



INTERNSHIP REPORT

An Evaluation of Bangladesh Automated Clearing House System on Bank Asia Ltd. (Scotia Branch)

Submitted To:

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Letter of Transmittal

31th August, 2016.

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Subject: Solicitation for Acceptance of the Internship Report on Bank Asia.

Sir,

Enclosed is a copy of my internship experience report on Bank Asia Limited (Scotia Branch). I am submitting this report as a part of my of internship course of Summer 2016. While preparing this report, I have tried my level best to follow your instructions and include all the relevant issues of my internship program.

The entire report is prepared based on my practical experience on Bank Asia Limited, Scotia Branch. To make this report enriched, I have fulfilled the entire outline. As you go through the contents, you will find my endeavor in the overall report.

I hope you would be very pleased to accept this report. It was a very enriching and enthralling experience for me to prepare this report.

Sincerely,

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Dhaka- 1212.

Acknowledgement

I have worked really very hard while preparing this report. However, it would not have been possible without the kind support of many individuals. First of all, I would like to thank Almighty Allah for giving me the opportunity to complete my internship program successfully.

Then, I would like to express my gratefulness and gratitude to all those people who gave me the inspiration to complete this report. A special thanks to my Internship Instructor Mr. Zaheed Husein Mohammad Al-Din, Senior Lecturer of BRAC University, whose help, stimulating suggestions and encouragement gave me the opportunity to coordinate information in writing this report.

I feel obliged to Bank Asia Limited, where I have passed my last three months and participated in many activities to enrich my practical knowledge. I would also like to thank Mr. Zahid Alamgir, First Assistant Vice President and Head of the branch, Mr. Abdul Latif to give me the opportunity work on this branch.

I am also in debt of the Manager Operations of the branch Mr. Ashraf Hossain, Vice President; who gave me the opportunity to work under different departments of the branch and encouraged me a lot in my day to day activities.

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I am using this opportunity to express my gratitude to everyone who supported me during my internship tenure Bank Asia Limited, Scotia Branch.

Last but not the least my parents and friends, who were also great sources of mental support in completing this report by suggesting me with innovative ideas. Their support was very much significant to me.

Executive summary

This report has been prepared on the basis of experience gathered during the period of internship at Bank Asia Limited, Scotia Branch. Basically, it is a reflection paper which includes my learning from day to day activity on general banking, Credit Operations and Clearing section of the branch. The report mainly portrays my duties, activities, learning, achievements and other issues related to my workings during the internship tenure. The first section of the report, I have discussed the purpose, methodology, sources of data and limitations of the study. In the second chapter, there is a clear overview of Bank Asia Ltd. In the third chapter, I have showed a literature review on Bangladesh Automated Clearing House including some definitions of BACPS, BEFTN, Bangladesh Bank Order 1972 etc. In chapter four, there is an overview of BACH. In chapter five, there is a comparison between BACH and Traditional clearing system. The traditional paper based payment system compared with the upgraded technology. In the sixth chapter, I have analyzed the BACH operating procedure in Bank Asia Ltd. including its various sections. Chapter Seven presents SWOT analysis of the study under Bangladesh Bank Order 1972. And in chapter Eight and Nine, I tried to show some findings. I have also included my findings as an intern and finally the influence of this system on the overall banking. At last based on my observation, I have provided some assorted recommendations and concluding remarks.

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Chapter- 1: Introduction

1.1 Background of the Study

Bangladesh Automated Cheque Processing Systems (BACPS) has started its live operation on October 7th, 2010 in the Dhaka Clearing House area. BACPS uses the Cheque Imaging & Truncation (CIT) technology for electronic presentation and payment of paper instruments (i.e. cheque, pay order, dividend & refund warrants, etc). Bangladesh Bank has introduced the first paperless Automated Clearing House in the Country which is called Bangladesh Automated Cheque Processing System (BACPS) and Bangladesh Electronic Fund Transfer Network (BEFTN). Both systems are being implemented under Bangladesh Automated Clearing House (BACH) project. These projects are being implemented under several different reform measures taken by Bangladesh Bank to improve the safety and efficiency in the payment system. Our Bank Asia Limited has always been a leader in complying with the requirements of the projects i.e., Cheque Personalization, Magnetic Ink Character Recognition (MICR) encoded cheque book issuing, System Integration Test (SIT) with Bangladesh Bank's Live & Disaster Recovery sites.

Bangladesh Automated Clearing House (BACH) is the first ever electronic clearing house of Bangladesh. It has two components, the Automated Cheque Processing System (ACPS) and the Electronic Funds Transfer (EFT). These two systems are operated in batch processing mode; where transactions received from the banks during the day, and are processed at a pre-fixed time and settled through a single multilateral netting figure on each individual bank's respective books maintained with the Bangladesh Bank. Also, Digital Certificate has been formulated for the first time in Bangladesh for secured data communication.

1.2 Scope of the Study

Bank Asia Limited is one of the leading commercial banks in Bangladesh. The scope of this study is limited to its Scotia Branch only. The report covers the organizational structure, background, banking activities, functions and performance of the branch. I have mainly focused on General Banking of the branch and mentioned about the BACH System of Bank Asia Ltd.

1.3 Objectives of the Study

- To examine the banking infrastructure of the country to develop and flourish BACH and online banking system in Bangladesh
- To observe the present status of BACH in Bangladesh
- To perform a comparison between BACH and Traditional clearing system
- To identify (if any) bottlenecks of BACH

1.4 Methodology of the Study

The study aims to identify factors affecting Bangladesh Automated Clearing House. The study has been performed based on the information collected from different sources. The methodology of the study is given below-

Source of Data Collection:

Primary Source

The primary sources include:

- Information gathered from conversations with the employees of Bank Asia Limited (Scotia Branch).
- Information collected from desk work in general banking department.

Secondary Sources

The secondary sources include:

- Annual reports of Bank Asia Limited
- Financial Statements of Bank Asia Limited
- Periodicals Published by Bangladesh Bank
- Office files and documents
- Related books and journals of the study
- Website of Bank Asia

Method of analysis

The study includes collection of information to evaluate BACH with the aid of different composition of some articles and published literatures, several tables on the basis of collected data and various statistical techniques will be applied to analyze the information. The study will incorporate detailed explanations and analysis in the report.

1.5 Limitations of the Study

The report may have some incompleteness due to some limitations that I have encountered while completing it, are mentioned below:

1. One of the major limitations was time constraints, as each department has many activities. This report could have been prepared in a much broader and extensive manner with more time and space availability.
2. Some essential data could not be gathered because of confidentiality concerns.

