



ASSUMPTION UNIVERSITY

BILLS FOR COLLECTION INFORMATION SYSTEM
FOR BANKING

by

MS. NAMTIP CHIRAWANITROJANAKUL

Final Report of the Three - Credit Course
CS 6998 System Development Project

Submitted in Partial Fulfillment
of the Requirements for the Degree of
Master of Science
in Computer Information Systems
Assumption University

December 1992

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DECEMBER 1992

PROJECT TITLE BILL FOR COLLECTION INFORMATION SYSTEM FOR
BANKING

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The graduate school of Assumption University had approved this final report of the three-credit course, CS 6998 system development project, as a partial fulfillment of the requirement for the degree of Master of Science in Computer Information Systems.

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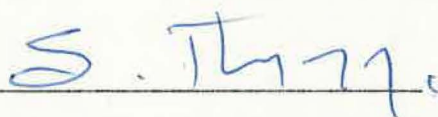
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ABSTRACT

This system development project presents steps in developing a computer-based information system according to the System Development Life Cycle (SDLC), using Bills for Collection System of a bank as a case study. The system development process is divided into three phases : system analysis , detailed analysis and design and implementation. The major tools used in the system development are data flow diagram, data dictionary, system flowchart, etc. The manual Bills for Collection System will be enhanced by bringing in the computer system to automate the operations. Computerized Bills for Collection Information System will be obtained as a result of this system development project.

ACKNOWLEDGEMENTS

The author appreciates the contributions of various people who make the completion of this project study possible.

First of all my sincere appreciation and gratitude goes to my project advisor, Assoc.Prof.Dr.Kanchit Malaivongs for his kind advice, valuable discussion, constructive suggestions and continuous encouragement.

I would like to convey my thanks to all members of MS (CIS) Board, Prof.Dr.Srisakdi Charmonman, Dr.Buranawong Sowaprun, Dr.Sudhiporn Patumtaewapibal and Assoc.Prof.Somchai Thayarnyong for providing me the opportunity to pursue the project.

Finally, my heart felt gratitude goes to my parents, for their continuous inspiration and encouragement for pursuing graduate studies at Assumption University.

CHAPTER 1

INTRODUCTION

=====

This chapter describes the background of the problems leading to the development of the proposed system.

1.1 BACKGROUND OF THE PROJECT

There are many services in each bank and one of them is the "BILLS FOR COLLECTION". Bills may be personal cheques, bills of exchange and promissory notes. The **BILLS FOR COLLECTION** collects bills from one province and distribute them to the other eg. One client takes a Chiangmai personal cheque to cash at any branch in Bangkok in order to credit his/her account at that branch. The branch in Bangkok will send that cheque back to Chiangmai for collection and Chiangmai will respond (may be reject or accept, to Bangkok. If the result of the collection is 'accept', that client will receive money. But, if the result of collection is 'reject', that client will receive back the rejected-cheque.

Because of the long distance, the reports are slow, and it takes more response time. Normally they are manually typed in the sophisticate operations. The volume of transactions is high and there are duplication of works. The information sent are inaccurate, not reliable, and the expenses for collection are high.

To solve the above problems, new technologies especially the computers are introduced. Primary, the aims of using the computer are faster credit customer account and to reduce labour-intensive works in producing documents and calculate the commission. However, it can also provide the management with reliable and in-time information.

1.2 OBJECTIVES

The objectives of this system development project are

1. To document the existing work procedures in BILLS FOR COLLECTION INFORMATION SYSTEM.
2. To analyze, design and develop THE BILLS FOR COLLECTION INFORMATION SYSTEM that would provide timely and reliable information.
3. To computerize the handling, maintenance and processing of bills of collection data.
4. To automate the record-keeping task and provide timely and accurate reports.
5. To provide the banking an effective and efficient bills for collection information system.

1.3 SCOPE

The project covers the major parts of the bill collection system which can be categorized as follows

1. Accept bills
2. Send bills for collection
3. Merge and distribute

4. Collect bills
5. Make output media and print collection result
6. Reverse bills and print reports

The interactions of the area under study with other areas are shown in the context diagram (Appendix A), which represents a general picture of the existing system.

The fundamental operations of the proposed system will mainly follow the basic work flow of the existing system.

1.4 SCHEDULE OF THE PROJECT

Gantt chart is used in scheduling this project and is shown in Figure 1.1.



GANTT CHART

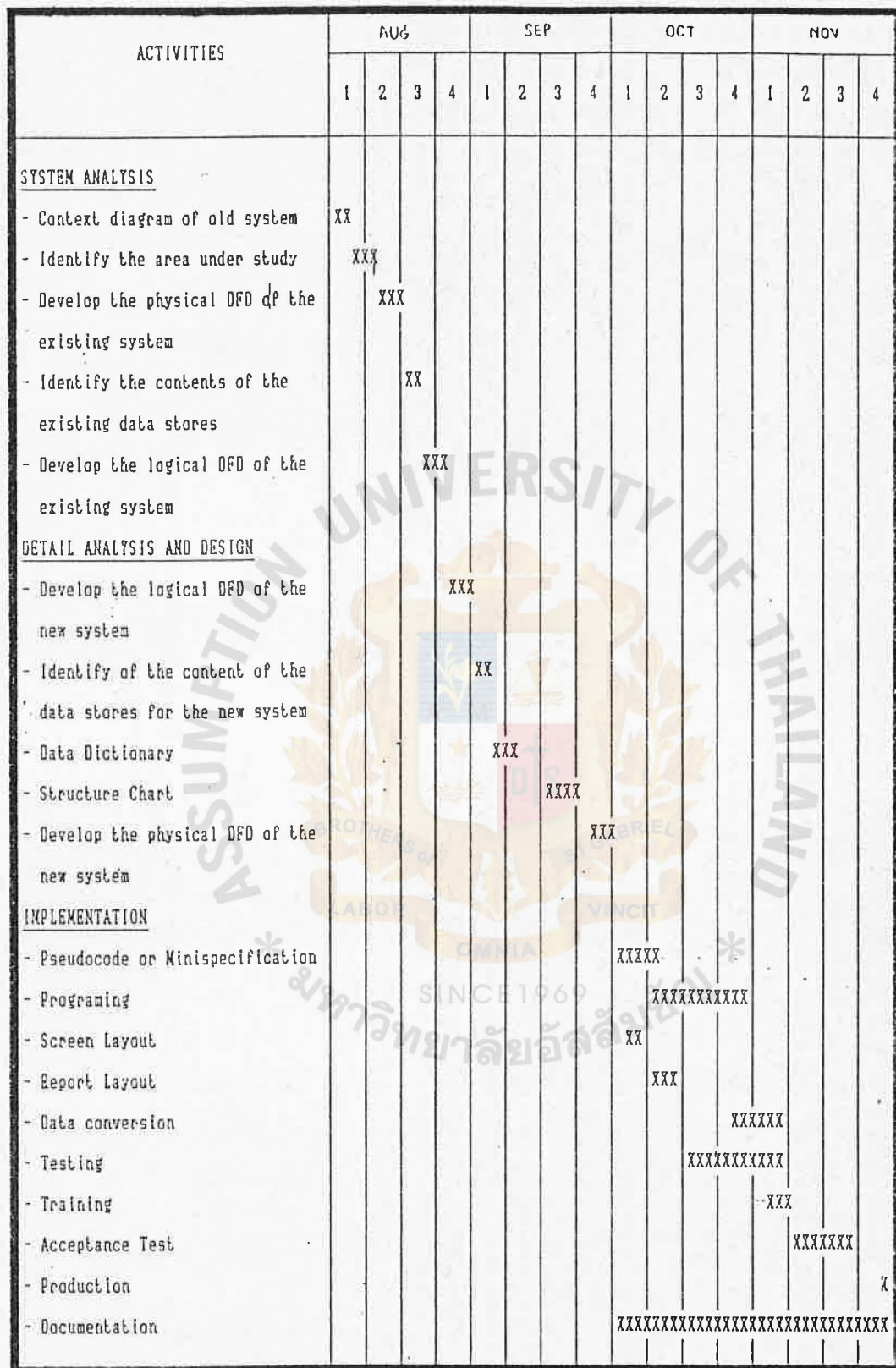


FIGURE 1.1 : PROJECT TIME SCHEDULE FOR

BILLS FOR COLLECTION INFORMATION SYSTEM

CHAPTER 2

EXISTING SYSTEM

=====

This chapter describes the first part of the system analysis phase. The first-half of this Chapter gives information of the area under study. The last is the understanding of the existing system.

2.1 BACKGROUND OF THE ORGANIZATION

This section describes the background and organization of the Assumption Bank (ASB a fictitious name) and the function and organization of the area under study.

The Assumption Bank today is one of the biggest banks in thailand. It was established in 1942. Operation results for past of 1991 of Assumption Bank were again outstanding. The asset of the bank rose past the 300,000 million baht mark for the first time, amounting to 400,000 million baht as at December 31,1990., a year round increase of 52,000 million baht, or 30%. Deposits totalled 16,609 million baht, an increase of 3,000 million baht or 15%, compared to the last year.

Loans rose to 150,000 million baht, up 60,000 million baht or increase of 35% compared with the last year. The bank's credit policy was to give priority to projects which contributed directly to the economic development and provide

greater employment opportunity, such as manufacturing, tourism, import-export, service industries.

Profit from the BILLS FOR COLLECTION in 1991 amounted to 2,000 million baht. After deduction of 700 million baht income tax, net profit came to 1,300 million baht, an increase of 400 million baht or 42%, compared to last year.

A breakdown of the Bank's operating fund by source is as following

1. Shareholder's equity

Shareholder's equity is capital composed of registered paid-up share capital, surpluses from donations, deferred gains (losses) due to exchange rate fluctuations and retained earnings.

2. Deposits from the general public.

ASB has for several years adopted a policy of encouraging the mobilization of savings from the public.

3. Deposits from commercial banks

The Bank of Thailand requires all commercial banks to make loans in the rural sector equivalent to 20% of its outstanding deposits at the end of the previous year.

4. Borrowings from the Bank Of Thailand

The Bank of Thailand has assisted the ASB by purchasing its promissory notes certified by the Ministry of Finance.

2.2 EXISTING BUSINESS FUNCTIONS

ASB functions are as following

1. Deposit Services

ASB is a financial institution providing both credit and saving service. The saving service has been improved to attract more savers, and the management expects this to be an increasingly important source of funds for the credit operation in future.

2. Credit Services

3. Inland services

Inland services such as transfer, letter guarantee, bill for collection etc.

4. Overseas services

Overseas services such as import-export.

2.3 CURRENT PROBLEMS AND NEEDS FOR IMPROVEMENT

2.3.1 Statement of problems

- The expenses for collection are high.
- It takes more response time (14 days).
- It is so difficult and inconvenient to select seven-day-cheque before due-date for collection sending.
- The reports are slow because they are normally manually typed in the sophisticate operations.
- The information sent are inaccurate and not reliable.
- The present volume of transactions are higher than

the past.

- Paperwork is excessive.

2.3.2 The need for improvement

- The use of the computer to reduce labour-intensive work in producing documents.
- To cope with the high volume of transactions.
- To reduce response time from 14 days to 7 days.
- To establish a "Bill For Collection Department" in order to decrease expense for collection.



