications, and file changes (such as contact information). This is the bank's internal electronic banking system.
3. **Transactional:** This is the most common kind of electronic banking, and the consumer benefits completely. The user manages their account using the internet service. This covers deposits, payments, withdrawals, fund transfers, and so forth. To safeguard the account from any hacker, strict supervision is required.

E-Banking based on facility or service:

- **Internet Banking:** This is a sort of electronic banking service that allows clients to conduct a variety of financial and non-financial activities through the internet. Customers may transfer cash to another bank account, check account balances, see bank statements, pay utility bills, and much more using the internet or online banking, or net banking.
- **Mobile Banking:** "Mobile Banking" (2020) implies clients may perform monetary and non-monetary transactions using their cell phones using this electronic banking system. Most banks have made their mobile banking software accessible on various app stores. Customers may use the mobile application in the same manner that they can use the net banking site to obtain banking services.
- **ATM:** One of the most common kinds of e-banking is Automated Teller Machines (ATM). Customers may use ATMs to withdraw money, deposit money, update their debit card PIN, and access other banking services. The user must have a password to use an ATM. Kagan (2021) suggests Banks charge consumers a modest fee for each transaction completed after surpassing the predetermined limits of free trades if the transaction is conducted through another bank's ATM.
- **Cards de débit:** Almost everyone has a debit card. This card is linked to your bank account and allows you to go cashless. You may use your debit card for any sort of transaction, and the transaction value is promptly deducted from your account.
- **Deposits and Withdrawals (Direct):** This e-banking service allows customers to approve paychecks to their accounts on a regular basis. The customers can authorize the bank to withdraw funds from their account to settle invoices, installments of several kinds, insurance payments, and other expenditures (Pritchard, 2020).

- Pay by Phone Systems: With this option, the customer may call their bank and request a payment transaction or a money transfer to another account (Halton, 2021).

3.1.0.2 The History of Electronic Banking

Batchelor (2021) suggests that E-banking evolved with the increase of internet users and the creation of the World Wide Web. In 1980, United American Bank introduced the primary residence banking service to its clients. By 1991, videotext online banking assistance accounted for 19% of the market. Bank of America was the first to exceed 3 million online banking customers in 2001 (Batchelor, 2021). As of 2017, the bank had 34 million active digital accounts, including online and mobile. According to a 2009 Gartner Group poll, 47 percent of American adults bank online (Sarreal, 2021).

In 1982, the Nottingham Building Society's Homelink program pioneered internet banking in the United Kingdom (Batchelor, 2021). In the United States, in-home banking was described as "still in its infancy" in 1984 (Sarreal, 2021). After failing to attract enough consumers to break even, Chemical Bank's Pronto service was discontinued in 1989. In January 2015, Tencent's online bank, WeBank, began a four-month experiment of online banking in China. In 1997, Sumitomo Bank in Japan launched the first online banking service. Every bank in Slovenia now offers online banking services (Sarreal, 2021). MBANX, a product of the Bank of Montreal, was released at the start of Canada's online banking revolution (Batchelor, 2021). PrivatBank pioneered Internet banking for private users with the introduction of the Privat24 system in 2000. In 2018, there were more than 20 Ukrainian banks that offered internet banking. Macedonian banks now provide a wide range of electronic banking products and services (Batchelor, 2021). Factors like age, education, and banking abilities all influence the level of utilization. Macedonians are most happy with e-banking assistance that offer a wide range of services (Sarreal, 2021).

At the end of 1999, less than 0.4 percent of US households used internet banking, according to the Online Banking Report. In early 2004, over 33 million US homes (31 percent) used some form of Internet banking. Five years later, 47 percent of Americans utilized Internet banking, according to a Gartner Group poll.

In the instance of the World Wide Web and banks, circa 1994, banks viewed the Internet's rising popularity as a chance to promote their products and services, which they utilized the Internet as a brochure at first, without referring to the consumer (Batchelor, 2021). Early websites featured images of bank executives or buildings, maps of branch and ATM locations, phone numbers for further information, and basic product listings (Sarreal, 2021).

Wells Fargo was the first bank in the United States to offer account services through the Internet in 1995, and other banks rapidly followed suit (Sarreal, 2021). The next year, the Presidential became the first bank in the United States to provide internet banking (Batchelor, 2021).

3.1.1 Background

3.1.1.1 E-Banking Trends and Development in Bangladesh

The role of information technology in the future growth of the financial services industry, particularly the banking industry, is becoming increasingly significant as banking institutions are required to constantly develop and update their marketing tactics to fulfill the expectations and requirements of individual consumers and also drew attention to the current trend and growth of E-banking, online banking, mobile banking, and other electronic monetary system in Bangladesh (Mohiuddin, 2014).

3.1.1.2 The Development of the Internet Banking System in Bangladesh and Its Challenges

Internet banking is a computerized system that uses cutting-edge technology, as of January 2018, there were around 17.61 lakh online banking customers and the majority of consumers utilize online banking to transfer funds and also in January 2018, the internet banking network handled 7.18 lakh transactions totaling 2,175 crore Taka in Bangladesh (Sarker et al., 2020).

3.3.1.3 Conceptual structure for mobile governance design: The instance of Bangladesh

Due to the fast rise in mobile phone customers, mobile governance has a huge chance to flourish in underdeveloped nations, and several problems go along with the potential for designing and implementing mobile governance. Based on secondary research, a conceptual framework is offered to rationalize developing nations' existing mobile governance predicament and infrastructure (Hossain et al., 2015).