Chapter-2: Literature Review of Bangladesh Automated Clearing House

Bangladesh Bank introduced Bangladesh Automated Clearing House (BACH), National Payment Switch Bangladesh (NPSB) and Mobile Financial Services (MFS) to broaden the range of payment instruments and services. Bangladesh Bank is also very keenly engaged for improving the inter operability and resiliency of banking, payment and securities infrastructures. Recently Bangladesh Bank has implemented Real Time Gross Settlement (RTGS), which allows immediate payments settlements on an individual order basis without netting to fulfill the requirement of a high value payment system in the country. Also the system is open to both VPN and SWIFT connectivity, and next gen fin language ISO20022 is chosen as the message format. Bangladesh Bank may choose to own and/or operate clearing house operations and payment systems as it deems necessary or appropriate, including a real time gross settlement system. To ensure efficient, safe, secure operations of payment systems and for safeguarding the public interest, the Bangladesh Bank will issue rules, procedures, guidelines, operating directives or specific instructions as it deems necessary. The Bangladesh Bank owns and operates Automated Cheque Processing and Electronic Fund Transfer under the umbrella of BACH.

Bangladesh Automated Cheque Processing Systems (BACPS) is the electronic cheque processing of paper based instruments, which uses Cheque Imaging and Truncation (CIT) technology. The systems support both intra regional and inter regional clearing and is based on a centralized processing center located in Dhaka and also in designated clearing regions. The proposed process and system conforms to the international best practices and also represent the most cost effective solution for cheque processing. In the first step of this process, BACPS participants, commercial banks and related Government offices are sensitized. All the clearing instruments, i.e. cheques, drafts, pay orders, dividend and refund warrants, etc. are standardized. Each instrument is encoded with MICR line which includes information of the amount, transaction code, clients account, routing number and the cheque leaf's serial number. Specially schemed routing numbers are assigned to the bank branches for easy identification of origin and destination of instruments. Country wide use of MICR encoded and standardized instruments i.e. cheques, drafts, pay-orders, dividend and refund warrants, etc. has been ensured. Following successful System Integration Test (SIT), Live Simulation Test (LST) and Live Day Simulation (LDS), BACPS started its 'Live Operation' on October 7th 2010. Gradually other main cities of the country have joined the system after that. At present, 85,000 (approximately) regular and 3000 high value cheques and other instruments are cleared through BACPS. On an average, 85 percent of the clearing instruments are cleared through clearing house. Total amount of regular value instruments cleared is approximately Taka 25 billion and it is approximately Taka 20 billion for high value instruments. The clearing cycle has been brought down to t+0 for high value cheques and t+1 for regular value cheques throughout the country.

Bangladesh Electronic Funds Transfer Network (BEFTN) is the most critical component in the development of a modern payments system infrastructure among the present initiatives. BEFTN

started its 'Live Operation' on February 28th 2011 with 47 banks of the country. The network started with credit transactions and will gradually progress to debit transactions. A wide variety of credit transfer applications such as payroll, foreign and domestic remittances, social security, company dividends, retirement, expense reimbursement, bill payments, corporate payments, Government tax payments, veterans payments, Government license fees and person to person payments as well as debit transfer applications such as mortgage payments, membership dues, loan payments, insurance premiums, utility bill payments, company cash concentrations, Government tax payments, Government licenses and fees are settled under the network. This system brings down the operational cost, reduce risk and increase the efficiency of the payments process. At the initial stage, approximately 1500-1600 EFT transactions are processed on an average with an increasing trend. The amount transferred using EFTN is approximately Tk. 120 million per day. BEFTN will be linked to the mobile financial services in the near future. The mobile networks will provide the gateway for the non bank public to reach bank customers and businesses and for bank customers and businesses to reach the non bank public. The ultimate objective of the EFT system is to decrease the paper based payment methods and encourage paperless payment methods for faster and cost effective transactions especially at the corporate levels. The EFT facilitates the transmission of payments between the banks electronically in order to make faster and efficient interbank clearing over the existing paper based system.

With the mandate of Bangladesh Bank Order 1972 Bangladesh Bank endeavors for promoting new payment and settlement systems to ease financial transactions, ensure circulation of money throughout the economy and bring public confidence on the financial sector. In the journey of modernization of country's payment and settlement systems, Bangladesh Bank launched Bangladesh Automated Cheque Processing Systems (BACPS) in 2010, Bangladesh Electronic Fund Transfer Network (BEFTN) in 2011, initiated Mobile Financial Service in 2011, and installed National Payment Switch of Bangladesh (NPSB) in 2014. But all these payment channels were developed to focus the retail payment only. With the launching of RTGS the large value payment has also been addressed which completes the modernized payment infrastructure of Bangladesh as well as ensure international best practices in place. And for this great success the credit goes to Asian Development Bank (ADB) for being the financial partner in the journey of RTGS under "Institutional Support for Migrant Workers' Remittances: Real Time Gross Settlement (RTGS)" project.

Buffam (2000) depicted that companies that build the better e-business solutions will outperform their competitors. Companies that build the best e-business solutions will transform themselves into zero latency enterprises. Companies that choose not to embrace e-business, or do so ineffectively, will underperform or be driven out of business. Turban et al. (2000) argued that following points of managerial issues are very important: Focus of Electronic commerce management; Sales promotion; Purchase process reengineering; Just-in-Time delivery; new electronic intermediary business; Provision of solutions; and Business ethics.

Chapter-3: Profile of Bank Asia Ltd.

3.1 Company Overview

Bank Asia began its journey on the November 27th, 1999 with the inauguration of the bank's Corporate Office at the Rangas Bhaban. The overwhelming public response has enabled the Bank to keep up the plan of expanding its network. The opening of the Principal Office was the big leap forward and successively the opening of Gulshan and Chittagong Branch expanded the horizon of Bank Asia to bring its services to the valued clients more effectively.

Bank Asia conducts all kinds of commercial banking activities. The core business of the bank comprises of import, export, working capital finance and corporate finance. The bank is also rendering personal credit, services related to local and foreign remittances. The "Personal Credit" scheme of the bank is basically designed to help the fixed income group in raising standard of living, which is competitively priced and has been widely appreciated by the customers. The bank's strategy is to cover the total arena of banking gradually.

3.2 Bank Asia at a Glance

Bank Asia Limited is a scheduled commercial bank in the private sector established under the Bank Company Act 1991 and incorporated in Bangladesh as a public limited company under the Companies Act 1994 to carry out banking business in Bangladesh. It has acquired the business of Bank of Nova Scotia, Dhaka in 2001. At the beginning of the year 2002, the Bank also acquired the Bangladesh operations of Muslim Commercial Bank Limited (MCBL), a bank incorporated in Pakistan, having two branches at Dhaka and Chittagong with one booth at Dhaka. In taking over the operations of Bangladesh, all assets and certain specific liabilities of MCBL have been taken over or assumed by Bank Asia Limited. The Bank carries its banking activities through nineteen branches including three MCBL branches in the country.

The management of Bank Asia is determined to maintain and upgrade the quality of their resources through continuous training and up gradation of technology to keep pace with market demands, new developments and practices of the competitors.

3.3 Vision Statement of Bank Asia

Bank Asia's vision is to have a poverty free solvent Bangladesh in course of a generation in the new millennium, reflecting the national dream. Their vision is to build a society where human dignity and human rights receive the highest consideration along with the elimination of poverty.