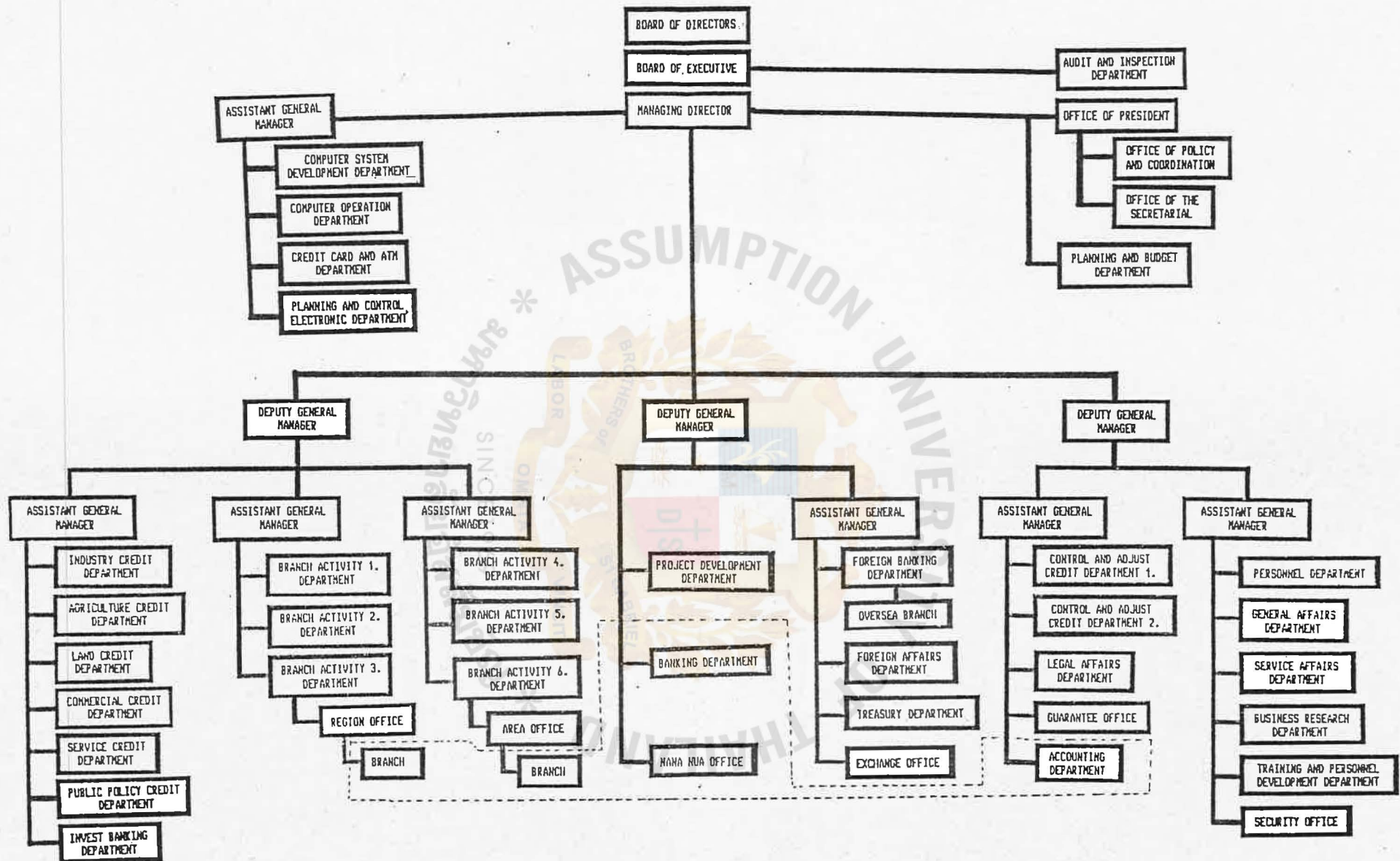


FIGURE 2.1 ORGANIZATION CHART OF ASSUMPTION BANK
AND THE AREA UNDER STUDY

CHAPTER 3

PROPOSED SYSTEM

=====

This chapter describes the detailed analysis and system design. The models of the existing system are used to guide the understanding of data requirements. By the use of these models the new requirements are defined.

3.1 USER REQUIREMENTS

The user requirements are classified into two parts.

3.1.1 Output Requirements

The output requirement are in the form of screen, hard copy and diskette. They are described as the follows

- Display transaction screen

It contains sequent of transaction, destination branch code, our branch, B/C no., drawee account no., drawee bank code, reference no., amount, status of B/C (remarks).

- Transaction report

It contains sequent of transaction, destination branch code, B/C no., drawee A/C no., drawer name, drawee bank code, number of bill, issued date, due date, reference no., amount, status of B/C (remarks).

- Outward B/C card

It contains post-date, B/C no., drawee A/C no.,

customer A/C, drawee bank code, number of bill, issued date, due date, debit amount, credit amount, balance, commission, cable / postage, user-id, status of B/C (remarks) authorized signature.

- Summary slips

There are eight types of summary slips

1. Debit outward domestic B/C
2. Credit liabilities under outward domestic B/C
3. Credit outward domestic B/C
4. Debit liabilities under outward domestic B/C

All of them are contained post-date, total number and total amount of B/C are prepared in the 401 forms. Debit outward domestic B/C contradict with credit liabilities under outward domestic B/C and credit outward domestic B/C contradict with debit liabilities under outward domestic B/C

5. Debit head office A/C 1

It contains date, total number and total amount of B/C which reverse for collection in daily (if reply via online calculate total commission/cable in stead of total amount) and prepared in the 401 form.

6. Credit head office A/C 1

It contains date total number, and total commission/postage for head office and prepared in the 401 form.

7. Credit commission received-inland bills

8. Credit postage, cable & radiophone received.

Both of them (item 7 - 8) are income of our branch. They contain post-date, total number and total commission/postage of B/C which reverse. They are prepared in the 401 form.

- Advice of bills for collection

There are two types of advice

1. Reverse collection by M/T, T/T or Telephone. It contains B/C no., drawer A/C no., drawee bank code, bill no., due date, amount, reply via, remarks, and total amount. Each slip contains three items.

2. Reverse collection by online. It contains B/C no., drawer A/C no., drawee bank code, bill no., due-date, amount, reply via, remarks, customer A/C no., customer name, commission, postage, proceed. Each slip contains only one item.

- Debit advice

It is notification slip of collection result back to head office a/c l. It contains A/C no., reference no., amount, total amount, and each slip comprises three items. It is prepared in the 401 form.

- Advice to customer

It is credit note notified to customer that our branch have credited amount to his/her account by online. It contains customer A/C no., customer name, B/C no., bill no., drawee bank code, reference no., credit B/C date, amount and it is prepared in the 401 form.

- Credit customer A/C

It is credit note notified to customer that our branch have credited amount to his/her account. It use for B/C replys via M/T, T/T, or Telephone and it contains customer a/c no., customer name, B/C no., drawee bank code, reference no., amount. If head office received commission, amount is amount on bill deduct with commission.

- Credit commission received-inland bills.

It is commission credit note which is income of our branch. It contains customer a/c, customer name, B/C no., bill no., drawee bank code, amount, collection result, commission. It use for B/C replys via M/T , T/T or Telephone only and prepared in the 406 form.

- Credit cable/postage

It is cable/postage credit note which is income of our branch. It contains customer a/c, customer name, B/C no., bill no., drawee bank code, amount, collection result, cable /postage. It use for B/CN reply via M/T, T/T or Telephone and prepared in the 406 form.

3.1.2 Input requirements

The input requirements for the system are as follow

- All branch table
- Commission rate and minimum commission
- Detail of cheques
- Customer a/c no. and customer name

- Our branch table
- Identification number and password for teller table
- Identification number and password for supervisor table
- Reference no.
- Collection result
- Returned reason

The proposed system requirements serve as a bridge between the existing system's models and the proposed system's models. Without these proposed system requirements, there would be no difference between the existing and the new models.

3.2 SYSTEM DESIGN

The objective of the system design is to convert the requirements into a computer solution. The users requirements explain what must be done, the design tells how to do it.

The context diagram and data flow diagram of the existing system and the users requirements are used as a basic for the development of the model of the proposed system. There are two models for the proposed system. The first is the context diagram and the second is the data flow diagram. These models are shown in Appendix A. The completed data dictionary is defined in Appendix E.

The six tasks of design are described in the following sections.

3.2.1 Output design

The output is in the form of hard copy or screen or data set on diskette. The output design is described as follows

3.2.1.1 Display transactions screen

- It gives the information of all transactions in one day.
- It contains sequent of transactions, destination branch code, ourbranch code, B/C no., drawer account no., drawee bank code, reference no., amount, status of B/C (remarks).
- The meaning of abbreviation status are
 - Out = Adding outward
 - Cor out = Correct outward
 - Del out = Delete outward (cancel outward)
 - Rev = Reverse
 - Cor rev = Correct reverse
 - Del rev = Delete reverse (cancel reverse)
 - Onl = Online

3.2.1.2 Transaction reports

- It gives the information of all transactions in one day.
- It contains sequent of transactions, destination branch code, B/C no., drawer a/c no., drawer name, drawee bank code, no. of bill, issued date, due date, reference no., amount, status of B/C (remarks).

- The meaning of abbreviation status are

Out = Outward

Rev = Reverse

Cor = Correct

Del = Delete

Rtd = Return

Coll = Collect

Onl = Online

Number (1-28) = reason of return

- It is prepared on a continuous form size 11 x 15 inches.

3.2.1.3 Outward B/C cards

- It gives the balance and details of B/C of each destination branch.
- It contains date, B/C no., drawer a/c no., customer a/c, drawee bank code, no. of bill, issued date, due date, debit amount, credit amount, balance, commission, cable/postage, user-id, status of B/C (remarks), authorize signature.
- It is used for checking remained outstanding B/C.

3.2.1.4 Summary slips

There are 8 types of summary slips

1. Debit outward domestic B/C

- It gives date, total number and total amount of B/C sent for collection.

- It prepares in the 401 form.
 - It uses in original branch.
2. Credit liabilities under outward domestic B/C
- It gives date, total number and total amount of B/C sent for collection.
 - It is prepared in the 401 form.
 - It uses in original branch.
3. Credit outward domestic B/C
- It gives date, total number and total amount of B/C reverse for collection.
 - It is prepared in the 401 form.
4. Debit liabilities under outward domestic B/C
- It gives date, total number and total amount of B/C reverse for collection.
 - It is prepared in the 401 form.
5. Debit head office a/c 1
- It contains date, total number, and total amount of B/C which reverse for collection by M/T, T/T or telephone.
 - It contains date, total number and total commission/cable of B/C which reverse for collection by online.
 - It is distributed to collection division.
 - It is prepared in the 401 form.
6. Credit head office a/c 1

- It is commission which head office received.
- It contains date, total number, total commission and postage for head office.
- It is distributed to collection division.
- It is prepared in the 401 form.

7. Credit commission received-inland bills

- It is commission which our branch received.
- It contains date, total number, and total commission of B/C which reverse for collection by M/T, T/T or telephone.
- It contains date, total number and total commission of B/C which reverse for collection by online.
- It is contradictory with debit head office a/c 1.
- It is prepared in the 401 form.

8. Credit postage, cable & radiophone received

- It is postage which our branch received.
- It contains date, total number and total postage of B/C which reverse for collection by online .
- It is prepared in the 401 form.

3.2.1.5 Advice of bills for collection

There are 2 types of advice

1. Reverse collection by M/T, T/T or telephone

- It contains B/C no., drawer a/c no., drawee

bank code, bill no., due date, amount, reply via, remarks and total amount.

- Each slip comprises three items.
- It is distributed to collection division.

2. Reverse collection by online

- It contains B/C no., drawer a/c no., drawee bank code, bill no., due date, amount, reply via, remarks, customer a/c no., customer name, commission, postage, proceed.
- Each slip contains only one item.

3.2.1.6 Debit advice

- It is notification slip of collection result back to head office a/c 1
- It contains B/C no., reference no., amount, total amount.
- Each slip comprises three items.
- It is distributed to accounting department.
- It is prepared in the 401 form.
- There are two types of advice

1. Debit advice

- It uses for collection result is collected.
If reply via online, the amount is commission.

2. Credit advice

- It uses for collection result is returned.
- It credits commission to head office a/c 1.

3.2.1.7 Advice to customer

- It is credit note notified to customer that our branch have credited amount to his/her account by online.
- It contains customer a/c, customer name, B/C no., bill no., drawee bank code, reference no., credit a/c date, amount.
- It uses for B/C reply via online only.
- It is distributed to customer.
- It is prepared in the 401 form.