3.3.1.4 Customers' Trust in Bangladesh's E-Banking System

E-banking is the most recent dimension of banking, allowing clients to conduct financial transactions via a delivery channel. Customers' trust is primarily determined by security measures, awareness, educational qualification, e-transaction authentication, bank e-service quality, banker conduct, and so on and so customers' trust is closely connected to problems or challenges, yet people with a low level of education are hesitant to do online financial transactions (Sadekin et al., 2019).

3.1.2 Objectives

- Evaluating E-Banking and Information System of SBL

- Finding customer demand, satisfaction levels among customers and employees (users) from Sonali Bank's E-Banking service.
- Identifying Benchmarks of the industry and future possibilities
- Suggesting places of improvements for SBL and their services.

3.1.3 Significance

By offering online services, SBL has grown to become Bangladesh's largest online bank. Though Bangladesh is one of the least inventive nations in Southeast Asia, I believe we can overcome it if we take efforts and develop logical frameworks and norms. This study helps to highlight the E-Banking services and systems that SBL provides with Bangladesh Bank compliance and collaboration with other state-owned entities to provide one-stop solutions to customers, as well as provide a perspective on areas for improvement, which may be able to help to create a sustainable and modernized e-banking system.

3.2 Methodology

- **Primary Data:** Information from the branch and staff college, Interview with concerned authorities, Conducting Survey with employees or customers or both.
- **Secondary Data:** Information from websites and past works, and past surveyed information
- **Sampling Method:** Collect data from the regular customer and employees via survey interview. In addition, analyzing the data with MS Excel and also sample size may be 23 employees and 10 customers.
- **Interview:** physical interviews with officers and concerned authorities.

3.3 Findings and Analysis

3.3.1 E-Banking Services of SBL

3.3.1.1 Online Account

Sonali Bank offers their clients the option of creating an electric account by linking all of their branches on a single server. This implies that if a person creates an account in one location, he or she will be able to perform transactions in all of the branches that offer E-Banking.

Online banking is accessible at about 1226 branches and according to SBL (2021) services are rendered:

- Term Deposit Scheme

- Savings Account
- Current Account
- Fixed Deposit Receipt

Although online activity has altered Sonali Bank, it does not encompass the whole sector online banking system as required. Deposits may be made at any Sonali Bank branch and withdrawals can be made using mobile banking, ATM banking, or any agent. Sonali Bank keeps track of all transactions. The bank sends all transaction reports to the account holder.

3.3.1.2 Card Division

3.3.1.2.1 Card activation

The card will be activated by SBL's card division, with headquarters in Dhaka. After obtaining the card, the consumer should contact his or her local branch to get it activated. After getting a confirmation email from the branch, the card division activated the card. Before using a card, the client should sign it in the signature area on the rear of the card with a pen. Before performing a quick transaction, the consumer must update their PIN at a Sonali Bank ATM or any Q-Cash faction ATM.

The bank is a member of Q-Cash affiliation, National Payment Switch Bangladesh (NPSB), and VISA. Customers are enjoying round a clock cash withdrawal facilities from more than 90 ATMs and around 6600 shared ATM Booths across the country.

SBL's debit and credit cardholders can utilize the following ATM Booths, retail centers, and Points of Sale (POS):

- Sonali Bank Limited
- Basic Bank Limited
- IFIC Bank Limited
- Janata Bank Limited
- Pubali Bank Limited
- Trust Bank Limited
- ICB Islamic Bank Limited

- Social Islamic Bank Limited
- Bangladesh Commerce Bank Limited
- State Bank of India
- Eastern Bank Limited
- Jamuna Bank Limited
- Markentile Bank Limited
- NCC Bank Limited
- Shahjalal Islamic Bank Limited
- The City Bank Limited
- Standard Bank Limited
- Uttara Bank Limited
- Bank Asia Limited
- Mutual Trust Bank Limited

3.3.1.2.2 Services provided by ATMs:

Since 2007, Sonali Bank Limited has provided ATM services. The number of ATMs is growing by the day. The initiative has been taken to set up ATMs at important places like important branches, airports, railway stations, post offices, university campuses, important public places, etc. They have made several efforts to improve the efficiency of our ATM service, such as reducing the downtime of individual ATMs. Also, by ensuring uninterrupted transactions, we hope to create a more ATM-friendly atmosphere.

ATM features:

- Cash withdrawals
- Balance inquiries
- PIN switches
- Mini statements

- Mobile phone recharging
- Quickly and simply pay utility bills such as water, phone, and gas
- Available 24 hours a day, seven days a week, 365 days a year
- Transaction without a Fake Note and dispense with a new note
- SMS messaging services

3.3.1.2.3 Debit card

SBL provides customers with the confidence to travel around Bangladesh without carrying cash.

Their debit card makes life easier and safer and guarantees a smart approach to money management that results in complete satisfaction.

Debit cards include the following features:

1. Service is available 24 hours a day, seven days a week.
2. Tax payment facility
3. Mobile phone recharge
4. Cash withdrawal facility from any ATM in Bangladesh, able to be used in shopping outlets, department stores, and restaurants.
5. Widely accepted in any POS machine.
6. Supplementary card available account balance and mini statement inquiry from ATM. PIN change facility.
7. Per day, 4 (four) ATM transactions are permitted.

Eligibility for the debit card: This card is available to anybody who has a savings or current account with Sonali Bank Limited. To obtain the debit card, simply fill out the specified application form and return it to the appropriate location.

Additional Fees:

- Tk 11.50 for more than 20 Q-Cash Member Banks
- Tk 17.25 for the Omnibus Network (Brac Bank)
- Tk 34.50 = Dutch Bangla Bank

*VAT applicable

Fees that are fixed:

- The annual fee for a Debit Card is Tk 345.00. (Including VAT)
- In the event of a lost card, a duplicate card worth Tk 200.00 will be issued.