3.4 Mission Statement of Bank Asia

- To assist in bringing high quality service to customers and to participate in the growth and expansion of our national economy.

- To set high standards of integrity and bring total satisfaction to clients, shareholders and employees.
- To become the most sought after bank in the country, rendering technology driven innovative services by their dedicated team of professionals.

3.5 Core Values

- Place customer interest and satisfaction as first priority and provide customized banking products and services.
- Value addition to the stakeholders through attaining excellence in banking operation.
- Maintain high ethical standard and transparency in dealings.
- Be a compliant institution through adhering to all regulatory requirements.
- Contribute significantly for the betterment of the society.
- Ensure higher degree of motivation and dignified working environment for our human capital and respect optimal work-life balance.
- Committed to protect the environment and go green.

3.6 Goals

Bank Asia Limited has the following six goals and the organization strives to achieve them-

- **Sustainable Growth:** Synergies between new knowledge and human capital for sustainable economic growth.
- **Capital Stewardship:** Preservation and enlargement of multiple forms of capital; like intellectual, natural, financial, organizational, social; all of which contribute to long term value creation
- **Accelerating financial inclusion:** Accelerate progress towards financial inclusion with technology like ATM, mobile phone, smart card based banking services and renewable energy generation projects especially in rural areas.
- **Differentiating value added services:** Strong focus on extremely cost efficient and green services through Internet banking, electronic fund transfer, automated cheques clearing, e-bank statement, SMS alert, etc.
- **Going Green:** Quantification of in-house facilities and energy consumption to promote paperless office and enhance energy efficiency. Greater emphasis on green banking projects.
- **Leader in business:** Create new dimension in the syndication and structured financing; grow with export and well diversified portfolio.

3.7 Scotia Branch

Bank Asia is operating their business activities at Bijoy Sarani area and the branch is named as Scotia. At present the branch is being operated with 32 employees. The Scotia Branch offers corporate banking, correspondent banking and others services to its customers including local corporations, multinational. Bank Asia Limited came into the headlines and attention of everyone when it acquired the operation of Bank of Nova Scotia, a Canadian Bank. This was the first time that a local private bank acquired the operation of a foreign bank in Bangladesh. On September 24th, 2002 Scotia branch (17th branch of the Bank) was inaugurated to serve companies, multinational agencies, domestic missions and other donor agencies, NGOs, and financial institutions. It is offering a limited range of retail banking products to provide for the individual banking needs as well.

3.8 General Banking

General banking is the starting point of all banking operations. This is the department which provides day to day services to the customers. Every day it receives different types of deposits from the customers and meets their demand for cash by honoring cheques. It opens new accounts, remit funds, issues bank drafts and pay orders etc. Since a bank is confined to provide these services every day, general banking is also known as ‘Retail Banking’.

Customer Service

Bank Asia Ltd. is providing modern banking facilities to its customers. It is committed to fulfill every possible need of customers with high efficiency and satisfaction. It has a team of dedicated professionals, committed to provide an unparalleled service and to bring maximum benefits for the customers, the shareholders and the society at large. It’s a great pleasure for Bank Asia to introduce following services-

Account Department

Account department is called as the nerve center of the bank. In banking business, many transactions occur every day and these transactions need to be recorded properly and systematically as the banks deal with the depositor’s money. Any deviation in proper recording may hamper public confidence and the bank has to suffer a lot otherwise. Improper recording of transactions leads to a mismatch in the debit and credit sides. To avoid these mishaps the bank provides a separate department, whose function is to check the mistakes in assigned vouchers or wrong entries or fraud or forgery. This department is called as Account Department.

Pay Order (PO)

Pay Order is an instrument which is used to remit money within a city through the banking channel. The instruments are generally safe because most of them are crossed. PO gives the payee the right to claim a payment from the issuing bank. Payment is conducted from the issuing

branch only, which is generally used to remit fund within the clearing house area of issuing branch. Payment process of the paying bank is made through clearing and charge only commission and vat; i.e. if amount is below Tk. 2, 00,000 then commission is Tk. 50 and vat is Tk. 8 again if amount is above Tk. 2, 00,000 then commission is Tk. 75 and vat is Tk.12. The bank payment order is in the form of receipt and issued by joint signature of two officials. It ensures payment to the payee, as the money deposited by the purchaser of PO is kept in the bank's own A/C named "Payment Order A/C". Payment of the instrument is made from the branch where it has been issued.

3.9 BACH System in Bank Asia

3.9.1 Clearing

In Bank Asia, clearing is the process which refers to a collection proceeds of instruments of different banks by a collecting bank, through some systematic procedures with the involvement of Central Bank.

3.9.2 Types of Clearing Instruments

- Cheques (CD, SB, Loan)
- Demand Draft
- Payment Order
- Others

3.9.3 Related Terms

- Crossing
- Clearing Stamp
- Endorsement

3.9.4 Clearing Sessions

- High Value
- High Value (return house)
- Regular
- Regular (return house)

3.9.5 BACH Operating Rules in Bank Asia

- a) Settlement made through wave
- b) Black and White Image captured for front and back of the cheque

- c) The Cheque is first deposited through a received seal with the help of a slip
- d) BACPS Eligible Item Identification
- e) Digital Signature
- f) Inward clearing in Bank Asia
 - For Regular Clearing cutting time is 12:00pm and A/C Debit is at 4:30pm
 - For High value Clearing cutting time is 11:30pm and A/C Debit is at 2:30pm
- g) Outward clearing in Bank Asia
 - For Regular Clearing cutting time is 12:00pm and A/C Debit is at 5:30pm
 - For High value Clearing cutting time is 11:30pm and A/C Debit is at 3:30pm
- h) When an Image of an item is not usable due to the quality of the source document, the Bank at the period of collection returns the physical item to its customer
- i) Settlements are made on the basis of the electronic cheque data including the amount
- j) To cancel an Automated Clearing House (ACH) payment customer needs to have an authorized a third party to make it from customer checking and/or savings account
- k) Signature verification and Account balance verification
- l) Verification of date
- m) Matching amount and figure
- n) Verification of the date of entry error etc.

Chapter- 4: An Overview of BACH

4.1 Introduction

BACH is the overall system and facility that supports the Exchange and settlement of payment between Participating banks and Bangladesh Bank.

Bangladesh Automated Clearing House (BACH) is the first ever electronic clearing house which has started live operation in Dhaka from October 7th, 2010. It includes Bangladesh Automated Cheque Processing System (BACPS) and Bangladesh Electronic Funds Transfer Network (BEFTN). Bangladesh Automated Cheque Processing System (BACPS) is the electronic cheque processing system of paper based instruments using a Cheque Imaging and Truncation (CIT) technology, which supports both intra regional and inter regional clearing and is based on a centralized processing center located in Dhaka and other designated clearing areas. BACPS participants are all commercial banks and related Government offices. Country wide use of MICR (Magnetic Ink Character Recognition) encoded standardized instruments i.e., Cheques, Drafts, Pay Orders, Dividend and Refund Warrants etc. has been ensured.