3.2.1.8 Credit customer a/c

- It is credit note notified to customer that our branch have credited amount to his/her account.
- It contains customer a/c, customer name, B/C no., amount.
- It uses for B/C reply via M/T ,T/T or telephone.
- It is distributed to customer.
- It is prepared in the 405 form.
- If head office received commission, amount is amount on bill deduct with commission.

3.2.1.9 Credit commission received-inland bills

- It is commission credit note which is income of our branch.

- It contains customer a/c, customer name, B/C no., bill no., drawee bank code, amount, collection result, commission.
- It uses for B/C reply via M/T, T/T or telephone only.
- It is prepared in the 401 form.

3.2.1.10 Credit cable/postage

- It is cable / postage credit note which is income of our branch.
- It contains customer a/c, customer name, B/C no., bill no., drawee bank code, amount, collection result, cable/postage.
- It uses for B/C reply via M/T, T/T or telephone only.
- It is prepared in the 406 form.

3.2.1.11 Sent outward B/C

- It uses for sent all B/C automatically by diskette 3.5" to collection division.
- It comprises two parts

Part I (Header) contains transaction date, transfer flag (* = reverse already), total cheque, total amount, total B/C cheque, total B/C amount, total IBP cheque, total IBP amount.

Part II (Detail) contains our branch code,

destination branch, B/C year, B/C no.,
cheque no., cheque amount, due date, result
status, return reason, reference no., reply
via, bank code, a/c no., a/c name,
commission amount, cable/postage amount.

- It is suitable for high volume transaction.

The summary of output design is shown in table 3.1

The report format and samples are shown in the Appendix c

3.2.2 Input design

There are seven inputs for this system. The media may be diskette, hard disk and source document. The details of the input are as follows

3.2.2.1 All branch table

- It gives all branch information of The Assumption Bank.
- It contains branch code, Thai abbreviation name, Thai full name, English abbreviation name, English full name, clearing area, last B/C no. and some printing flag.
- The media is hard disk.

3.2.2.2 Commission rate and minimum commission

- Commission rate used to calculate commission and calculated commission net less than minimum commission.
- It contains commission rate and minimum

commission.

- It can change according to bank policy.
- The media is hard disk.

3.2.2.3 Detail of cheque

- It gives all information of cheque for key-in outward menu.
- It contains bank code, drawer a/c no, cheque no., due date, amount, destination branch.
- It is received from customer.
- The media is source document (bill).

3.2.2.4 Customer a/c no. and customer name

- customer is a person who has a/c no. in our branch and take bill for credit in his/her account.
- The media is source document (pay-in slip).

3.2.2.5 Our branch table

- It gives our branch information.
- It contains branch code, Thai abbreviation name, Thai full name, English abbreviation name, English full name, address, business register.
- The media is hard disk.

3.2.2.6 Identification number and password for teller table

- It gives id. and password for tellers.

- It used for security control.
- It can change available.
- The media is hard disk.

3.2.2.7 Identification number and password for supervisor table

- It gives id. and password for supervisor.
- It used for security control in reversing B/C.
- It can change available.
- The media is hard disk.

3.2.2.8 Collection result

- It is result of collection bills. There are two types of result, one is collected (customer will be credited account) another one is returned (customer can not be credited account and that bill will return to customer).
- If collection result is collected. There will be reference no.
- If collection result is returned. There will be returned reason (1-28).
- Collection result is received from collection division .
- The media is diskette and source document.

3.2.2.9 Reference no.

- It is one kind of security control.

- It is used for collection result which is collected only.
- It contains thirteen digits.
- The media is diskette and source document.

3.2.2.10 Returned reason

- It is used for collection result which is returned only.
- There are variety reasons (1-28).
- It is notified to the customer why that bill be returned.
- The media is diskette and source document.

3.2.2.11 Received outward B/C

- It is used for reverse all B/C automatically by diskette 3.5".
- It is suitable for high volume transaction.
- It comprises two parts

Part I (Header) contains transaction date, transfer flag (* = reversed already), total cheque, total amount, total B/C, total B/C amount, total IBP cheque, total IBP amount.

Part II (Detail) contains the branch code, destination branch, B/C year, B/C No., cheque no., cheque amount, due date, result status, return reason, reference no., reply via, bank code, a/c no., a/c name, commission

amount, cable/postage amount.

The summary of inputs is shown in Table 3.2



Table 3.1 Summary of Outputs

No.	Output name	Freq	User	Media
1	Display transaction screen	O	T	SC
2	Transaction reports	P	T	HC
3	Outward B/C cards	P	T	HC
4	Summary slips	D	T	HC
5	Advice of bills for collection	D	T	HC
6	Debit advice	D	T	HC
7	Advice to customer	D	T	HC
8	Credit customer A/C	D	T	HC
9	Credit customer received - inland bills	D	T	HC
10	Credit cable / postage	D	T	HC
11	Sent outward B/C	D	S	DK

Table 3.2 Summary of Inputs

No.	Output name	Freq	User	Media
1	All branch table	O	S	HD
2	Commission rate and minimum commission	O	S	HD
3	Detail of cheque	O	T	SD
4	Customer A/C no. and customer name	O	T	SD
5	Our branch table	D	S	HD
6	Identification number and password for teller table	D	T	HD
7	Identification number and password for supervisor table	D	S	HD
8	Collection result	D	T	SD,DK
9	Reference no.	O	T	SD,DK
10	Returned reason	O	T	SD,DK
11	Received outward B/C	D	S	DK

T = Teller O = On request HC = Hard copy
 S = Supervisor DK = Diskette 3.5" SC = Screen
 P = Period HD = Hard disk
 D = Daily SD = Source Document

3.2.3 Procedure design

The procedure design is described below

- Verify bills
- Add bills in ourward file
- Extract bills
- Add bills for collection
- Print outward report
- Make input media
- Merge and distribute media
- Print advice
- Distribute bills
- Verify drawee's balance
- Print return-result
- Debit drawee's A/C
- Credit customer's A/C by online
- Merge same original branch together
- Make output media
- Print collection result
- Reverse bills
- Print reports & slips

The clear picture of these procedures is described by the flow diagram of the proposed system in Appendix A.

3.2.4 Data design

There are two steps in data design process. The first is redefining the data dictionary. The second is identifying the

contents of the data stores for the new system. The data dictionary and data stores of the proposed system are used to be the basis of the data structure which is shown in the Appendix E. Data structures will be used in the programming phase.

3.2.5 Program design

Data flow diagrams of the proposed system are derived into the structure charts which are shown in Appendix D. After that, minispecs are developed by using input, output, structure chart and data structures. Programs of this system are developed with QUICK BASIC version 4.5. The program description is shown in table 3.3 . The minispecs and program coding are provided in the reference manual.

Table 3.3 Program description

No.	Program name	Description
1	TOBCOADD	Added outward bills into transaction file and outstanding-file.
2	TOBCOCOR	Corrected outward bills in outstanding-file.
3	TOBCODEL	Deleted outward bills in outstanding-file.
4	TOBCRADD	Reversed bills in outstanding-file and reversed-file.
5	TOBCRCOR	Corrected reversed-bills in outstanding-file and reversed-file.
6	TOBCRDEL	Deleted reversed-bills in outstanding-file.
7	TOBCDSP	Show transactions on screen.
8	TOBCTST	Print transactions report.
9	TOBCCRD	Print outward B/C on branch-card.
10	TOBCSUM	Print summary slips.
11	TOBCADV	Print advice of bills for collection
12	TOBCBRC	Print debit advice.
13	TOBCNTF	Print advice to customer.

Table 3.3 Program description (cont)

No.	Program name	Description
14	TOBCCUS	Print credit customer A/C slips.
15	TOBCCOM	Print credit commission slips.
16	TOBCPOS	Print credit cable/postage slips.
17	TOBCSORT	Sorting B/C which reply via M/T, T/T or telephone.
18	ONBCSORT	Sorting B/C which reply via online.

3.3 HARDWARE AND SOFTWARE REQUIREMENTS

3.3.1 Hardware requirements

The system will be developed on a microcomputer, One set for each branch.

Each microcomputer set comprises of the following facilities.

3.3.1.1 Hard disk

The hard disk are required for

- Application program

approximate program = 18 programs

approximate byte in one program = 35,000 bytes

so, approximate storage for application program

is $18 \times 35,000 = 630,000$ bytes

- Data files

There are 2 storages required for data area. One is resident file area, another is temporary file area. The branch file, customer file and commission file are resident files. Transaction file and merged file is temporary files. The resident files must be kept for ever and can be changed. The temporary file takes place while the job is running , after that it will be deleted.

The following tables show storage requirements for both resident files and temporary files.

Table 3.4 Storage requirements for temporary file

No.	File name	Rec size (byte)	Maximum record	Byte
1	Transaction file	128	1000	128,000
2	Outward file	128	1000	128,000
3	Merge file	128	400	51,200
Total				307,200

Table 3.5 Storage requirements for resident file

No.	File name	Rec size (byte)	Maximum record	Byte
1	Branch file	128	500	64,000
2	Customer file	128	200	25,600
3	Commission file	128	1	128
4	Id, password file	128	10	1,280
5	Our-branch file	128	1	128
6	Outstanding file	128	1000	128,000
7	Reverse file	128	1000	128,000
Total				347,136

The total storage required for data area which includes resident files, temporary files and 20% plus for the reserved area is

$$347,136 + 307,200 + (347,136 + 307,200) \times 20 \% \\ = 785,20 \text{ bytes}$$

The total storage required for both application program and data area is $785,203 + 630,000$

$$= 1,415,203 \text{ bytes or } 1.4 \text{ Megabytes}$$

3.3.1.2 CPU ; AT 80286-12 (16 MHz)

3.3.1.3 Disk drive 3.5", 2 drives

3.3.1.4 CRT ;VGA

3.3.1.5 Dotmatrix Printer ,speed 300 cps

3.3.2 Software requirements

The system will use the QUICK BASIC version 4.5 and Thai-driver names THAIPRO.

3.3.3 Other resource requirements

The other resources requirements of this system are as follow:-

- Development team
- Users co-ordinator
- Continuous paper
- Conference room
- Calculator

3.4 SECURITY AND CONTROL

3.4.1 Security

- There must be a back up diskette 3.5" for data.
- The confidential reports must be produced only when the supervisors requested. The tellers must not produce the copy of reports more than the number that supervisors requested.
- The system must accept id. and password for any accessing to protect data files from unauthorized access.
- The employees would be educated to aware of the data security and privacy.
- Reference numbers which generated from destination branch must are the same as original received.

3.4.2 Control

- All processes must have audit trails.
- Analyze and interpret the result.
- Test result that meet specifications should be reviewed and approved by the user and the analyst.
- Force the program coding and document to be in the same way to the standard of the bank.

3.5 ECONOMIC COST COMPARISON

Economic cost comparison shows the cost/benefit analysis of the proposed system. This section presents the tangible benefits, intangible benefits, system costs and provides cost/benefit analysis.

3.3.1 Tangible benefits

This proposed system tangible benefit is commission and postage.

commission & postage (1 branch) = 40,000 baht/year

so, overall commission & postage (400 branches)

= 40,000 x 400

= 16,000,000 baht/year

3.3.2 Intangible benefits

The proposed system provides the intangible benefits as follows:-

- Provide the operational function which will save time, cost and eliminates the redundant operation.
- Proposed system can increase the degree of

effectiveness.

- Give more satisfaction to customers.
- This development should also be served as a guideline for the further development of the B/C information system in the second phase.

3.3.3 System costs

Costs are divided into annual operating costs, investment costs and implementation costs.