3.3.1.2.4 Credit Card

Sonali Bank Limited has launched its credit card. Officers of the bank officers of the government, semi-government, autonomous organizations, teachers, and officers of government universities who get their salaries from SBL are currently eligible for credit card privileges.

For officers of government, semi-government, and autonomous organizations, the credit limit is equivalent to three (three) months' basic salary.

SBL officers' are as follows credit limit:

1. General Manager and Above Tk. 300 thousand
2. Deputy General Manager & Assistant General Manager Tk. 200 thousand
3. SEO Tk. 150 thousand
4. Executive Officer Tk. 100 thousand
5. Senior Officer & Officer Tk. 75 thousand

Conditions and Fees

- Credit Card Charges (every year, Customer) 575.00 TK (Including VAT)
- Credit Card Charges (every year, Bank Employee) 345.00 TK (Including VAT)
- Only TIN holders are eligible for credit card services.
- Credit cardholders can access their loan limit in full via ATM or POS.
- On a daily and monthly basis, the interest rate is 1.50 percent.
- Remote on-us transactions will be subject to a fee.
- In the case of POS, no interest will be charged if the outstanding liabilities are paid within the time frame specified. This period lasts 50 days from the date of the statement.

3.3.1.2.5 Services of prepaid cards

The card has been pre-activated and has no balance. For activation, before using a card, the client should sign it with a ballpoint pen on the signature panel on the rear of the card. Before the first transaction, the user should update the PIN at any Sonali bank ATM or any Q-cash consortium ATM.

Added Benefits

- Payment of Taxes for Free
- There is no need to create an account.
- Simple cash loading.
- The ability to load cash indefinitely.

Eligibility

- Only Bangladeshi nationals aged 18 and up are eligible.
- Know Your Customer Documentation (KYC)
- National ID Cards

Charges and Limits

- Tk 100 as an annual fee
- Tk 100 for card replacement
- Tk 100 for pin replacement
- Fee for Cash Withdrawal SBL ATM
- Tk 10 Free Q-Cash ATM
- Tk 45 for VISA Transaction
- No POS Transaction charge
- Transaction Tk 15 of the NPSB
- ATM with BDT 30,000 is the cash withdrawal limit (per transaction and calendar day)

- Balance Inquiry: SBL ATM – Free, Q-Cash ATM – Free, NPSB ATM – TK 5, VISA ATM – TK 5

3.3.1.3 Online and SMS Banking

SBL now has about 1225 branches in the Online Any Branch Banking (ABB) network and is gradually linking all branches to the Real-time Online Banking network, and also SMS Banking is presently available at these branches.

SMS banking; however, is utilized through the SMS Banking activation form, which can be brought through the branch or register with their mobile number, and as they submit it, the branch will immediately activate it. Customers may also get information on their last four transactions with a mini statement by texting SBL STM to 6969 or checking Account Balance by texting SBL BAL to 6969, and many more.

3.3.1.4 NBR-Sonali Bank e-Payment Portal

The NBR-Sonali Bank e-Payment Portal is a convenient and safe one-stop solution for paying your income tax, VAT, and Customs duty online. The site uses global-standard secure payment methods and is extremely easy to use. All major train NBR activity is conducted through Sonali Bank and other banks that are authorized to pay income taxes through the internet banking system.

The following information will be sent:

1. TIN (Taxpayer Identification Number)
2. Taxpayer Name
3. Transaction Date
4. Transaction Number
5. Amount of the transaction
6. Payment methods include: (bKash/rocket/debit card/credit card).

3.3.1.5 Sonali E-wallet

Sonali e-wallet is the mobile wallet app of Sonali Bank Limited, Bangladesh's largest state-owned commercial bank, and services such as Fund Transfer, Mobile Airtime Recharge, and Bill Payments, a user must first register. Currently, downloaded over 3 thousand times in the Google

App store and has a 4.2 star rating. Guest Users can use the applications' functions such as Branch Location Search, ATM Location Search, and Help & Support Function.

The respective functions and features are included in the newest version of the Sonali e- wallet. Several more features would be added and stirred.

- Add Money to Wallet
- Bank Deposit from Wallet
- Send Money
- 1. Wallet to Wallet
- 2. Wallet to Others A/C (Sonali Bank)
- 3. A/C to A/C (Sonali Bank) or A/C to Wallet
- Fund Transfer to Other Bank A/C via BEFTN
- Mobile Recharge/Top-Up
- Add Sonali Bank Credit Card
- Add Money to Wallet

3.3.1.6 Sonali E-Sheba

“Sonali E-Sheba” is one of Sonali Bank Limited's mobile applications, and any citizen of Bangladesh will be able to quickly and easily access online accounts. Sonali E-Sheba is available on the Google Play store and the SBL website. Currently, downloaded over 2500 times and have a 3.8 star rating in google app store.

Initially, widows, freedom fighters, LGBTQ, rickshaw pullers, truckers, pensioners, and many other poor individuals would be able to simply register accounts and utilize the app.

The following are some of the major characteristics:

1. Supports both English and Bengali.
2. Create a bank account,
3. Safe, dependable, and adaptable.
4. Pay the Travel Tax,
5. Take use of financial services with less effort.

6. Pay the e-Passport Fee,
7. Get notified after using any service.
8. Pay the Public University Fees,
9. Pay the admission fee for the class.
10. Income Tax Fee, among other things

Sonali Bank Limited is collaborating with the government to implement the Digital Bangladesh agenda through numerous automation projects. As part of our digital transformation initiative, they have provided improved banking services without the need to visit branches. Additional interesting features will be available shortly to satisfy the requirements and desires of customers.