BEFTN is the maiden initiative for electronic (debit and credit) fund transfers. This network facilitates the electronic transmission of funds between banks, which makes it as a faster and efficient means of interbank clearing over the existing paper based system i.e., BACPS. BEFTN is able to handle a wide range and variety of credit transfer applications such as payroll, foreign and domestic remittances, social security, company dividends, retirement, expense reimbursement, bill payments, corporate payments, government tax payments, veterans payments, government license fees and person to person payments as well as debit transfer applications such as mortgage payments, membership dues, loan payments, insurance premiums, utility bill payments, company cash concentration, government tax payments, government licenses and fees.

4.2 The BACH components

The BACH has two components:

- 1) Bangladesh Automated Cheque Processing System (BACPS) and
- 2) Bangladesh Electronic Funds Transfer Network (BEFTN).

Bangladesh Automated Clearing House (BACH) components are- the Automated Cheque Processing System and the Electronic Funds Transfer. Both of these systems operate in batch processing mode, where transactions received from the banks during the day are processed at a pre fixed time and settled through a single multilateral netting figure on each individual bank's

respective books maintained with the Bangladesh Bank. A state of the art Data Center (DC) and a Disaster Recovery Site (DRS) have been established comprising of most modern software and hardware for dealing with the operations of Bangladesh Automated Clearing House (BACH).

The clients of Bank Asia are availing themselves of modern banking facilities with the help of these services.

4.3 Eligible Instruments for BACPS

Following MICR encoded payment items and instruments are eligible for BACPS

No.	Type of instrument	MICR CODE	No.	Type of instrument	MICR CODE
1	Savings Bank Account Cheque	10	2	Current Account Cheque	11
3	Refund Warrant	18	4	Banker's Cheque	12
5	Pay Order	19	6	Cash Credit Account Cheque	13
7	Govt. Cheque	31, 32	8	Dividend Warrant	14
9	Credit Card Cheque	20	10	Demand Draft	15
11	Foreign Taka Demand Draft	13	12	Gift Cheque	16
13	Fractional Dividend Warrant	15	14	Interest Warrant	17

Table no. 4.3.1: MICR encoded payment items and instruments eligible for BACPS

4.4 Participants in BEFTN

The EFT Network is a multilateral electronic clearing system in which electronic payment instructions are exchanged among Scheduled Banks. The system involves transmitting,

reconciling and calculating the net position of each individual participant at the end of each processing cycle. The involved participants are-

a) Originator

The Originator is the entity that agrees to initiate EFT entries into the network according to an arrangement with a receiver. The originator is usually a company, a Government agency or an individual directing a transfer of funds to or from a consumer's or a company's account. The originator executes an EFT fund transfer entry through an Originating Bank (OB).

b) Originating Bank (OB)

The originating bank is the bank which receives payment instructions from its client (the originator) and forwards the entry to the BEFTN. A bank may participate in the EFT system as a receiving bank without acting as an originating bank. However, if a bank chooses to originate EFT entries it must agree to act as a receiving bank also.

c) Bangladesh Electronic Funds Transfer Network (BEFTN)

BEFTN is the central clearing facility, operated by Bangladesh Bank that receives entries from OBs, distributes the entries to appropriate RBs, and facilitates the settlement functions for the participating banking institutions

d) Receiving Bank (RB)

The receiving bank is the bank that receives EFT entries from BEFTN and posts the entries to the account of its depositors (Receivers).

e) Receiver

A receiver is a person or an organization who has the authority as an Originator to transmit an EFT entry to the account of the receiver maintained with the Receiving Bank (RB).

f) Correspondent Bank

In some cases an Originator, Originating Bank or Receiving Bank may choose to use the services of a Correspondent Bank for all or part of the process of handling EFT entries. A Correspondent Bank's function can include, but is not limited to, the creation of EFT files on behalf of the Originator or acting on behalf of an OB or RB, respectively. All Correspondent Banks must be approved by Bangladesh Bank before a bank enters into an agreement with the Correspondent Bank.

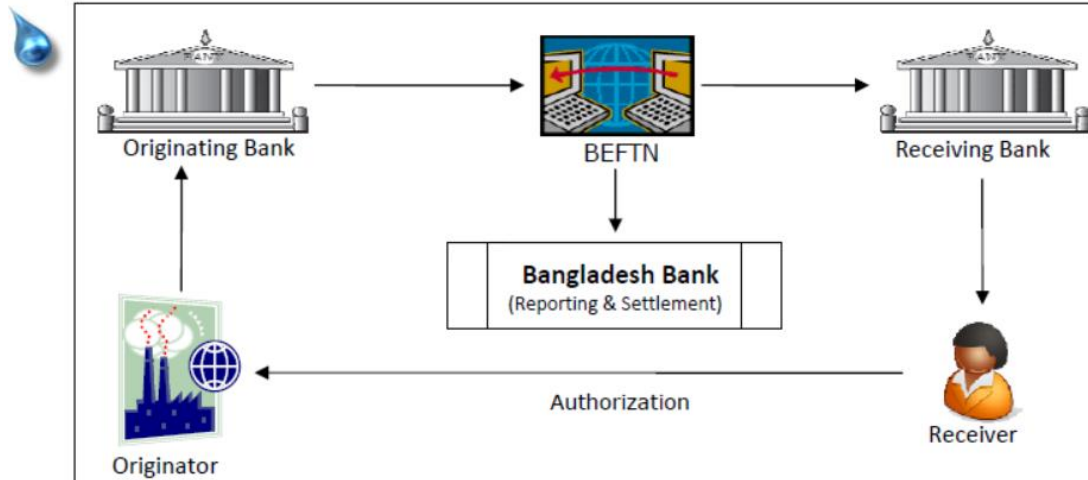


Figure 4.4.1: Participants involved in an EFT Transaction

4.5 Authorization

A written document with the originating company signed by an employee or customer to allow payments processed through the EFT Network to be deposited in or withdrawn from his or her account at a bank. Authorization can also be a written agreement that defines the terms, conditions and legal relationship between Originator and Receiver.

4.6 EFT Transaction Flow

In EFT terminology, Originator and Receiver refer to the participants that initiate and receive the EFT entries rather than the funds. Unlike a cheque, which is always a debit instrument, an EFT entry may either be a credit or a debit entry. By examining what happens to the receiver's account, one can distinguish between an EFT Credit and EFT Debit transaction. If the receiver's account is debited, then the entry is an EFT debit. If the receiver's account is credited, then the entry is an EFT credit.

a) EFT Credits

EFT credit entries occur when an Originator initiates a transfer to move funds into a Receiver's account. For example, when an organization uses the payroll service at a bank to pay the salary of its employee each month, it originates the payment through the OB to transfer the money into the account of the employee; the individual is the receiver in this example. EFT credit transactions involve both consumer and corporate payments with separate rules and regulations for each. The most typical consumer EFT application is Direct Deposit of Payroll.