3.3.3.1 Annual operating costs (per branch)

	Baht/year
- Printer ribbon	1,000
- Continuous paper	
9" x 11" ,3 boxes @ 400 baht	1,200
11" x 15" ,1 box	500
- Diskettes 3.5" high density ,1 box	800
- Maintenance services	4,000
Hardware renting	
- Microcomputer, AT 80286-12 (16 MHz)	
main memory 1 MB on board,	
disk drive 3.5", 2 drives	
(1.2 MB,360 KB)	40,000
- Dotmatrix printer, speed 300 cps	12,500

Total of annual cost	60,000
	=====

So, overall annual operating cost (400 branches)

$$= 60,000 \times 400$$

$$= 24,000,000 \text{ baht}$$

3.3.3.2 Investment costs

There are 2 types

3.3.3.2.1 Software cost

Baht

- Cost of analysis and design project 2,000,000

- Programming cost 1,000,000

- Other cost 30,000

3.3.3.2.2 Implementation cost

The implementation cost for training 800,000

So, overall investment costs 3,830,000

Because of these hardwares are used not only on this project (B/C) but also on gift cheque and cashier cheque which have commission 30,000* baht/year/branch. So, overall commission (400 branches) on gift-cheque and cashier-cheque are 12,000,000 baht/year

ie. overall commission and postage on B/C and gift-cheque and cashier cheque

$$= 12,000,000 + 16,000,000 \text{ baht}$$

$$= 28,000,000 \text{ baht/year}$$

Conclusion:

Overall commission and postage	=	28,000,000 Baht/year
Less overall annual operating cost	=	24,000,000 Baht/year
Less overall investment cost	=	3,830,000 Baht/year

Income = 170,000 Baht/year
=====

So, The new system has the trade-off period within one year.



CHAPTER 4

IMPLEMENTATION

=====

This chapter describes the implementation of the proposed system. Several aspects of system implementation are also discussed.

4.1 PROGRAMMING

The programming phase converts the system design into executable computer programs. This process is performed with the QUICK BASIC version 4.5 compiler.

The programmer works under two constraints: program specifications and program commands available in QUICK BASIC language. There is no guarantee that an executable program meets the requirements until it is tested.

The three tasks that the programmer must perform during this phase are described in the following sections.

4.1.1 Program specifications

The system design is transcribed into program specifications which are in the reference manual.

4.1.2 Program coding and compiling

This task requires that the programmers use the command structure of QUICK BASIC language to write programming statements. The program codings are kept in the reference

manual. After the programs have been written, it will be compiled into an executable program.

4.2 TESTING

A typical computer program contains many logic paths, each of which must be tested to verify that program is producing correct output information from supplied input data.

The levels of testing for this system should be classified into 4 levels

4.2.1 Module testing

A module can be classified as an integral part of program with its own entry and return point and specific functions to perform.

Module testing is performed by the development team from Computer Department. To isolate individual module for testing, it is necessary to simulate the calling module and any called submodules. The module being tested is passed sets of input data from the driver that have been created to test each logic path within the module. The information returned to driver can be printed and verified against the expected results.

4.2.2 Program testing

Program testing is also performed by the development team.

4.2.3 System testing

System or string testing refers to the level of testing in which each program is linked to the other programs

that make up the total system. The data is then run through the entire system.

4.2.4 Acceptance testing

Acceptance testing comprises two areas: user acceptance testing and operations acceptance test.

4.2.4.1 User acceptance testing

The users have responsibility to ensure that the system functions according to their expectations and not just to those of the system developers. For this reason, users should prepare their own test data and run their own tests prior to signing off on the system.

4.2.4.2 Operation testing

To ensure that the proposed system will function in the production environment without adversely affecting existing applications, operations must conduct its own testing in a simulated production environment. The intent of this testing is not to check the accuracy of the results but to ensure the operational adequacy of the system and the instructions.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

From the existing system study of the job monitoring system, it is found out that the overall processing system is delayed, especially crediting customer's account because of the weakness of the existing manual system and high volume of transaction. Most of the processes have to be prepared again and again. Some of the valuable documents are lost during the processing.

After interviews with manager, supervisor and staff, the requirements of the system are stated. The users want a fully automated system with better filing system. The new job monitoring system is developed for them as shown in this project.

Most of the processes of the new system are computerized. The data are kept in the computerized filing system which would be more easily accessible and retrived. The reports are generated automatically. The economic cost comparison shows that the new system has the trade-off period within one years.

The new system is designed to perform its activities which are best suited to all of the users requirements at a resonable cost.

After a brief testing , the system is found to be very helpful in the bill collection process. Collection time can really be reduced as expected.

5.2 RECOMMENDATIONS

At present one personal computer is being used for GIFT-CHEQUE, CASHIER-CHEQUE and BILL FOR COLLECTION. But customers and volume are increasing day by day. In order to meet the demands of customers, it is difficult for getting the work done by only one personal computer. So in future, Local Area Network is recommended to answer the problem of getting the work delayed.

Local Area Network (LAN) is a network of an interconnected collection of autonomous computers. It has many advantages such as follows:

- Incremental growth : A computing system based around a LAN has the ability to expand easily.
- Placing power where it is needed and used.
- Sharing : It has the ability to share resources between users of the network.
- Computing power, be it processors or peripherals can be physically placed where it is needed and used.
- Autonomy : Each node can retain as much local autonomy as it pleases.

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APPENDIX
A
CONTEXT DIAGRAM
AND
DATA FLOW DIAGRAM

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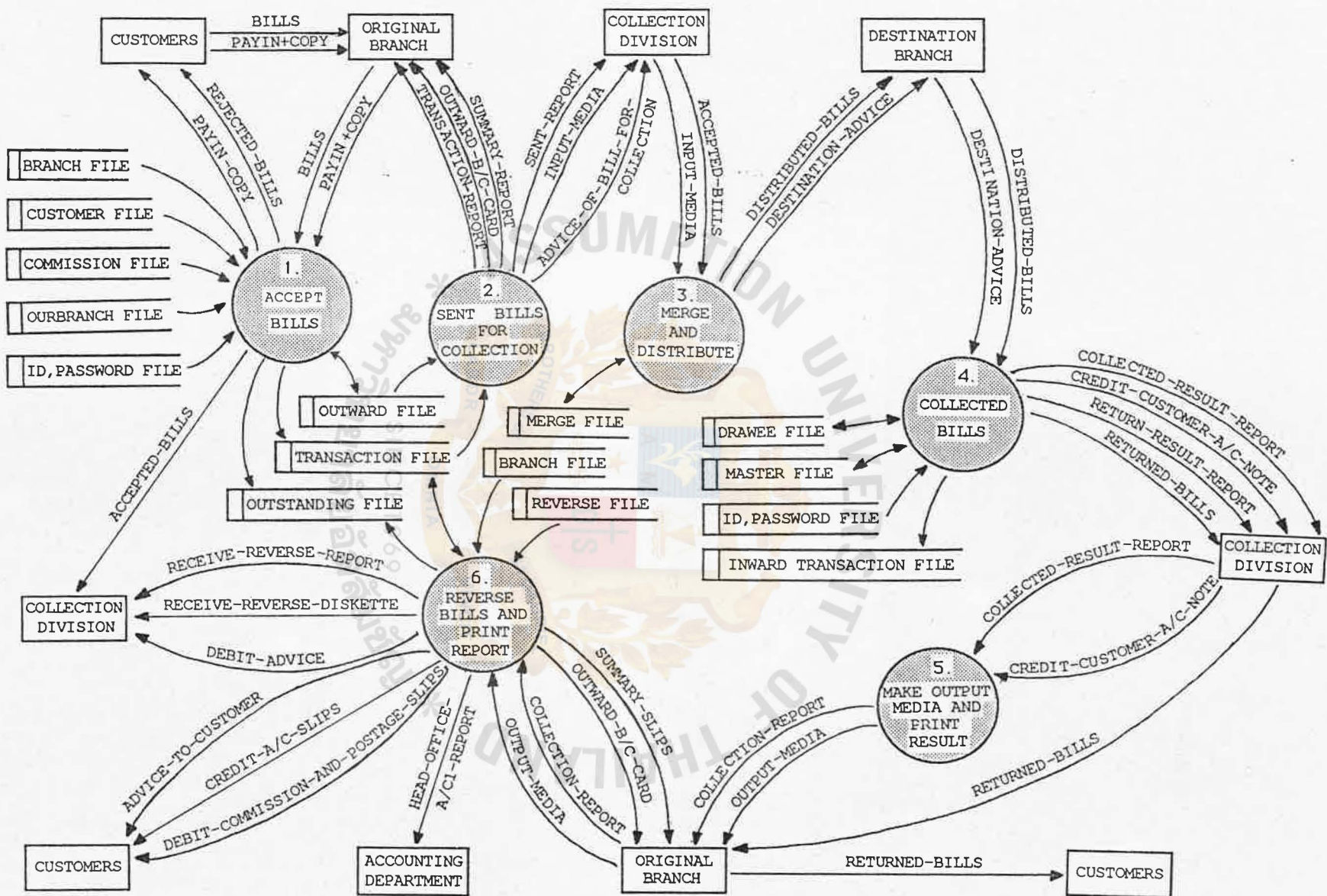