3.3.1.7 CIB services (online)

The automated CIB service delivers credit-related information to potential and existing borrowers to foster a controlled borrowing environment. Risk management will be more successful with this enhanced and efficient method. SBL provides credit information to the CIB database 24 hours a day, seven days a week, and they may get credit reports from CIB online.

3.3.1.8 Blaze

Foreign remittance from outside is a digital service that allows the recipient of the nation to deposit funds within 05 (five) seconds, 24 hours a day, seven days a week. This service will be provided by Sonali Bank Limited, Homepay LLC, and Information Technology Consultants Limited (ITCL).

Method of depositing money: Initially, users (expatriates) of app / web based international money transfer companies such as Skrill, Trangolo (Malaysia), Taptap Send, and others login to their Wallet Account or app in that country, enter the beneficiary's (Bangladesh) bank account information, and click the send button. The remittance details of the beneficiary will be transmitted to Sonali Bank via Homepay. If the beneficiary is a Sonali Bank client, the remittance will be deposited to the customer's bank within 05 seconds with a 2% bonus.

If the recipient is a client of another bank, the money will be deposited with the beneficiary's relevant bank within 05 seconds with a 2% reward utilizing the ITCL Platform. Both the sender and the recipient of the transfer will receive quick notification of the remittance deposit. Remittances of up to 5 lakh Taka can be sent using Blaze at this time.

3.3.1.9 Others

Citizen Charter, Entrepreneurial services and many more services are provided by SBL,

3.3.2 Banking and Information System

All kind IT and system related work are handled by the Software Development Team and various teams of IT Division at the headquarters of SBL, Dhaka.

3.3.2.1 SWIFT

The Society for Worldwide Interbank Financial Telecommunication (SWIFT) is an acronym for the Society for Worldwide Interbank Financial Telecommunication and facilitates global interbank transactions. The system is a massive communications network used by banks and other financial organizations to send and receive information, such as money transfer orders, swiftly, precisely, and securely. It provides safe messaging with a global reach of more than 6600 banks and financial institutions in 200 countries, 24 hours a day, seven days a week. The SWIFT worldwide network transports, an average of 5 million communications each day, with an estimated average value of about \$3 trillion in payment messages.

SWIFT is a highly secure messaging network that allows banks to send and receive money transfers, L/C communications, and other free-format messages to and from all active banks on the platform. With the SWIFT service, the bank can better serve its clients by delivering L/C, payments, and other communications more effectively and securely. It will be quite beneficial, particularly for their clients who deal with export-importing, trading, and transfers, among other things.

The SWIFT code comprises 4 parts Bank code, Country code, Location code, Branch code. For example, BSONBDDHAGR, where BSON is the Bank code, BD is the country code, DH is the location code and AGR is the Branch code, which connects the branch of SBL in Mujib Road, Agrabad, Chittagong.

3.3.2.2 RMSPlus

Sonali Bank Limited's remittance Management System Plus is a bespoke procedure that assists the mechanism for processing international remittances. For accepting both domestic and international remittances, Web-based software called Remittance Management System Plus (RMSplus) created in-house has been implemented in over 1225 branches, and collects remittances from over 40 exchange houses in various foreign nations. This exchange house receives money from clients and then provides customer information to the bank. From the exchange houses and other foreign banks, there are two ways to submit the information to the bank.

1. E-transfer or EFT (Electronic Fund Transfer), instance to SBL (BFTNs or SBEFTN)
2. SWIFT (Swift Wire Transfer) (Society for worldwide interbank fund telecommunication)

Once obtaining this data, the bank will process it using bespoke software. To provide clients with speedier and more efficient service, SBL is continuously hiring and training active, dynamic, and young group IT professionals.

3.3.2.3 RTGS

The money transfer system is known as real-time gross settlement (RTGS), describing it as part wise, there is no waiting period for transaction money when it is done in real-time, and the gross settlement indicates that the transaction is resolved one-to-one with no bundling or netting with other transactions. Bangladesh Bank manages the RTGS clearing procedure for money transfers when there's a need for a huge quantity of money to be sent in the shortest time possible with an additional charge, for the account holder of SBL, and this transfer method also facilitates government transactions, whether in Bangladesh or worldwide.

3.3.2.3 VOP

The primary goal of an electronic vat system or VAT Online Project (VOP) is to decrease the risk to the merchant or organization. Sonali Bank is one of the major banks as well as a government bank, thus NBR provides the facility to Sonali Bank, and reveals how great their banking sector's capacity margin is. Businesses around the country may now use the technology to file their VAT reports online and this is available to every branch of SBL.

The NBR's website is designed with the National Board of Revenue and SBL is dedicated to providing a user-friendly internet environment for its visitors, and adheres to standard guidelines of Level A-W3C Accessibility Guidelines 2.0, which aid in making their website more accessible to all users.

The National Board of Revenue (NBR), the Government of the People's Republic of Bangladesh, owns this website. NBR reserves the right, without prior notice, to alter, augment, or delete the entire website or portions of it, or to cancel publishing temporarily or indefinitely, and they accept no duty for material or non-material damage resulting from the failure to use the information provided.

3.3.2.4 Online Chalan or "A-Chalan"

NBR and SBL utilizing an online system to provide the Chalan procedure, which is linked with the system of the Office of the Controller General of Accounts. This system will replace the National Board of Revenue's present system for tax collecting, monitoring, and accounting and

help tax payers to easily verify memorandum of VAT and custom duties. The new system's goal is to shorten the amount of time it takes to pay taxes and intends to implement a taxpayer electronic payment system.

3.3.2.5 CBS

Sonali Bank Limited has made significant investments in ICT infrastructure development, employee automation, and cyber security. In the face of rising competition, the bank has been working hard to provide technology-driven financial services, convenience, and happiness to its clients. In all branches, the bank has already deployed an international standard strong Core Banking Solution (CBS) system.