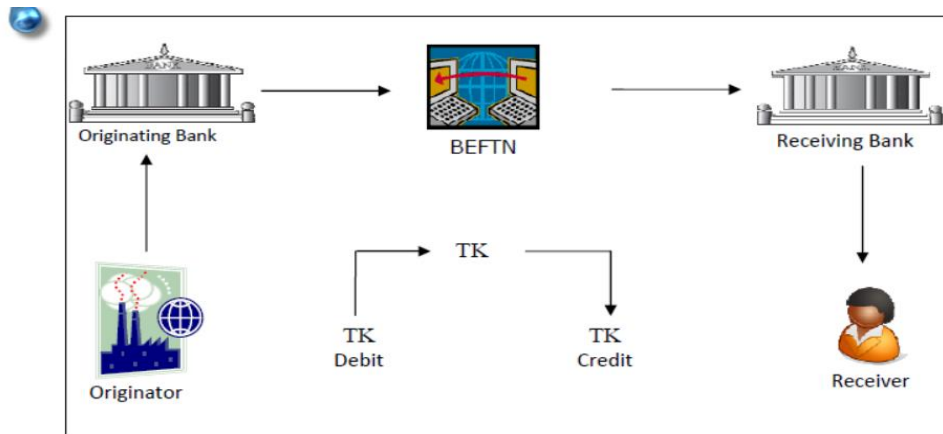


Figure 4.6.1: EFT Credit Transaction Flow

In the illustration above an EFT credit transaction flow for payroll payment is showed, where an organization initiates an EFT entry to credit its employee’s account.

b) EFT Debits

In an EFT debit transaction, funds flow in the opposite direction. Funds are collected from the Receiver’s account and transferred to an Originator’s account, even though the originator initiates the entry.

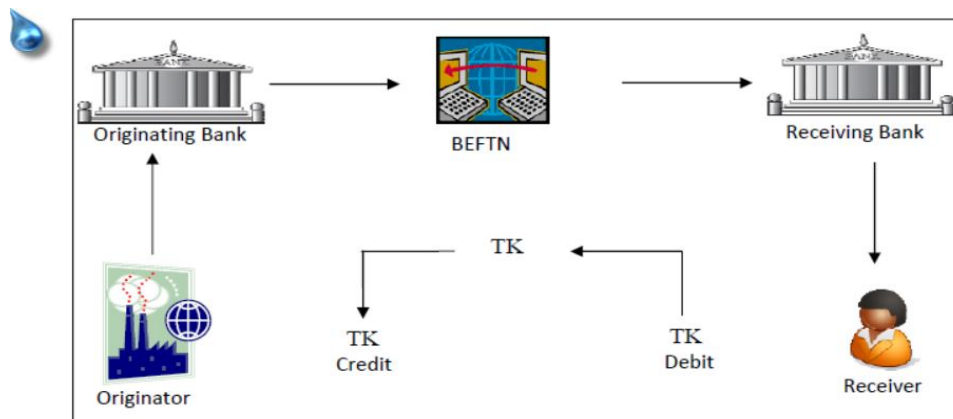


Figure 4.6.2: EFT Debit Transaction Flow

In the illustration above it is showed that a utility company initiates an EFT entry to collect its bill from the consumer.

4.7 Settlement and Posting

Settlement is the actual transfer of the funds between participating banks to complete the payment instruction of an EFT entry. The transactions processed by the BEFTN will affect the

accounts of the concerned banks maintaining accounts with Bangladesh Bank at the end of each processing cycle. Settlement will be completed using the following processing schedule: Processing Window Cut Offs, Item Submission, Returns Settlement, Normal Processing is within 00:00 - 24:00 hrs. As provided in BEFTN Rules 10:00 hrs Next Day Settlement and processing sessions may be reviewed and communicated to member banks by the Clearing House (BACH) authority from time to time.

4.8 BACPS Operating Procedures

➤ Introduction

These operational procedures are intended for the use of operational staff within Commercial Banks engaged in the preparation and submission of Outward payment items to the Clearing House and in the receipt and verification of Inward items from the Clearing House. The document makes reference to additional documents which are technology based and contain specific system details. These procedures deal mainly with the operational issues for image based Cheque Processing and have to be read with and subject to the Bangladesh Payments and Settlement Systems Regulation 2009 and the BACPS Operating Rules.

➤ Jurisdiction

The cheque image and truncation process is implemented initially in the Dhaka Clearing Area as a pilot and will gradually be expanded to include all of the clearing operations in Bangladesh. This document deals principally with the operational procedures for banks utilizing an automated image based cheque solution and has to be read with and are subject to the and the Bangladesh Payments and Settlement Systems Regulation 2009 and the BACPS Operating Rules. Additionally a section is included in this document detailing the procedures to be followed by Commercial Banks making use of the Bangladesh Bank's initiated temporary Bureau Service.

➤ Clearing Sessions

The Cheque Truncation System is capable of supporting different types of clearing. Each type of clearing has a separate clearing window known as clearing session. Usually, there are two presentation clearing sessions and two corresponding return clearing sessions per day.

The presentment cutoffs and settlement times for these sessions are:

Clearing Window	Cut Offs		
	Presentment	Return	Settlement
Regular Clearing	13:00 hrs	18:00 hrs	18:01 hrs
High Value Clearing	12:00 hrs	14:00 hrs	14:01 hrs

Table no. 4.8.1: The presentment cutoffs and settlement times for these sessions

Clearing sessions may be reviewed and communicated to member banks by the Clearing House (BACH) authority from time to time.

4.9 Responsibilities of Presenting Bank

1. Comply with the BACPS rules
2. Certifies that presented item is a copy of the original instrument
3. Prima facie genuineness of the cheque be verified with-
 - a. Due diligence and ordinary care
 - b. Genuineness of the cheque leaf
 - c. Material alteration of payee's name, amount or date
 - d. Verification by UV detector
4. Instruments, image and data are preserved for 6 years
5. Original cheque is available for inspection within 7 calendar days
6. If failed, it will result in non-payment of the instrument
7. Credit to customer A/C on settlement date or internal rules of the bank
8. Central Bank's holding of the Bank's Settlement A/C to credit on house date
9. Indemnify the Bangladesh Bank processing or settling for the item for any loss or expense
10. Reconciliation

4.10 Presenting Bank's Due Diligence

As Settlement is done on the basis of image and data, conducting due diligence is the responsibility of the presenting Bank.

1. Verify the prima facie genuineness of the cheque
2. To be truncated
3. Attempt to detect any fraud, forgery or tampering
4. Enforce KYC norms in letter and spirit
5. Observe all precautions which a prudent banker takes
6. To check the apparent tenor of the instrument
7. Physical presence of the instrument
8. Tampering visibility with reasonable care etc.