FIGURE A.2 : DFD LEVEL 0
BILLS FOR COLLECTION INFORMATION SYSTEM

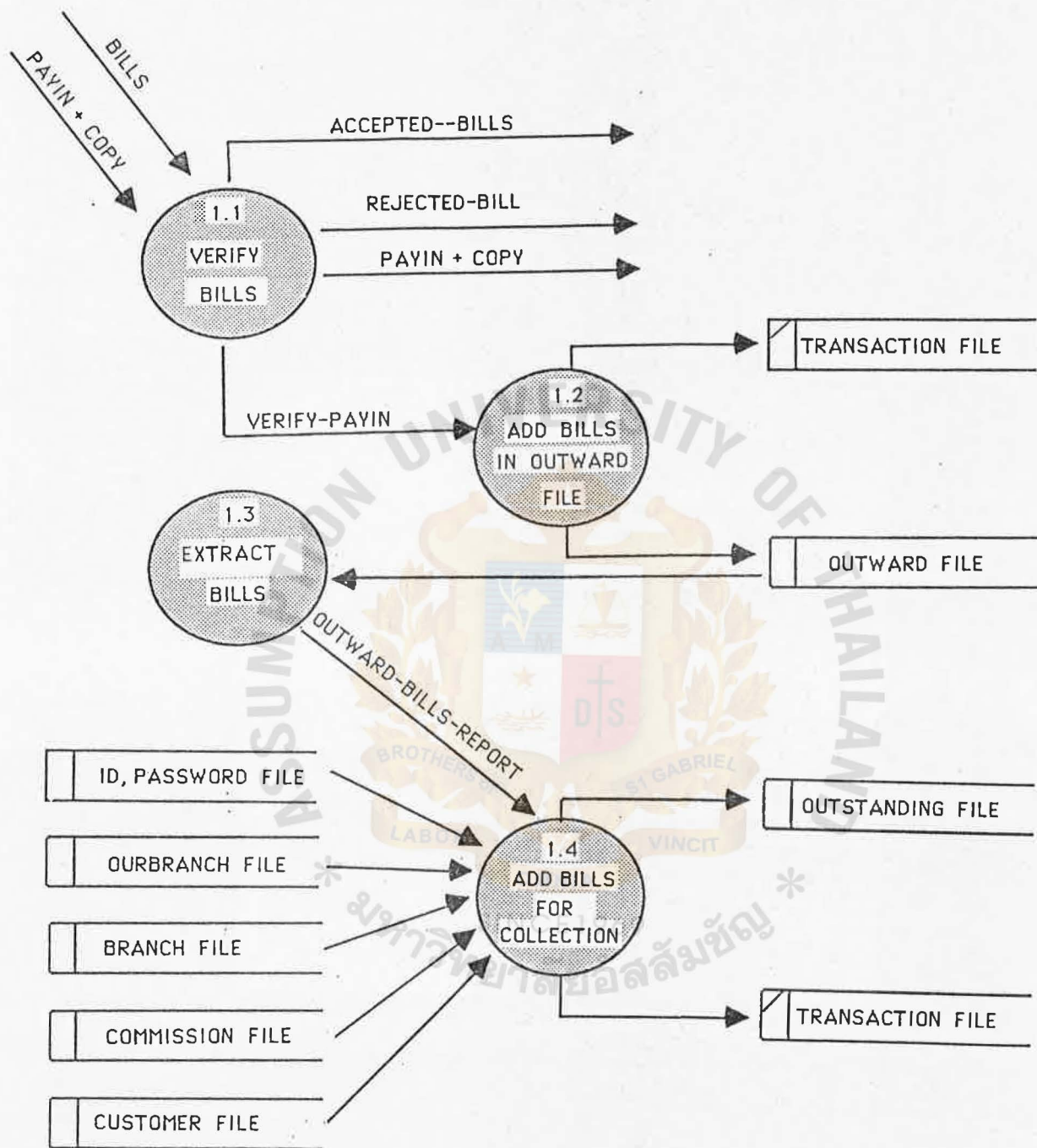


FIGURE A.3 : DFD LEVEL 1

DIAGRAM 1 : ACCEPT BILLS

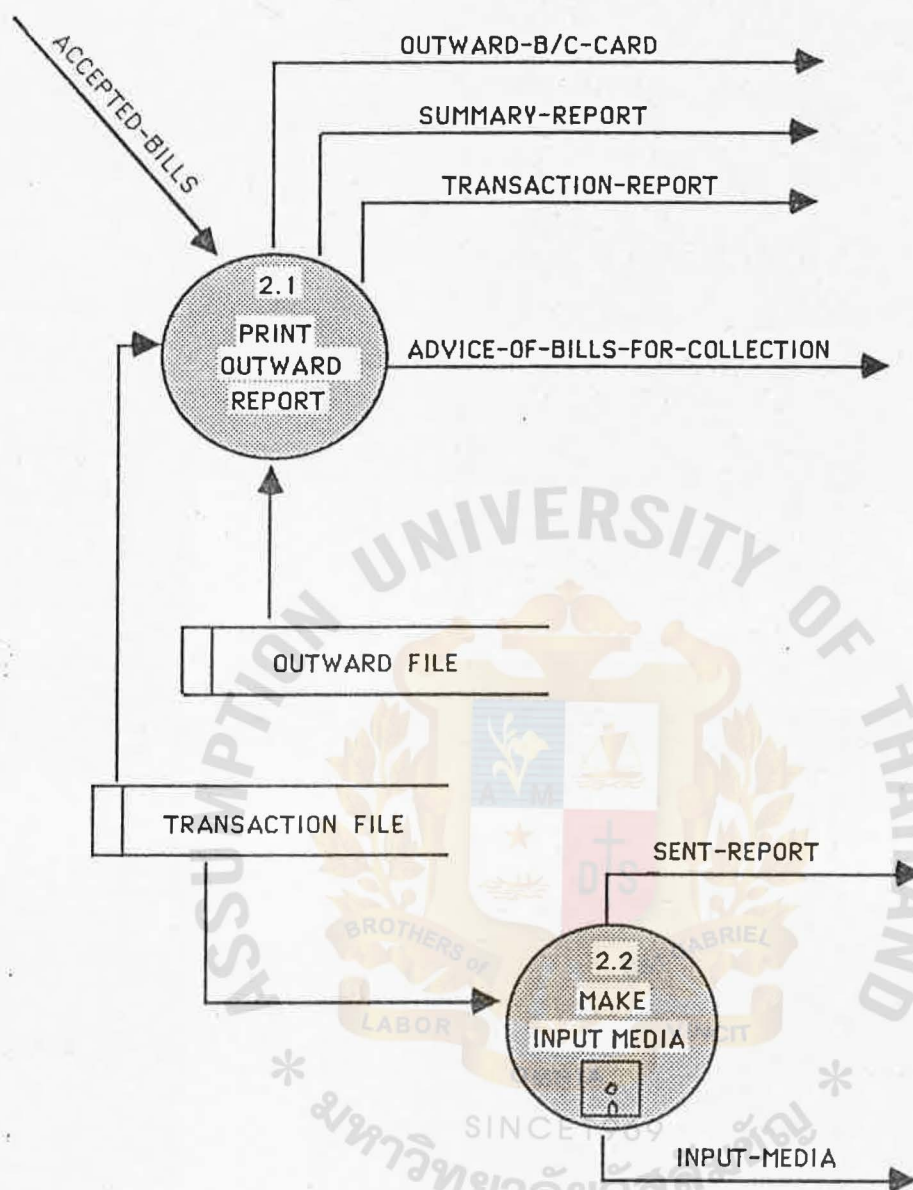


FIGURE A.4 : DFD LEVEL 1
 DIAGRAM 2 : SENT BILLS FOR COLLECTION

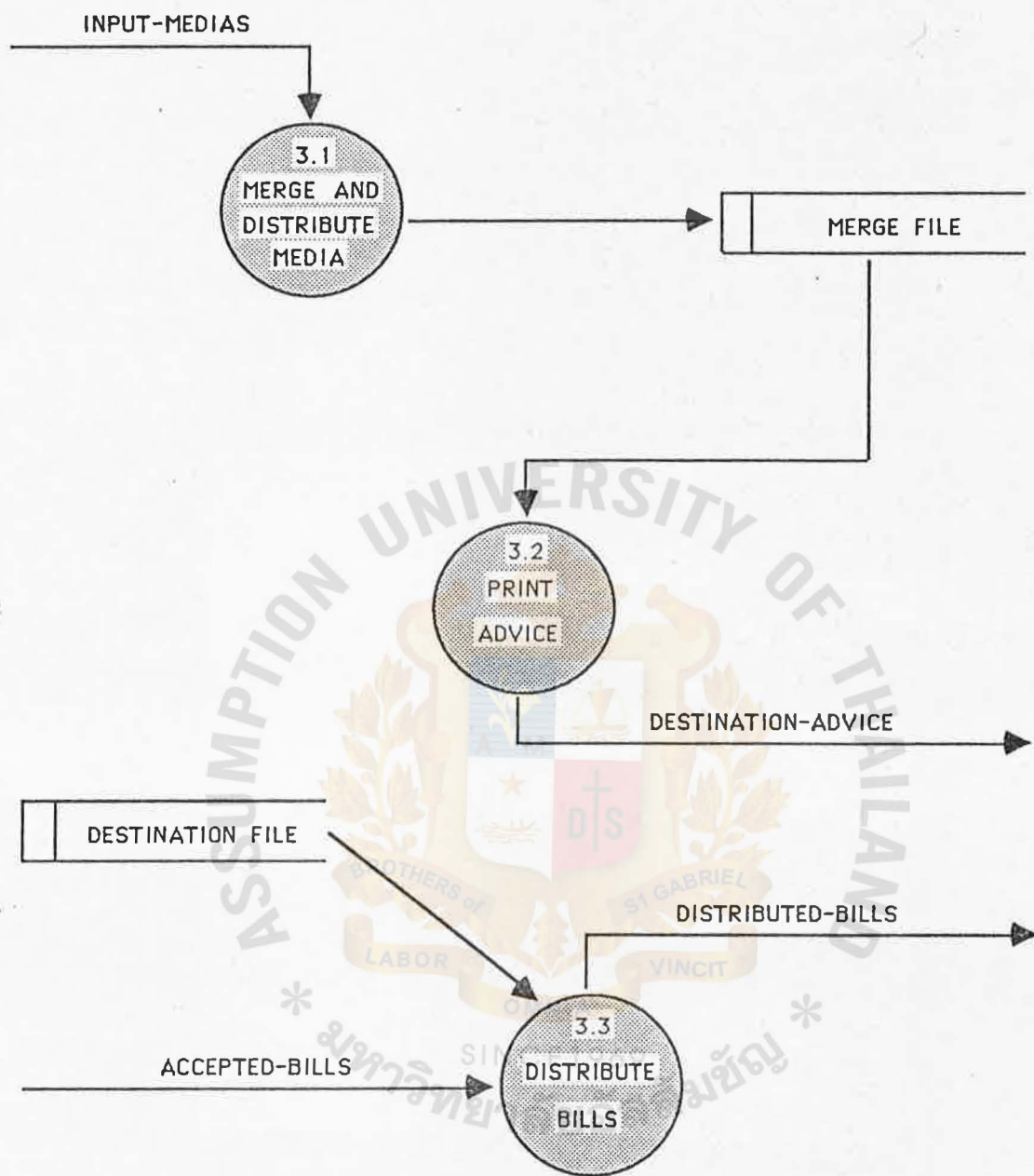


FIGURE A.5 : DFD LEVEL 1
DIAGRAM 3 : MERGE AND DISTRIBUTE

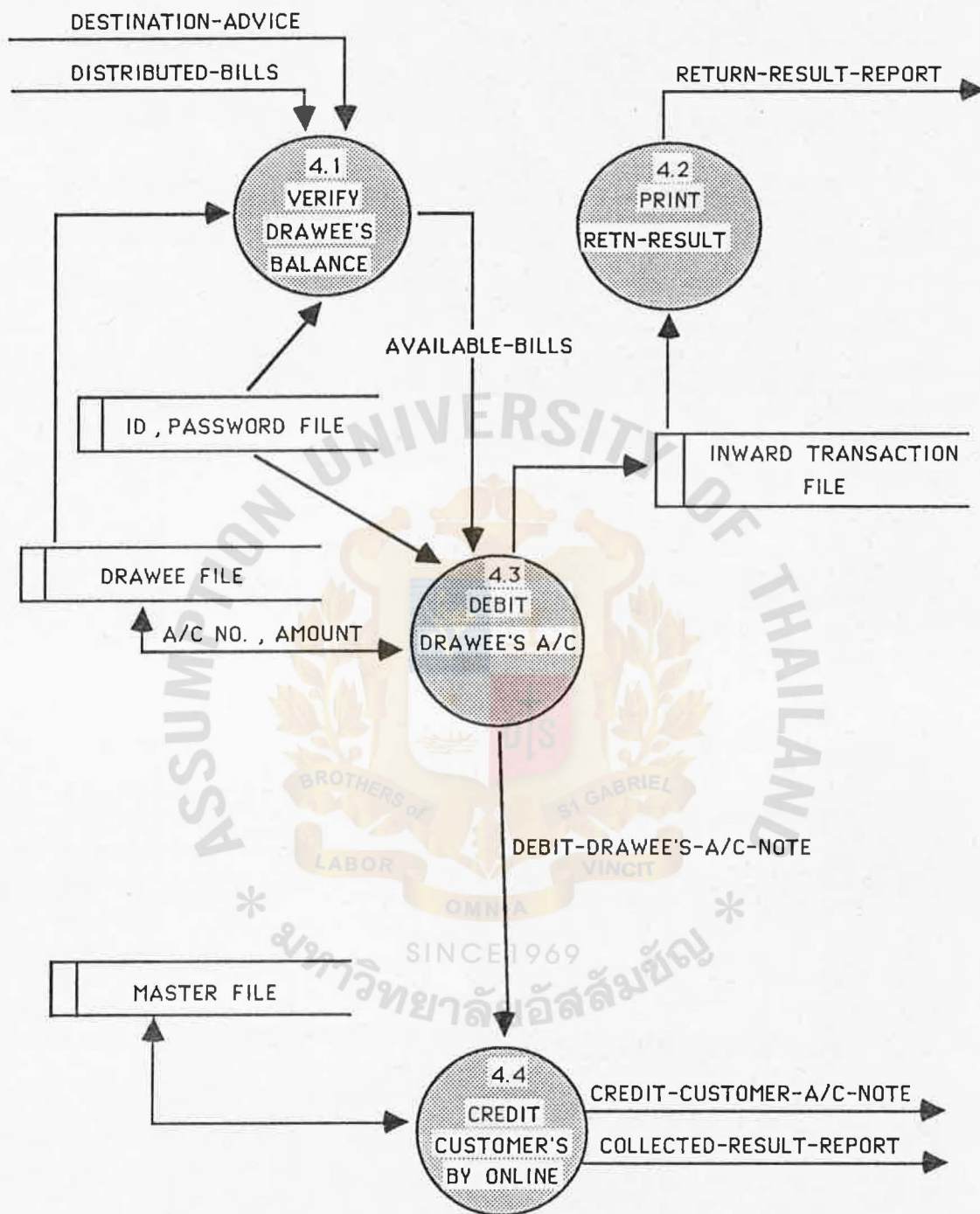