Sonali Intellect, formed in 2012 as a joint venture between Intellect Design Arena Limited and SBL, is the only multinational vendor in the BFSI industry, with a local development center in Bangladesh, bringing cutting-edge financial technology to Bangladesh market. SBL has successfully implemented Intellect Core Banking Solution in all of its, over 1225, branches, making it the market's most automated bank. Sonali Intellect Limited is the supplier of financial technology solutions and together with Rupali Bank Limited and other state-owned banks, the patronage is driving and supporting the modernization of Bangladesh's largest bank and bringing cutting-edge financial technology to the Bangladesh market ("Sonali Polaris FT Limited (SPFTL) announces the corporate name change to Sonali Intellect Limited", 2021).

3.3.2.6 BACH

BACH lowers scam and forgeries, as well as checks carrying and clearing costs and payment processing time. It also enables faster and more secure payment and settles all cheques for the whole nation under a single head of the Bangladesh Bank. Bangladesh Automated Clearing House (BACH) has been established at the Bank's local office to facilitate clearing activities.

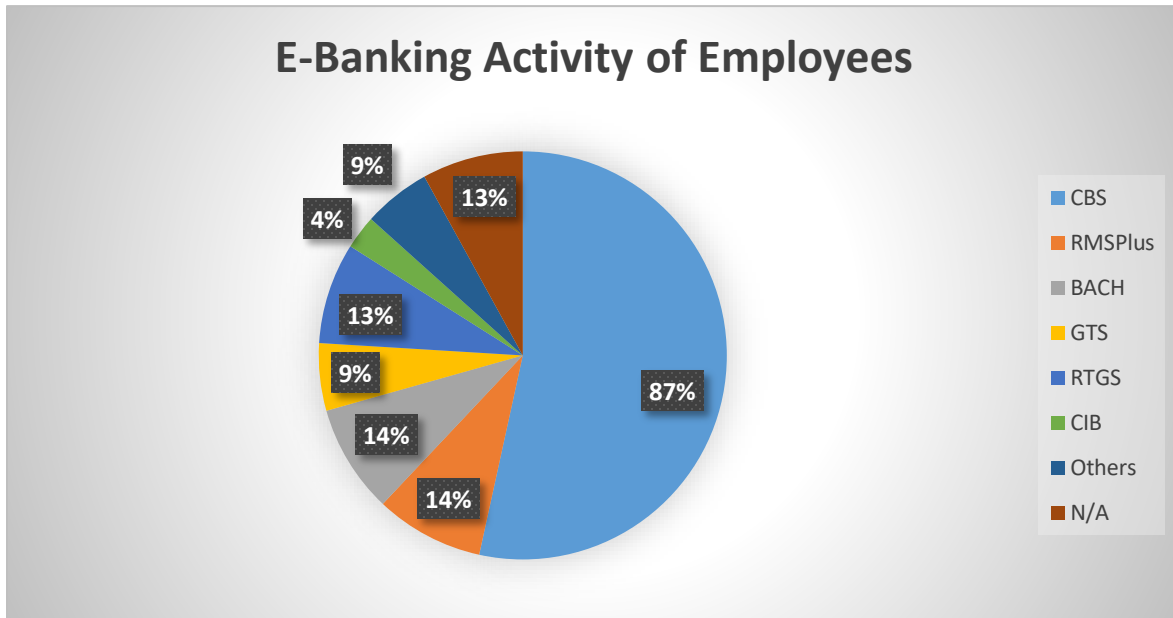
Clearing activities in the automated system are carried out from this center using BACPS (Bangladesh Automated Cheque Processing System). Fund transfers between all of the bank's branches and other banks are carried out via the Bangladesh Electronic Fund Transfer Network (BEFTN).

3.3.2.7 Others

GTS (Government Transaction System) is, new system, stationed to all the branches to apply specific government related transaction and services. CCTV system and SBCS to name a few.