4.11 Responsibility of Paying Banks

A Paying Bank, by manufacturing or using an Account with the Bangladesh Bank Settlement for items or by accepting an item from the Bangladesh Bank:

1. Comply with the applicable BACPS rules
2. Agrees to process the item in accordance with these rules
3. Authorizes the Bangladesh Bank to charge the amount of a payment items to the paying Bank's Settlement account on the Settlement date
4. Return an approved payment item to the Bangladesh Bank by the deadline in the BACPS schedule
5. Tailing positive pay instruction from cheque issuer

4.12 Paying Bank Due Diligence

1. Transmission of posting file
2. Digital certificate of verification of Clearing-House Mechanism (CHM)

3. Payment processing-

- a) Signature verification of a customer is performed by their existing customer database
- b) Account balance verification through the authorized employees
- c) Verification of endorsement by general banking department
- d) Positive Pay Instruction by higher authorities
- e) Restriction to account by customer or other legal authority
- f) Stop payment verification by the authority
- g) Verification of date through their customer database
- h) Matching the amount and figure by the authorized employees
- i) Verification of the date of entry errors
- j) Other prudent practices

4. Return cheque

5. Request for papers

6. Internal control

7. Reconciliation of clearing difference etc.

Chapter 5: A Comparison between BACH and Traditional Clearing System

The traditional paper based payment system was a semi-automated system, time consuming and prone to so many risks. The system was not as par with international best practices. It took t+2 or t+3 days to clear the cheques and other paper based instruments within a clearing region. The inter regional instruments required much longer time to clear.

Bangladesh Bank realized the necessity of upgrading the clearing system. With a view to developing an electronic payment system, Bangladesh Bank took maiden initiative to replace the traditional paper based clearing and settlement system by an IT centric fast, secured and efficient system. With the technical and financial assistance from Department for International Development (DFID) of United Kingdom, Bangladesh Bank started working to implement Bangladesh Automated Clearing House (BACH) from October 2006, the first electronic clearing house in the country.

Bangladesh Automated Cheque Processing Systems (BACPS) is the electronic cheque processing of paper based instruments uses Cheque Imaging and Truncation (CIT) technology. The proposed process and system conforms to the international best practices and also represent the most cost effective solution for cheque processing. In the first step of the process, BACPS participants, commercial banks and related Government offices are sensitized. All the clearing instruments, i.e. cheques, drafts, pay orders, dividend and refund warrants, etc. are standardized. Each instrument is encoded with MICR line which includes information on the amount, transaction code, clients account, routing number along with the cheque leaf's serial number.

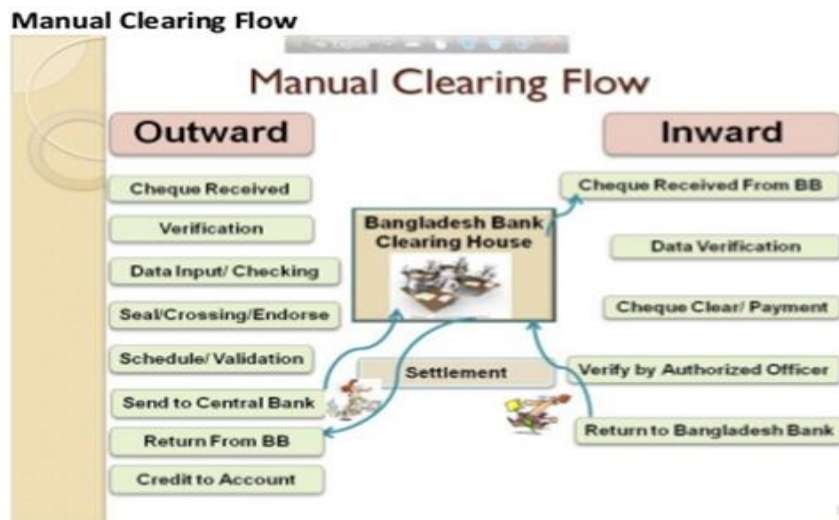


Figure 5.1: Comparison between Manual and Automated Clearing System

Here is a diagram showing the clearing process by using BACH system-

Automated Clearing Flow

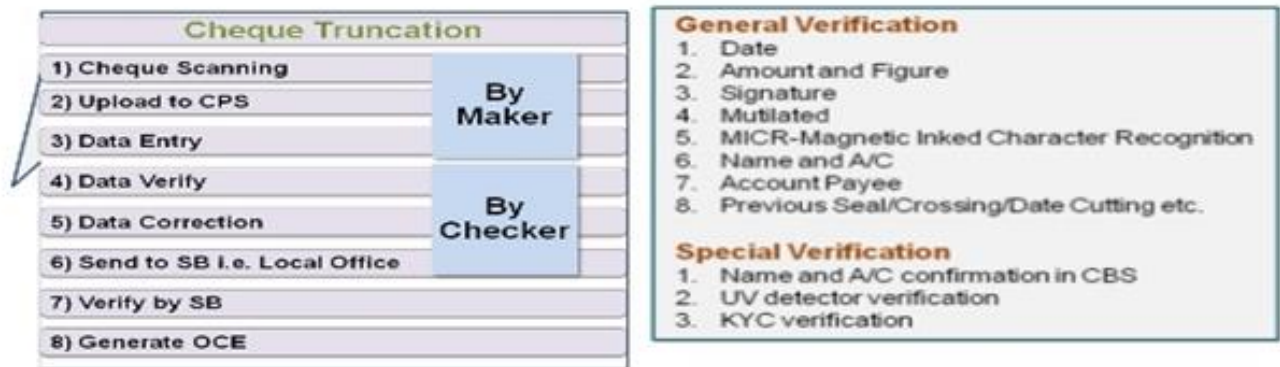


Figure 5.2: Comparison between BACH and Traditional Clearing System

Comparison between Manual and Automated Clearing System are:

Manual Clearing	Automated Clearing
1. There are 45 clearing houses in the country.	1. Only one clearing house instead of 45.
2. Human resources required in clearing house.	2. No human required in clearing house.

3. Time consuming.	3. Reduces time consumption.
4. Huge collection cost from outside the city.	4. Collection cost is same as it is in own city.
5. Time session may change by request.	5. Time session is automated and unchangeable.
6. Establishment cost is very low.	6. Establishment cost is very high.
7. Does not collect charges from clients.	7. Charges are collected from clients.
8. Used by NIKASH or manual ledger.	8. Operated by cheque processing system.
9. Data cannot be saved for a long time.	9. Data and Images can save for 12 years.
10. Same day clearing for few branches only.	10. Same day clearing for the whole country.
11. Paying Bank preserves own cheques.	11. Presenting Bank preserves the other bank's cheques.
12. Non MICR cheque can clear.	12. Non MICR cheque is unacceptable.
13. Positive pay instruction is not mandatory.	13. Positive pay instruction is mandatory.
14. Paying Bank's responsibility is higher.	14. Presenting Bank's responsibility is higher.
15. A non-centralized system.	15. Process under a secured centralized system.