FIGURE A.6 : DFD LEVEL 1
DIAGRAM 4 : COLLECTED BILLS

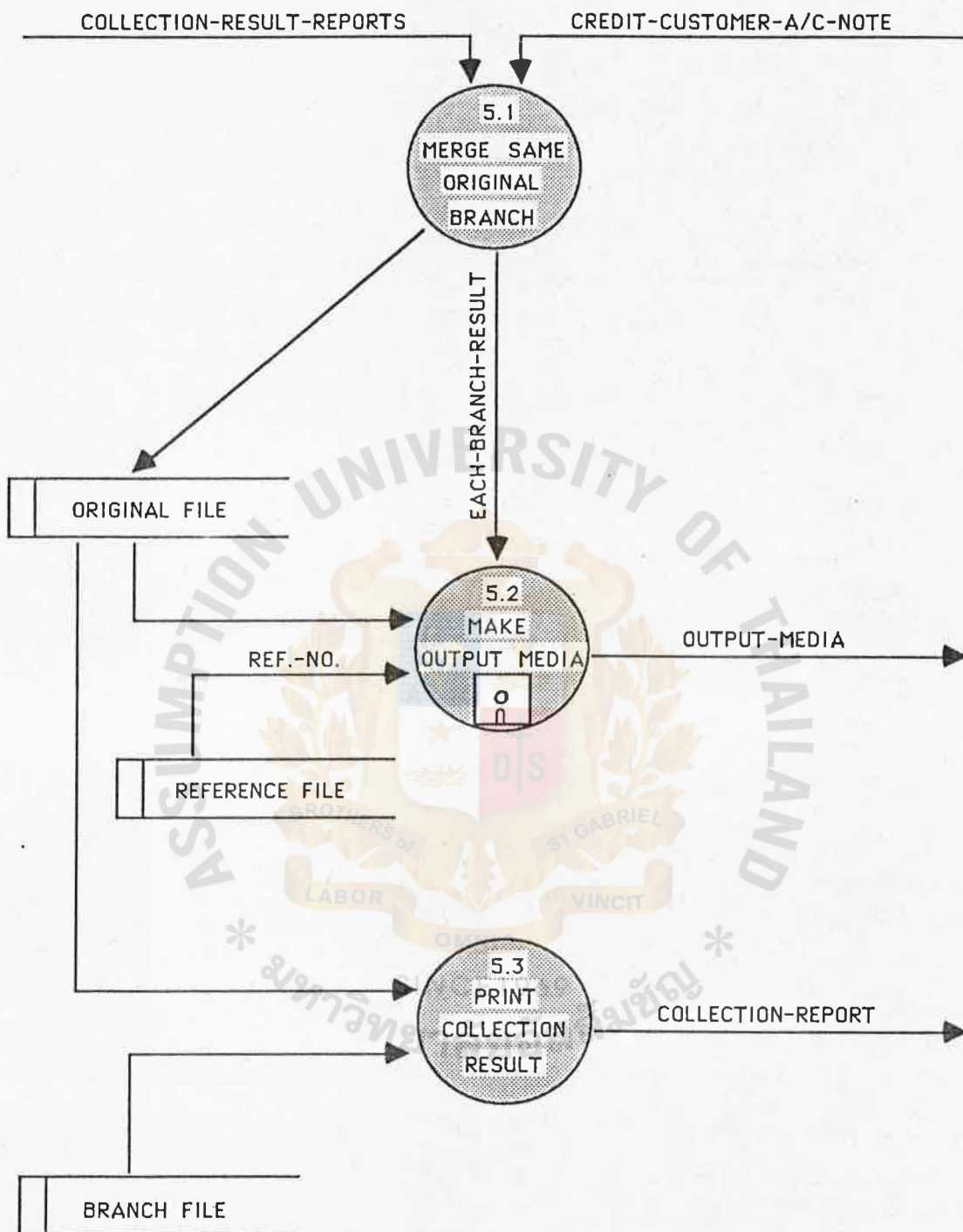


FIGURE A.7 : DFD LEVEL 1

DIAGRAM 5 : MAKE OUTPUT MEDIA AND PRINT COLLECTION RESULT

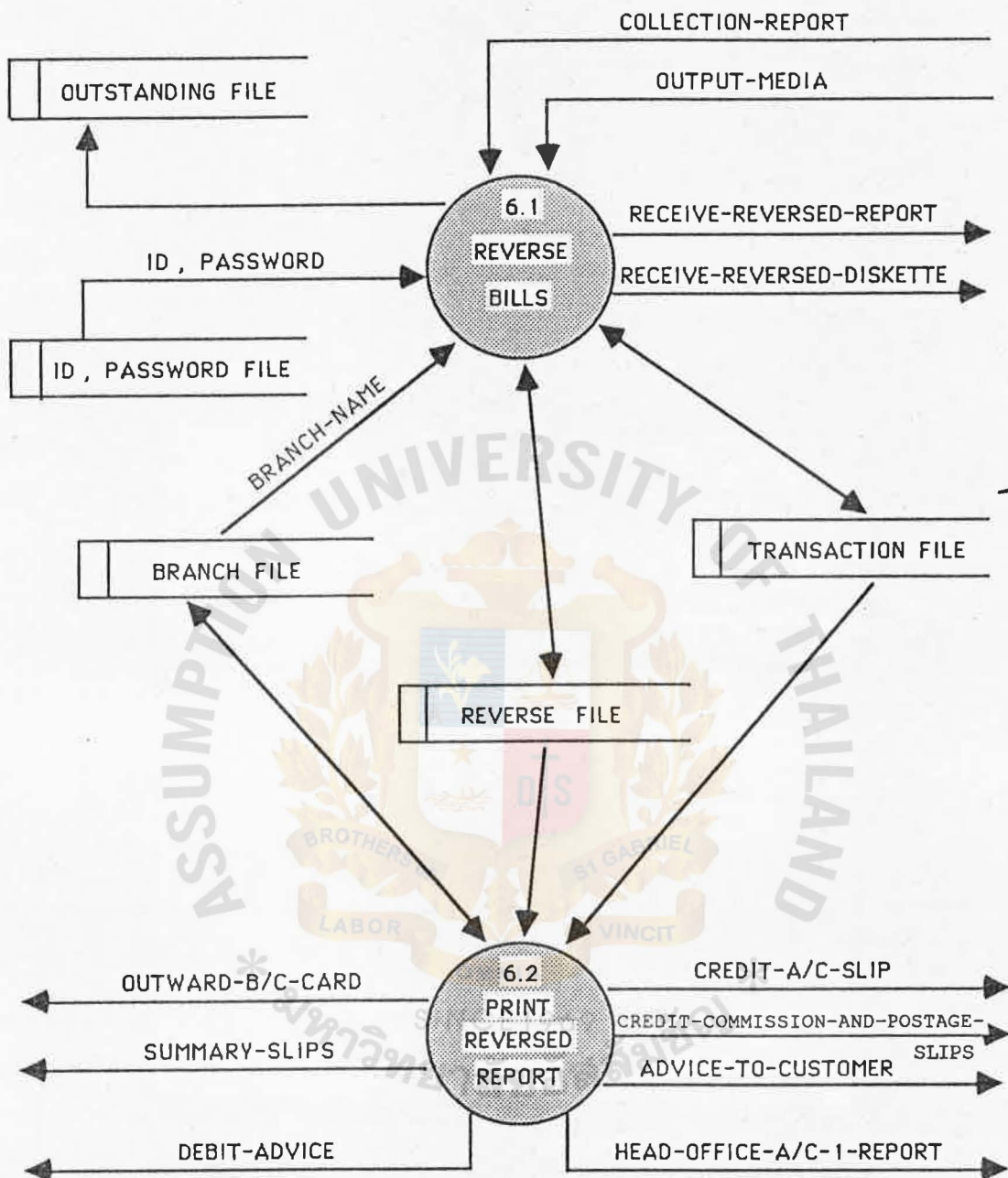


FIGURE A.8 : DFD LEVEL 1

DIAGRAM 6 : REVERSE BILLS AND PRINT REPORT

APPENDIX
B
SYSTEM FLOW OF
PROPOSED SYSTEM

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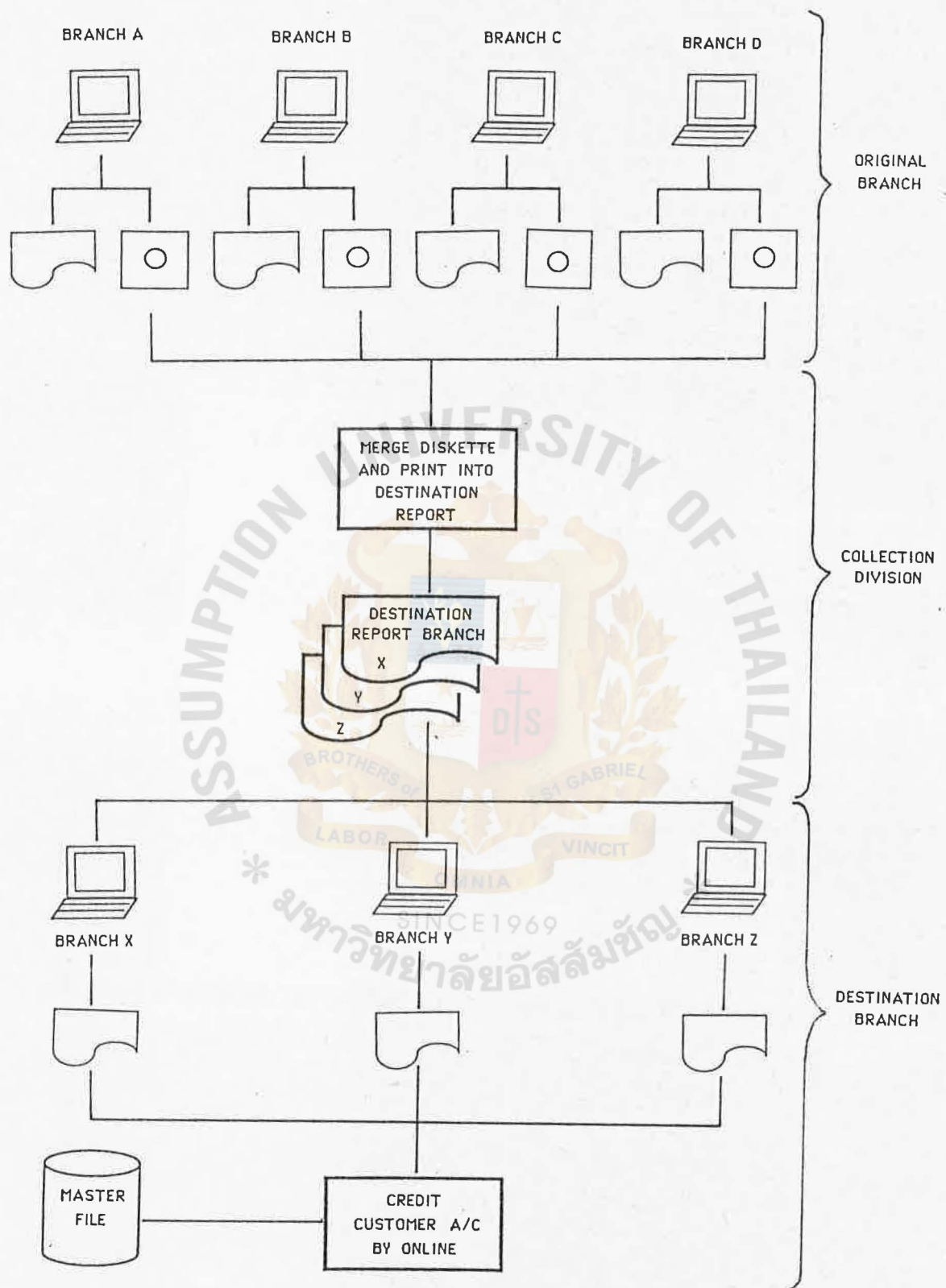