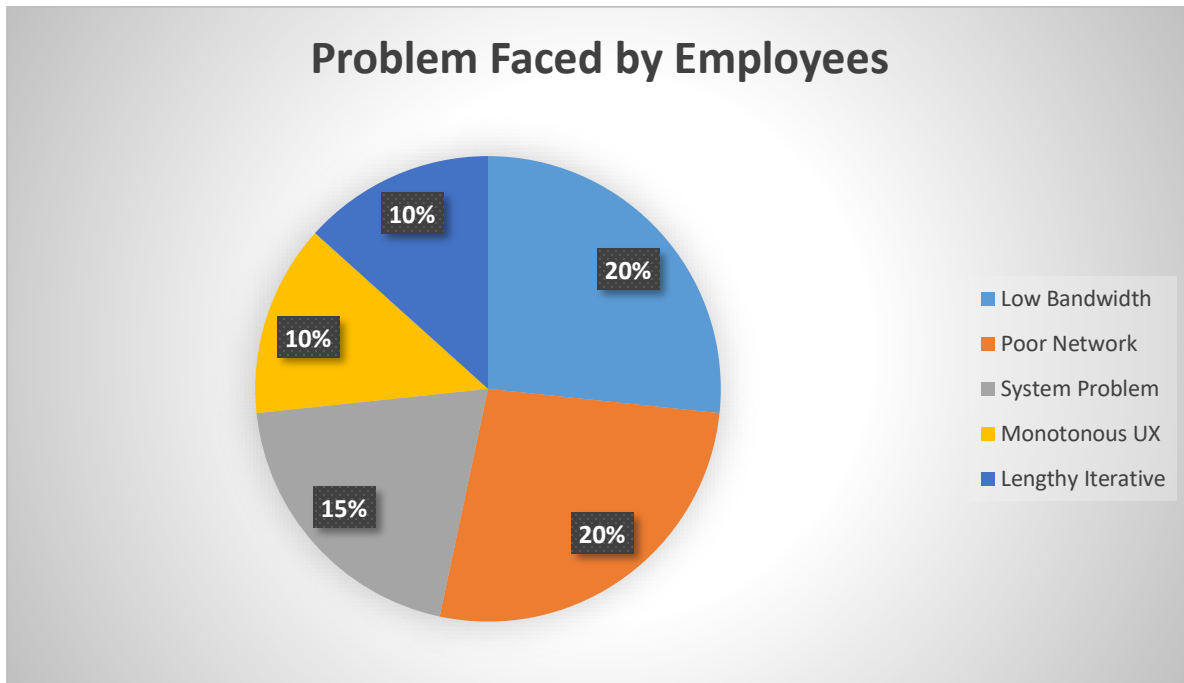
3.3.3 Employee and Customer Judgement

Figure 17: Employee and Customer Judgement



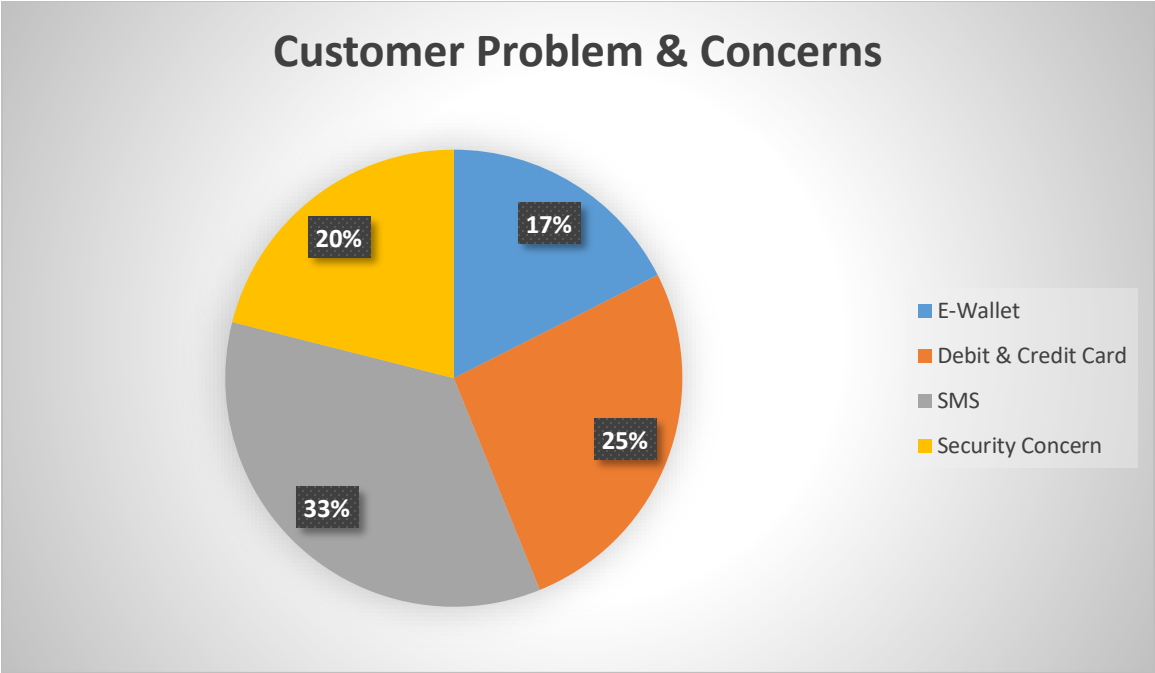
According to the questionnaire given to branch personnel, 20 out of 23 employees are involved in E-Banking operations in some manner, and the majority of their work is in CBS (Core Banking System), RMSPLUS, BACH, and other systems.

Figure 18: Employee Problems



When asked about the challenges they experience on a regular basis, the majority of the 20 employees mentioned low bandwidth in the workplace, lengthy iterative processes for certain paperwork and work processes in the system, and then system and server-related issues.

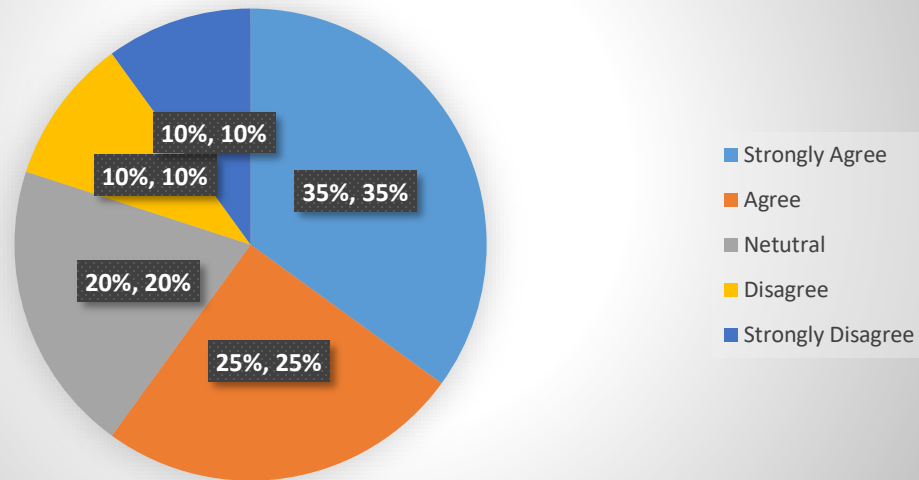
Figure 19: Customer Problems and Concerns



Furthermore, among information from the 20 personnel, they get the majority of customer complaints about E-Banking are for E-wallet, SMS service-connected, which are associated with account verification, transactional notification, and transaction-related. From a customer standpoint, I was able to speak with ten regular customers; among them, no major concerns have been identified; however, some concerns are from Google Play that they would like to address include security concerns, annual charge of the debit and credit cards as well as better UX in Web and mobile services; merchant availability, fixing app glitches, and providing adequate service as a Mobile Financial Service for E-wallet; frequent glitches, a lengthy user process, and a lack of regular updates for Sonali E-Sheba.