Table no. 5.3: Comparison between Manual and Automated Clearing System

Chapter 6: Analysis of BACH System in Bank Asia Ltd. (Scotia Branch)

As a cheque, payment order or bill comes from a bank within the range of local clearing house then it is sent for collection through the clearing house. The cheque can be crossed or not. If a customer of Bank Asia Limited deposits a cheque to another bank, which is within clearing area, then Bank Asia Limited will credit his amount and collect it (cheque). Though the amount is credited in the customer's account but he will not get the money until the cheque is honored.

Bank Asia maintains some operation procedure for BACH:

6.1 Image Capture

Two image segments were captured for all BACPS eligible Items:

- a. Black and White Image of the front
- b. Black and White Image of the back

There is no coloured image system in this Bank. Coloured image is more effective for secured payment. The Bank faces many problems for this.

6.2 Usable Image

Image usability is of key importance for allowing Bank Asia to process an item on the basis of an Image. The Usable Image is a clearly represented digital picture of an item. An Image is usable when all of the following criteria are met:

- i. The date field should be available on the image of the item.
- ii. The MICR line must present on the Image of the item;
- iii. The account number in the MICR line is on the Image of the item.

6.3 Incorrect Amount in BACPS Cheque Envelop

Where a BACPS eligible item with an incorrect amount is detected in a BACPS Cheque Envelope by the Bank at the time of sending, it should notify the Paying Bank about the error via fax, email or registered mail and request that the Paying Bank, or its Correspondent Bank. Bank Asia is responsible for the difference provided the error is detected within ninety (90) days after the Item was presented to the Paying Bank. So that, they can take steps as soon as possible.

6.4 Reason for Return and Return Process

When an Image of an item is not usable according to the above definition of a usable Image, the item is returned within the time frames outlined in the BACPS Procedures. The Bank then rescans the source document and transmits the Image as a new item to the Paying Bank.

Image of Cheque Scanner



Cheque Orientation:-

Put the Cheque here.

Front side of Cheque will place at right side and back side will place left side.

- 20 or 30 Cheques may scan at a time.
- Be sure no pin with the cheque while scanning.



Figure 6.4.1: Image of Cheque Scanner

6.5 Poor Source of Documents

When an image of an item is not usable due to the quality of the source document, the Bank at the period of collection-

- i. It returns the physical item to its customer
- ii. Forward the source document itself to the Paying Bank for payment

6.6 Genuineness of Cheque

- At the time of sending Bank Asia verifies the prima facie genuineness of the cheque such as the cheque leaf, name of payee and amount or date to be truncated and attempt to detect any fraud, forgery or tampering apparent on the face of the instrument that can be verified with due diligence and ordinary care.
- In such cases where genuineness couldn't be verified or material alteration is detected; the bank does not submit such cheque(s) to the BACPS.

Every cheque should be checked by UV detector. It should be ensured that, verification is done by UV detector before presenting and instrument printing with erasable UV link.

6.7 BACPS Eligible Item Identification

Any High Value item that is presented to a branch outside of the approved geographic area is returned with the appropriate return reason code.

- For any transit item, a Sending Point does not logically repair information contained in any field of the MICR line than the Bank's routing number field and must enter the amount field.
- A sending point does enter the account number which does not exist in pre-printed MICR line for Government cheques only.

So, It identification procedure is quite time consuming, so Bank sometimes fail to attend the clearing session. Specially fail to attend the return session.

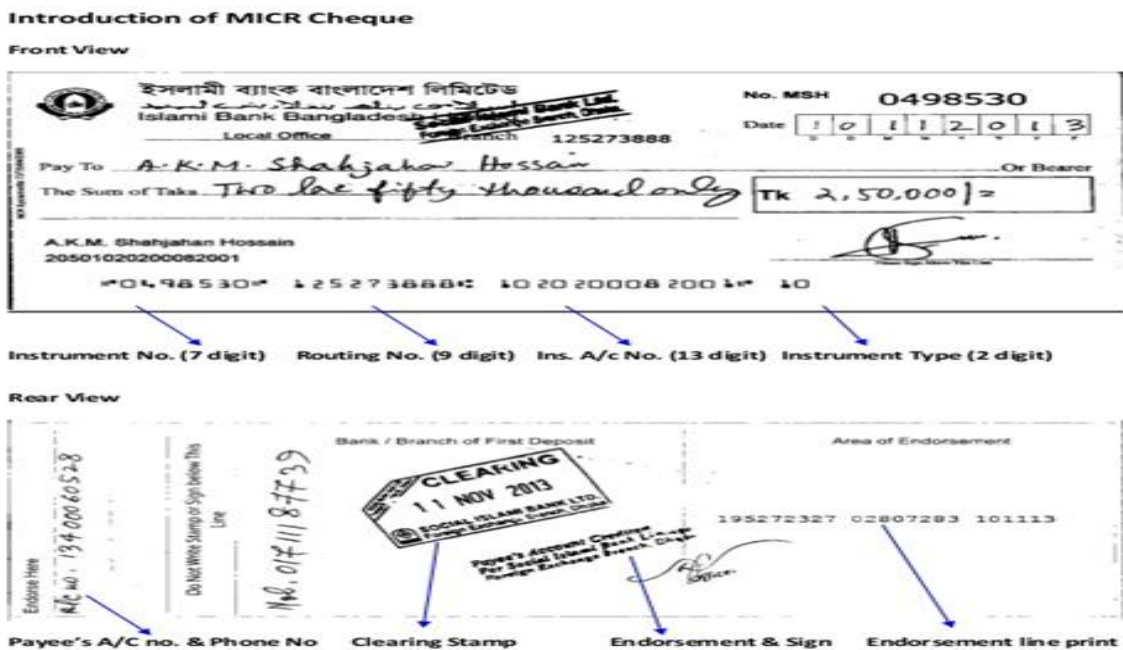


Figure 6.7.1: BACPS Eligible Item Identification

6.8 Digital Signature

The use of the Public Key Infrastructure (PKI) ensures data authenticity, integrity and no repudiation, adding strength to the entire system. The image and data becomes secured using the PKI throughout the entire transmission cycle between the presenting bank, the clearing house and the paying bank. It is of the bank to ensure that the movements of electronic files from their host capturing systems to the PBM are secured with the highest levels. Access to the bank's PBM must be limited to authorized personnel only.

6.9 Inward clearing in Bank Asia

- Receives clearing instruments from system
- Verifies clearing stamp, crossing, endorsement etc.
- Debiting respective account
- Ensures honor or dishonor in the system
- Corresponding with main branch (if necessary)

Time Durations for Inward Clearing:

Clearing Window	Cut Offs	
	Cutting Time	A/C Debit
Regular Clearing	12:00pm	4:30pm
High Value Clearing	11:30am	2:30pm

Table no. 6.9.1: Time durations for inward clearing

Bank faces confirmation problem at the time of payment of inward cheque. It must be confirmed about inward cheque before payment.