FIGURE B : SYSTEM FLOW CHART

APPENDIX
C
SCREEN FORMATS
AND SAMPLES

ASSUMPTION UNIVERSITY OF THAILAND
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Outward Bills for Collection

Teller Program
(TELOUTBC)
Version 6.00 - Clearing Area
Developed June 1992

Enter User I.D. (____)

Enter Password (____)



FIGURE C.1 : ENTER ID , PASSWORD SCREEN

Outward Bills for Collection
<p>Teller Program (TELOUTBC) Version 6.00 - Clearing Area Developed June 1992</p> <p>Enter User I.D. (0111)</p> <p>Enter Password ()</p>




FIGURE C.2 : SAMPLE FOR ENTER ID , PASSWORD SCREEN

Outward Bills for Collection		(Teller)
Branch Code	005	
Branch Name	ทรงวาด SONGWAD	
Abbreviated Name	ทว. SW	
Today Date		(ddmmyy)

FIGURE C.3 : ENTER TODAY DATE SCREEN

Outward Bills for Collection		(Teller)
Branch Code	005	
Branch Name	ทรงวาด SONGWAD	
Abbreviated Name	ทว. SW	
Today Date	010435 (ddmmyy)	
<p>===> Check data before pressing function key. <===</p> <p>1. Correct * 2. Continue OMNIA 3. Program exit</p> <p>SINCE 1969 มหาวิทยาลัยอัสสัมชัญ</p> <p>Your Selection (_)</p>		

FIGURE C.4 : SAMPLE FOR ENTER TODAY DATE SCREEN

Outward Bills for Collection		(Teller)
Branch Code	005	
Branch Name	ทรงวาด SONGWAD	
Abbreviated Name	ทว. SW	
Today Date	010435 (ddmmyy)	
<p>===> Check data before pressing function key. <===</p> <p>1. Correct 2. Continue 3. Program exit</p> <p>SINCE 1969</p> <p>Your Selection (2)</p>		

FIGURE C.6 : SELECTION SCREEN

Date 01/04/35

Outward Bills for Collection

(Teller)

SYSTEM MENU

1. Outward Menu
2. Reverse Menu
3. Report Menu
4. Program Exit

Your Selection (_)

FIGURE C.6 : SYSTEM MENU SCREEN

Date 01/04/35

Outward Bills for Collection

(System Menu)

OUTWARD MENU

1. Outward B/C
2. Correct Outward B/C
3. Delete Outward B/C
4. Exit to System Menu
5. Program Exit

Your Selection ()

FIGURE C.7 : OUTWARD MENU SCREEN

Date 01/04/35		Outward Bills for Collection		(Outward Menu)	
Outward B/C					
Customer A/C No. 999		Customer Name			
Branch Code		Branch Name			
B/C No.		Bill/Cheque No.			
Bank Code		Drawer A/C No.			
Issued Date		Due Date			
Amount		Reply Via			
Commission		1. Mail			
Cable/Postage		2. Telegraphic			
Proceed		3. Telephone			
		4. Online			
***** Remarks Commission Rate 2 % *****					

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FIGURE C.8 : OUTWARD B/C SCREEN

Date 01/04/35		Outward Bills for Collection		(Outward Menu)	
Outward B/C					
Customer A/C No. 0051037076		Customer Name <u>นายพิภย์ จิรวณิชวรรณกุล</u>			
Branch Code	001	Branch Name	YAWARAJ	SW	/YR. _
B/C No.	47__/35	Bill/Cheque No.	2541366		
Bank Code	05	Drawer A/C No.	1547552661		
Issued Date		Due Date	010435		
Amount	80000	Reply Via	1	1. Mail	
Commission	160			2. Telegraphic	
Cable/Postage	20			3. Telephone	
Proceed				4. Online	
***** Remarks Commission Rate .2 % *****					
<div style="display: flex; justify-content: space-between;"> ===> Check data before pressing function key. <=== </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> 1. Correct 2. Continue 3. Exit to outward menu </div> <div style="text-align: right; margin-top: 10px;">Your Selection (_)</div>					

FIGURE C.9 : SAMPLE FOR OUTWARD B/C SCREEN

Date 01/04/35	Outward Bills for Collection	(Outward Menu)
Outward B/C		
Customer A/C No. 9991000003	Customer Name	นายพิพย์ จิรวณิชรัตนกุล
Branch Code	Branch Name	
B/C No. /	Bill/Cheque No.	
Bank Code	Drawer A/C No.	
Issued Date	Due Date	
Amount	Reply Via	1 1. Mail
Commission		2. Telegraphic
Cable/Postage		3. Telephone
Proceed		4. Online
***** Remarks Commission Rate .2 % *****		

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FIGURE C.10 : CONTINUOUS OUTWARD B/C SCREEN

Date 01/04/35	Outward Bills for Collection	(Outward Menu)
<p>Correct Outward B/C</p> <p>_____</p> <p>Branch Code _____</p> <p>Branch Name _____</p> <p>B/C No. ____/____</p>		
<p>===> Check data before pressing function key. <===</p> <p>1. Correct 2. Continue 3. Exit to outward menu</p> <p>SINCE 1969</p> <p>มหาวิทยาลัยอัสสัมชัญ</p> <p>LABOR OMNIA VINCIT</p> <p>ST GABRIEL</p> <p>ASSUMPTION UNIVERSITY OF THAILAND</p> <p>Your Selection ()</p>		

FIGURE C.11: CORRECT OUTWARD B/C SCREEN

Date 01/04/35	Outward Bills for Collection	(Outward Menu)
<p>Correct Outward B/C</p> <hr/> <p>Branch Code 001</p> <p>Branch Name YAWARAJ SW /YR. _</p> <p>B/C No. 47_/35</p>		
<p>===> Check data before pressing function key. <===</p> <p>1. Correct 2. Continue 3. Exit to outward menu</p> <p>*****มหาวิทยาลัยอัสสัมชัญ*****</p> <p>SINCE 1969</p> <p>LABOR VINCIT</p> <p>ST GABRIEL</p> <p>BROTHERS of</p> <p>YOUR SELECTION (2)</p>		

FIGURE C.12 : SAMPLE FOR CORRECT OUTWARD B/C SCREEN

Date 01/04/35		Outward Bills for Collection		(Outward Menu)	
Correct Outward B/C					
Customer A/C No. 0051037076		Customer Name <u>หน้าพิพย์ จิรวณิชโรจนกุล</u>			
Branch Code	001	Branch Name	YAWARAJ	SW	/YR. _
B/C No.	47 /35	Bill/Cheque No.	2541366		
Bank Code	05	Drawer A/C No.	1547552661		
Issued Date		Due Date	010435		
Amount	80000	Reply Via	1	1. Mail	
Commission	160			2. Telegraphic	
Cable/Postage	40			3. Telephone	
Proceed				4. Online	
***** Remarks Commission Rate .2 % *****					
<div style="display: flex; justify-content: space-between;"> ===> Check data before pressing function key. <=== </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> 1. Correct 2. Continue 3. Exit to outward menu </div> <div style="text-align: right; margin-top: 10px;">Your Selection (_)</div>					

FIGURE C.13 : SAMPLE FOR CORRECT OUTWARD B/C SCREEN

Date 01/04/35	Outward Bills for Collection	(Outward Menu)
<p style="text-align: center;">Delete Outward B/C</p> <p style="text-align: center;">_____</p> <p>Branch Code _____</p> <p>Branch Name _____</p> <p>B/C No. ____/____</p>		
<p>===> Check data before pressing function key. <===</p> <p>1. Correct 2. Continue 3. Exit to outward menu</p> <p style="text-align: right;">Your Selection (_)</p>		

FIGURE C.14 : DELETE OUTWARD B/C SCREEN

Date 01/04/35	Outward Bills for Collection	(Outward Menu)
<p style="text-align: center;">Delete Outward B/C</p> <hr/> <p>Branch Code 001</p> <p>Branch Name YAWARAJ SW /YR. _</p> <p>B/C No. 47__/35</p>		
<p>===> Check data before pressing function key. <===</p> <p>1. Correct 2. Continue 3. Exit to outward menu</p> <p style="text-align: right;">Your Selection (2)</p>		

FIGURE C.15 : SAMPLE FOR DELETE OUTWARD B/C SCREEN

Date 01/04/35		Outward Bills for Collection		(Outward Menu)	
Delete Outward B/C					
Customer A/C No. 0051037076		Customer Name <u>นายพิชัย จิรวชิรโรจนกุล</u>			
Branch Code	001	Branch Name	YAWARAJ	SW	/YR. _
B/C No.	47 / 35	Bill/Cheque No.	2541366		
Bank Code	05	Drawer A/C No.	1547552661		
Issued Date		Due Date	010435		
Amount	80000	Reply Via	1	1. Mail	
Commission	160			2. Telegraphic	
Cable/Postage	40			3. Telephone	
Proceed				4. Online	
***** Remarks Commission Rate .2 % *****					
<div style="display: flex; justify-content: space-between;"> ==> Check data before pressing function key. <== </div> <div style="display: flex; justify-content: space-around;"> 1. Cancel deleting 2. Delete 3. Exit to outward menu </div>					
Your Selection ()					

FIGURE C.16 : SAMPLE FOR DELETE OUTWARD B/C SCREEN

Date 01/04/35

Outward Bills for Collection

(System Menu)

REVERSE MENU

1. Reverse Outward B/C
2. Correct Reverse Outward B/C
3. Delete Reverse Outward B/C
4. Exit to System Menu
5. Program Exit

Your Selection ()

FIGURE C.17 : REVERSE MENU SCREEN

Date 01/04/35	Outward Bills for Collection	(Reverse Menu)
<p>Reverse Outward B/C</p> <p>_____</p> <p>Branch Code _____</p> <p>Branch Name _____</p> <p>B/C No. _____/_____</p>		

FIGURE C.18 : REVERSE OUTWARD B/C SCREEN

Date 01/04/35	Outward Bills for Collection	(Reverse Menu)
<p style="text-align: center;">Reverse Outward B/C</p> <hr/> <p>Branch Code 001</p> <p>Branch Name YAWARAJ SW /YR. _</p> <p>B/C No. 47_/35</p>		
<p>===> Check data before pressing function key. <===</p> <p>1. Correct 2. Continue 3. Exit to reverse menu</p> <p style="text-align: right;">Your Selection (2)</p>		

FIGURE C.19 : SAMPLE FOR REVERSE OUTWARD B/C SCREEN

Date 01/04/35		Outward Bills for Collection		(Reverse Menu)	
Reverse Outward B/C					
Customer A/C No. 0051037076		Customer Name <u>นายพิภย์ จิรวณิชโรจนกุล</u>			
Branch Code	001	Branch Name	YAWARAJ	SW	/YR. <u> </u>
B/C No.	47 /35	Bill/Cheque No.	2541366		
Bank Code	05	Drawer A/C No.	1547552661		
Issued Date	<u> </u>	Due Date	010435		
Amount	80000 <u> </u>	Reply Via	1		
Commission	160 <u> </u>	Cable/Postage	40 <u> </u>		
Proceed	<u> </u>	Comm.& Postage	1 (1. Branch 2. HO.)		
Coll./Rtd.	1 (1.Coll 2.Rtd)	Credit A/C Date	<u> </u>		
Reference No.	X31-20-2524-6-005	Chq. Rtd. Symbol	(1-28)		
Dr. A/C No.	0051037076	A/C Name	<u>นายพิภย์ จิรวณิชโรจนกุล</u>		
<div style="display: flex; justify-content: space-between;"> ===> Check data before pressing function key. <=== </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> 1. Correct 2. Continue 3. Exit to reverse menu </div> <div style="text-align: right; margin-top: 10px;">Your Selection (2)</div>					