Figure 20: Is the Banking Scope Increasing?

Increasing Customer and E-Banking Scope of Employees



Using a rating scale, I discovered that the majority of workers strongly believe that the number of E-Banking clients is progressively rising and that the scope of work is expanding. As a result, SBL must focus more on E-Banking-related tasks and station more trained human capital.

3.4 Summary and Conclusions

Sonali Bank Limited is Bangladesh's leading online banking service provider. They offer distinct card categories such as debit cards, credit cards, and prepaid cards. Anyone may acquire a Sonali bank prepaid card from any branch without having an account, but the cardholder must pass the process.

SBL received over 13 million remittances via the RMS+ system. The entire bank is an online system, with all branches linked to one another. Through the use of Sonali bank applications, they are aware of particular programs such as Loan & Advance, Investment, Deposit system, Current services, and so on. E-wallet and Sonali E-Sheba are new services supplied by SBL, and the new and other E-Banking services have the potential to be important services, and also E-Banking system will hopefully accommodate SBL to be the largest modernized bank thus SBL must prioritize them. Though the recurring price for using a credit or debit card is cheaper than that of other private organizations, and the credit card limit is enough, some consumers are concerned about the yearly expenses.

3.5 Recommendations/Implications

Sonali E-wallet and Sonali E-Sheba: Since these mobile applications have the potential to be one of the key services as the number of smartphone users in Bangladesh grows, there will come a time when the apps are used by the majority of its end consumers. As a result, SBL should modernize the system, infrastructures, and give frequent updates, as well as correct problems and provide employee customer service alternatives, requiring the IT division to be more dynamic and cross-functional. Furthermore, address the scarcity of merchants for E-wallet; while consumers may obtain merchant assistance from local branches, this is insufficient for MFS functioning; hence, SBL must promote, appoint merchants, and confer with firms that specialize in process innovation and SAAS development.

Improve of accessibility and UX of Website and Mobile application: Through user research, proper attention must be addressed for the enhancement of User Experience (UX) and data query and management, data location, and data segregation as role and user.

Improvement of SMS Banking Service: SBL can upgrade their system and give access to user manual, facilitate more functions and address services which needs the SMS services. Also, appoint or bring close to SMS Banking service systems, such as mTAN.

Increase system collaboration with Bangladesh Bank and other state-owned bank:

Bangladesh's E-Banking industry is currently suffering from an underdeveloped IT industry, a shortage of efficient utility of ICT-based networks, absence of immediate pathway to the information superhighway, scarcity of proficient human resources, deficiency of computer literacy, and deficit of IT specialists proficient in network security (Sarker et al., 2020).

If SBL can increase system collaboration with Bangladesh Bank and other state-owned banks, they will be able to employ sufficient resources and experts to upgrade and maintain a joint system or lay the groundwork for a standardized E-Banking system for Bangladesh that can defend cyber-security concerns such as phishing, IP spoofing, DOS attacks, and many others.

Collaboration with Savings Bureau and other state-owned entites: Similar to the NBR Sonali Bank e-payment portal, SBL can cooperate with National Savings Bureau to create a portal or connect with the website where consumers can enter their information and send and receive money using Sonali E-wallet or any other SBL E-banking services. Also, other state-owned

services can follow up such as paying fines or license fees of BRTA through SBL's E-Banking services.

Others: Digital Certificates, Device Identification, Pass-Phrases as an alternative to PIN, Onscreen Keyboard, and End-to-End Connection Security may be used by services. In addition, the system may use Spam Filtering, TLS Protocol, and Transaction Monitoring, create algorithms, and use an easy-to-verify and quick-access Authentication Protocol.

4.0 Index

4.1 Appendix

Questionnaire

1. What is your name?
2. What is your Designation?
3. What are IT and E-Banking activities you need to perform daily?
4. Name any specific E-Banking system you usually work on?
5. What Kind of complaints or problems do you hear from the customer relating to E-Banking and IT?
6. As an employee, what kind of problems do you face in dealing with E-Business and IT?
7. What do you think? What kind of measures should be in place to perform your work diligently?
8. What do you think is the scope of work, in terms E-Banking, is increasing?

4.2 Bibliography

- i. Anjum, Nishath & Rahman, Md. (2021). Performance Appraisal and Promotion Practices of Public Commercial Banks in Bangladesh- A Case Study on ACR Method. 4. 1-16. 10.33215/sjom.v4i3.602.
- ii. Barkat-e-Khuda, M. (2019). Economic growth in Bangladesh and the role of banking sector. The Financial Express. Retrieved 28 August 2021, from <https://www.thefinancialexpress.com.bd/views/views/economic-growth-in-bangladesh-and-the-role-of-banking-sector-1547220114>.