6.10 Outward clearing in Bank Asia

- Receives clearing instrument form the clients
- Crediting the same in respective account
- Prepares instruments of clearing
- Scanning & transfer to the system

Time Durations for Outward Clearing:

Clearing Window	Cut Offs	
	Cutting Time	A/C Credit
Regular Clearing	12pm	5:30pm
High Value Clearing	11:30am	3:30pm

Table no. 6.10.1: Time durations for outward clearing

6.11 Collection Procedure for Clearing in Bank Asia

- The Cheque is first deposited through a received seal with the help of a slip.
- The collection bank gives a crossing with Bank Asia Limited. It indicates that the mentioned bank is the collection bank.
- Entry for outward clearing to the register is given with a clearing seal and giving the cheque a subsidiary seal.
- The Cheque is then sent to Bank Asia Limited, local office along with other cheque. Three sets of voucher are prepared for this purpose.
- If the cheque is on other branches of Bank Asia Limited with in some clearing area then it was collected through inward clearing house of Bank Asia Limited.

Bank maintains duplicate print for security. Scrutiny of high value transactions, limit based checking by officials system is established.

6.12 Settlement

Settlements are made on the basis of the electronic cheque data including the amount that accompanies the image and that are contained in cheque return data. The specifications that qualify cheques for image based clearing must strictly be followed. Sometimes Bank faces excess claim and fewer claims problems.

6.13 Cancellation of ACH in Bank Asia

To cancel an Automated Clearing House (ACH) payment customer needs an authorized a third party to perform it from customer's savings account, who first calls the Customer Relationship Center and supply client information to the representatives. This will allow Bank's representative to put a temporary hold on the transaction. Next they submit the Written Statement of Unauthorized Debit Automated Clearing House (ACH) Transaction – Consumer (ACH Stop Payment Form) form.

Chapter- 7: SWOT Analysis

Bank Asia Ltd. is a successful bank in its sector but it has some drawbacks, and hopes overcome these for the betterment and can flourish themselves. Following is a SWOT analysis-

Strengths

- Whole system is highly secured
- Settlement is made through wave
- Online version of the clearing process enables to work at any workstation in banks
- Physical movement of officers is not required
- Strong initiative to explore investment opportunity through Research and Marketing
- Strong IT & E-Banking Status do not match with other banks

Weaknesses

- Fails to attend the clearing session sometimes
- Especially fails to attend the return session
- Material alternation in MICR line creates problems
- Only black & white image is captured

Opportunities

- Can increase awareness of Banking System
- Increase customer reliability and satisfaction
- Use UV detector before presenting and printing instruments with erasable UV link
- Positive Pay instruction and new account alert system
- A monitoring dashboard presenting information to the top management about the total number of cheques cleared, each hour
- Management can identify the peak business days of the year and thus allocate human resources accordingly

Threats

- Occur excess claims and fewer claims
- Material alternation in numeric amount and word figure
- Material alternation in instrument no.
- Material alternation in MICR encoded line
- Bank maintains duplicate print

Chapter- 8: Findings of the Study

The following findings emerge from the analysis:

1. Images of clearing instruments are considered for clearing process. Settlement made through wave where physical movement of officers not required. Branches and staffs are in less risk for the transportation of cheques and transfer orders. BACH and BEFTN reduce branch's clearing to one day from three to four days. The transportation cost per request has been decreasing upto 80%. After integration with the core banking solution, the verification will be in 3 seconds which is now in about 10 seconds. Day end operation confirms that the information about all the cheques is processed and no cheques are left unattended. Post dated cheques processing enables the user and staffs to input the late dated cheques for effective use of time.
2. Excess claims and fewer claims both occur in the bank.
3. The Whole system is highly secured but some fraudulent attempts have found on missing the BACPS System.
4. Failure to attend the clearing session occurs, especially failure to attend the return sessions.
5. Material alternation in the amount of numeric and word figure causes problems.
6. Material alternation in instrument no. creates mismatch with the records.
7. Material alternation in MICR encoded line sometimes causes deficiencies.
8. Material alternation in MICR line creates problems.
9. Bank maintains duplicate print.
10. Only black & white image is captured. There is no color image system in this Bank.

Chapter-9: Recommendations and Conclusion

9.1 Recommendations

Bank Asia Limited is undoubtedly a successful bank, but there are some limitations in BACH Operating Procedure and Settlement. If the limitations are eliminated the bank will become more successful than as it is at present. Considering them, I would like to recommend the following steps to lessen its limitations-

1. A monitoring dashboard presents information to the top management about the total number of cheques cleared in every hour. Management can identify the peak business days of year and thus allocate human resources accordingly and may get more customer satisfaction.
2. Bank Asia should take proper steps to check genuineness of the cheque leaf. Scrutiny of high value transactions, limit based checking by officials system established.
3. The Bank Asia should take attempt to detect any fraudulent activity, forgery or tampering by verify the prima facie genuineness of the cheque. It could be ensured that each cheque is verified by UV detector before presenting.
4. They should take care about the instruments, that they are printed with erasable UV link.
5. The Bank could certify that the presented item is a copy of the original instrument.
6. Inward cheque payment could be done with confirmation for more safety.
7. Positive Pay instruction and new account alert system should be present at the bank.
8. KYC update and monitoring system should be properly maintained by the bank. A new group of IT skilled people can be recruited to fasten the digital banking roadmap journey.
9. For secured operation, two image segments should be captured in coloured.
10. They should use more updated versions of software for their day to day activities.

I hope and believe that, if the recommendations cited above are accepted by Bank Asia Limited; they will be able to establish themselves as one of the best practicing bank in Bangladesh at near future.

9.2 Concluding Remarks

Bank Asia Ltd. is a new generation Bank in the private banking sector of Bangladesh with a promise to fulfill every possible customer needs with high efficiency and satisfaction. Its team of dedicated professionals is committed to provide an unparalleled service by using the latest technology to make bank able to harvest the maximum benefits for the customers, and the society at large. At present BACH operation all the clearing instruments have been standardized and most of the banking transfer is done by BEFTN as it is easy to manage and takes less effort. After BEFTN completion the team started to work in the online version of the DMS Imago solution. Now, all the branches are empowered with DMS-Imago, BEFTN and Web version of clearing. BACH and BEFTN have reduced the branch's clearing time to one day from three-four days and reduced transportation cost upto 80%. By taking attempt to detect any fraud, forgery or tampering, KYC update and monitoring, verifying every cheque by UV detector before present and instrument print with erasable UV link Bank Asia can extend and expand its BACH operations.

From Bank Asia Limited, I have gained practical knowledge which will help me to relate my theoretical knowledge with the real life work experiences. These experiences of sharing works with such working environment will help me in a professional life. For that, I am really grateful to BRAC Business School of BRAC University and Bank Asia Limited, Scotia Branch.

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