- iii. Batchelor, B. (2021). The Use of Computers in Banking Industries. Bizfluent. Retrieved 28 August 2021, from <https://bizfluent.com/info-8054026-use-computers-banking-industries.html>.
- iv. Drury, A. (2021). *How to Use the DuPont Analysis to Assess a Company's ROE*. Investopedia. Retrieved 23 August 2021, from <https://www.investopedia.com/terms/d/dupontanalysis.asp>.
- v. Fernando, J. (2021). *Debt-to-Equity (D/E) Ratio*. Investopedia. Retrieved 28 August 2021, from [https://www.investopedia.com/terms/d/debtequityratio.asp#:~:text=%2FE\)%20Ratio%3F%20ratio,metric%20used%20in%20corporate%20finance](https://www.investopedia.com/terms/d/debtequityratio.asp#:~:text=%2FE)%20Ratio%3F%20ratio,metric%20used%20in%20corporate%20finance).
- vi. Finance Ministry. (2015). *National Pay Scale 2015 for Bank, Insurance and other financial institutions* (pp. https://mof.portal.gov.bd/sites/default/files/files/mof.portal.gov.bd/page/ebb460ed_b1f5_4fa1_bd1b_e08f87400002/bank.pdf). Dhaka.
- vii. Halton, C. (2021). *What Is a Point-Of-Sale Terminal?* Investopedia. Retrieved 28 August 2021, from <https://www.investopedia.com/terms/p/point-of-sale-terminal.asp#:~:text=When%20a%20credit%20card%20or%20debit%20card%20is,sent%20to%20the%20buyer%20via%20email%20or%20text>.
- viii. HARGRAVE, M. (2021). *How to Use the DuPont Analysis to Assess a Company's ROE*. Investopedia. Retrieved 28 September 2021, from <https://www.investopedia.com/terms/d/dupontanalysis.asp>.
- ix. Hayes, A. (2021). *What the Capital Adequacy Ratio – CAR Measures*. Investopedia. Retrieved 11 September 2021, from <https://www.investopedia.com/terms/c/capitaladequacyratio.asp>.
- x. Hossain, M. S., Samakovitis, G., Bacon, L., & MacKinnon, L. (2015, December). A conceptual framework for design of mobile governance in developing countries: The case of Bangladesh. In 2015 18th International Conference on Computer and Information Technology (ICCIT) (pp. 161-166). IEEE.

- xi. Hossain, S. (2021). Per capita income rise in Bangladesh benefits few rich: experts. *New Age Bangladesh*. Retrieved 11 September 2021, from <https://www.newagebd.net/article/145661/per-capita-income-rise-in-bangladesh-benefits-few-rich-experts>.
- xii. Hye, H. (2020). The state of Bangladesh economy – 2019. *The Financial Express*. Retrieved 28 September 2021, from <https://thefinancialexpress.com.bd/public/views/reviews/the-state-of-bangladesh-economy-2019-1577978496>.
- xiii. Islam, Z. (2020). Digital marketing in Bangladesh. *UNB*. Retrieved 28 July 2021, from <https://www.unb.com.bd/category/Bangladesh/digital-marketing-in-bangladesh/61680#:~:text=The%20quantity%20of%20mobile%20connections%20in%20Bangladesh%20has,the%20same%20as%2099%25%20of%20the%20total%20population>.
- xiv. Kagan, J. (2021). *Automated Teller Machines (ATMs): What You Need to Know*. Investopedia. Retrieved 28 August 2021, from <https://www.investopedia.com/terms/a/atm.asp>.
- xv. KENTON, W. (2021). *PEST Analysis*. Investopedia. Retrieved 28 August 2021, from <https://www.investopedia.com/terms/p/pest-analysis.asp>.
- xvi. *Mobile Banking*. Corporate Finance Institute. (2021). Retrieved 28 July 2021, from <https://corporatefinanceinstitute.com/resources/knowledge/finance/mobile-banking/>.
- xvii. Mohiuddin, M. (2014). Trend and Development of E-Banking: A Study on Bangladesh. *IOSR Journal of Business and Management (IOSR-JBM)*, 16(5), 16-24.
- xviii. Parikh, V. (2014). *Difference between Retail and Wholesale Banking*. Letslearnfinance.com. Retrieved 28 July 2021, from <https://www.letslearnfinance.com/difference-between-retail-and-wholesale-banking.html>.
- xix. Pritchard, J. (2020). *How To Set Up Direct Deposit*. The Balance. Retrieved 28 August 2021, from <https://www.thebalance.com/how-to-set-up-direct-deposit-315294>.
- xx. Sadekin, M. S., Mukta, S. N., & Shaikh, M. A. (2019). Customers' Trust on E-Banking System in Bangladesh. *International Journal of Economics, Finance and Management Sciences*, 7(6), 178.

- xxi. Sarker, B., Podder, P., & Alam, R. (2020). Progression of Internet Banking System in Bangladesh and its Challenges. *International Journal of Computer Applications*, 975, 8887.
- xxii. Sarreal, R. (2021). *History of Online Banking: How Internet Banking Went Mainstream*. Gobankingrates.com. Retrieved 28 August 2021, from <https://www.gobankingrates.com/banking/banks/history-online-banking/>.
- xxiii. *Sonali Bank Limited*. Sonalibank.com.bd. (2021). Retrieved 7 August 2021, from <https://www.sonalibank.com.bd/>.
- xxiv. Sonali Bank Ltd. (2021). *SBL Annual Report 2019*. Dhaka. Retrieved from [https://www.sonalibank.com.bd/PDF file/annualreport/2020/Annual Report 2019.pdf](https://www.sonalibank.com.bd/PDF_file/annualreport/2020/Annual_Report_2019.pdf)
- xxv. *Sonali Polaris FT Limited (SPFTL) announces the corporate name change to Sonali Intellect Limited*. Sonaliintellect.com. (2021). Retrieved 6 September 2021, from <https://www.sonaliintellect.com/media/news/spftl-announces-the-corporate-name-change-to-sonali-intellect-limited.html>.