FIGURE C.20 : SAMPLE FOR REVERSE OUTWARD B/C SCREEN

Date 01/04/35

Outward Bills for Collection

(Reverse Menu)

Correct Reverse Outward B/C

Staff Level (400) Required

Enter User I.D. ()

Enter Password ()

**FIGURE C.21 : ENTER ID , PASSWORD FOR CORRECT
REVERSE OUTWARD B/C**

Date 01/04/35

Outward Bills for Collection

(Reverse Menu)

Correct Reverse Outward B/C

Staff Level (400) Required

Enter User I.D. (0111)

Enter Password ()

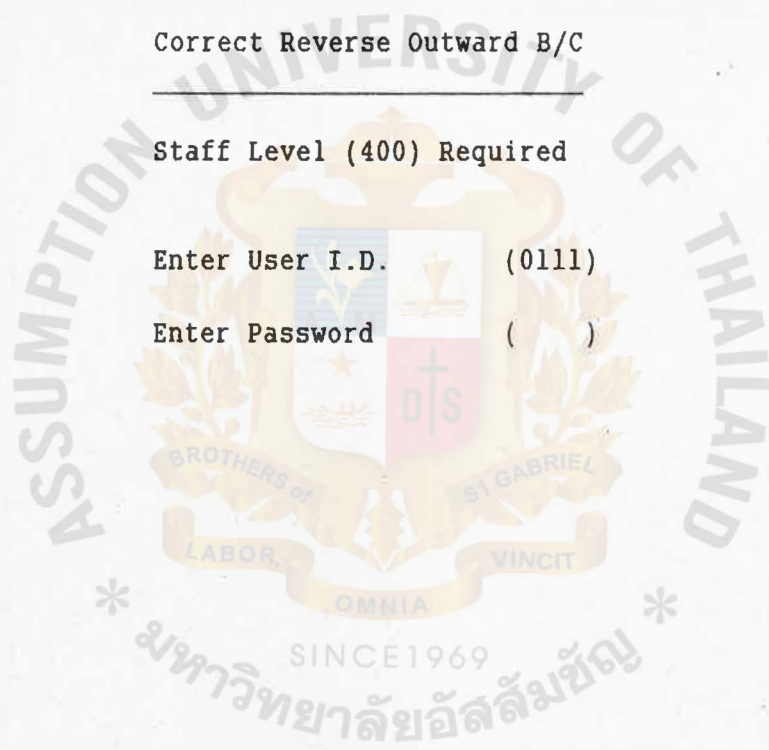


FIGURE C.22 : SAMPLE FOR ENTER ID , PASSWORD
FOR CORRECT REVERSE OUTWARD B/C

Date 01/04/35	Outward Bills for Collection	(Reverse Menu)
<p>Correct Reverse Outward B/C</p> <hr/> <p>Branch Code _____</p> <p>Branch Name _____</p> <p>B/C No. ____/____</p>		

**FIGURE C.23 : ENTER BRANCH CODE , B/C NO. FOR
CORRECT REVERSE OUTWARD B/C**

Date 01/04/35	Outward Bills for Collection	(Reverse Menu)
<p>Correct Reverse Outward B/C</p> <hr/> <p>Branch Code 001</p> <p>Branch Name YAWARAJ SW /YR. _</p> <p>B/C No. 47__ /35</p>		
<p>===> Check data before pressing function key. <===</p> <p>1. Correct 2. Continue 3. Exit to reverse menu</p> <p>มหาวิทยาลัยอัสสัมชัญ</p> <p>SINCE 1969</p> <p>Brothers of Labor St Gabriel Vincit</p> <p>Your Selection (2)</p>		

**FIGURE C.24 : SAMPLE FOR ENTER BRANCH CODE , B/C NO
FOR CORRECT REVERSE OUTWARD B/C**

Date 01/04/35		Outward Bills for Collection		(Reverse Menu)	
Correct Reverse Outward B/C					
Customer A/C No. 0051037076		Customer Name นายพิภย์ จิรวณิชโรจนกุล			
Branch Code	001	Branch Name	YAWARAJ	SW	/YR.
B/C No.	47/35	Bill/Cheque No.	2541366		
Bank Code	05	Drawer A/C No.	1547552661		
Issued Date		Due Date	010435		
Amount	80000	Reply Via	4		
Commission	160	Cable/Postage	40		
Proceed	79800	Comm.& Postage	1 (1. Branch 2 HO.)		
Coll./Rtd.	1 (1.Coll 2.Rtd)	Credit A/C Date	280335		
Reference No.	X31-90-2510-1-005	Chq. Rtd. Symbol	(1-28)		
Dr. A/C No.	0051037076	A/C Name	นายพิภย์ จิรวณิชโรจนกุล		
<p>===> Check data before pressing function key. <===</p> <p>1. Correct 2. Continue 3. Exit to reverse menu</p> <p style="text-align: right;">Your Selection (2)</p>					

FIGURE C.25 : SAMPLE FOR CORRECT REVERSE OUTWARD B/C

Date 01/04/35	Outward Bills for Collection	(Reverse Menu)
Delete Reverse Outward B/C <hr/> Staff Level (400) Required Enter User I.D. (____) Enter Password (____)		

**FIGURE C.26 : ENTER ID , PASSWORD FOR DELETE
REVERSE OUTWARD B/C**

Date 01/04/35	Outward Bills for Collection	(Reverse Menu)
Delete Reverse Outward B/C <hr/> Staff Level (400) Required Enter User I.D. (0111) Enter Password ()		

**FIGURE C.27 : SAMPLE FOR ENTER ID, PASSWORD FOR
DELETE REVERSE OUTWARD B/C**

Date 01/04/35	Outward Bills for Collection	(Reverse Menu)
Delete Reverse Outward B/C		
<div style="text-align: center;"> <div style="border-bottom: 1px solid black; width: 100px; margin: 0 auto;"></div> </div>		
Branch Code _____		
Branch Name _____		
B/C No. _____/_____		

**FIGURE C.28 : ENER BRANCH CODE , B/C NO FOR
DELETE REVERSE OUTWARD B/C**

Date 01/04/35	Outward Bills for Collection	(Reverse Menu)
Delete Reverse Outward B/C		
Branch Code	001	
Branch Name	YAWARAJ	SW /YR. _
B/C No.	52_/35	
<p>===> Check data before pressing function key. <===</p> <p>1. Correct 2. Continue 3. Exit to reverse menu</p> <p> Your Selection (_)</p>		

FIGURE C.29 : SAMPLE FOR ENTER BRANCH CODE , B/C NO
FOR DELETE REVERSE OUTWARD B/C

Date 01/04/35		Outward Bills for Collection		(Reverse Menu)	
Delete Outward B/C					
Customer A/C No. 0051000008		Customer Name namtip_____			
Branch Code	001	Branch Name	YAWARAJ	SW	/YR. :__
B/C No.	52___/35	Bill/Cheque No.	1464324		
Bank Code	05	Drawer A/C No.	1231313T3		
Issued Date	_____	Due Date	010435_		
Amount	20000_____	Reply Via	4		
Commission	10_____	Cable/Postage	40		
Proceed	19950_____	Comm. & Postage	1 (1. Branch 2. Ho.)		
Coll./Rtd.	1 (1. Coll 2. Rtd)	Credit A/C Date	020335		
Reference No.	X31-90-2510-1-005	Chq. Rtd. Symbol	(1-28)		
Dr. A/C No.	0051000008	A/C Name	namtip_____		
<div style="display: flex; justify-content: space-between;"> ==> Check data before pressing function key. <== </div> <div style="display: flex; justify-content: space-around;"> 1. Cancel deleting 2. Delete 3. Exit to reverse menu </div> <div style="text-align: right;">Your Selection (_)</div>					

FIGURE C.30 : SAMPLE FOR DELETE OUTWARD B/C

Date 01/04/35

Outward Bills for Collection

(System Menu)

REPORT MENU

1. Display Transactions
2. Transaction Report
3. Print all Reports
4. Outward B/C Card
5. Summary Slip
6. Advice of Bills/Cheque for Collection
7. Debit Advice
8. Advice To Customer
9. Credit Customer A/C
10. Credit Commission
11. Credit Cable/Postage
12. Exit to System Menu
13. Program Exit

Your Selection ()

FIGURE C.31 : REPORT MENU SCREEN

Date 01/04/35

Outward Bills for Collection

(Report Menu)

No.Branch	Destination	Drawer	Drawee	Reference No.	Amount	Remarks
1 005	005/005/0006/35	1-000003	03		65,000.00	
2 001	005/001/0047/35	1-037076	05		80,000.00	Cor Out
3 001	005/001/0047/35	1-037076	05		80,000.00	
4 001	005/001/0047/35	1-037076	05	X31-20-2524-6-005	80,000.00	Del Rev
5 001	005/001/0047/35	1-037076	05	X31-20-2524-6-005	80,000.00	Cor Rev
6 001	005/001/0047/35	1-037076	05	X31-90-2510-1-005	80,000.00	Coll
7 001	005/001/0048/35	1-052520	06		67,000.00	
8 001	005/001/0049/35	1-052520	08		75,000.00	
9 001	005/001/0050/35	1-045451	04		9,000.00	
10 001	005/001/0051/35	1-045451	06		4,500.00	
11 001	005/001/0051/35	1-045451	06	X31-90-2505-5-005	4,500.00	Coll
12 001	005/001/0049/35	1-052520	08	X31-90-2547-0-005	75,000.00	Coll

----- Press <ENTER> to continue OR press <Q> to quit -----

FIGURE C.31 : DISPLAY TRANSACTION SCREEN

Date 01/04/35

Outward Bills for Collection

(Report Menu)

Transaction Report

Insert continuous form 15x11 inch
then press function key.

1. Continue
2. Exit to Report Menu
3. Program Exit

Your Selection ()

FIGURE C.32 : TRANSACTION REPORT SCREEN

Date 01/04/35	Outward Bills for Collection	(Report Menu)
<p>Outward B/C Card</p> <hr/> <p>Branch Code _____</p>		
==> Remarks	<p>To print all branches - Enter Branch Code = 999</p>	

FIGURE C.33 : OUTWARD B/C CARD SCREEN

Date 01/04/35	Outward Bills for Collection	(Report Menu)
<div>Outward B/C Card</div> <div>Branch Code 001</div>		
<div>===> Check data before pressing function key. <===</div> <div>1. Correct 2. Continue 3. Exit to report menu</div> <div>Your Selection (_)</div>		

FIGURE C.34 : SAMPLE FOR OUTWARD B/C CARD SCREEN

Date 01/04/35

Outward Bills for Collection

(Report Menu)

Summary Slip

Insert continuous form (ค/บช. 401)
then press function key.

1. Continue
2. Exit to Report Menu
3. Program Exit

Your Selection (_)

FIGURE C.35 : SUMMARY SLIP SCREEN

Date 01/04/35	Outward Bills for Collection	(Report Menu)
<p>Advice of Bills/Cheque for Collection</p> <hr/> <p>Branch Code _____</p>		
==> Remarks	<p>To print all branches - Enter Branch Code = 999</p>	

**FIGURE C.36 : ADVICE OF BILLS/CHEQUE FOR COLLECTION
SCREEN**

Date 01/04/35	Outward Bills for Collection	(Report Menu)
<p>Advice of Bills/Cheque for Collection</p> <hr/> <p>Branch Code 001</p>		
<p>===></p> <p>1. Correct</p>	<p>Insert slip (ค/บช. 401).</p> <p>2. Continue</p> <p>3. Exit to report menu</p> <p>Your Selection ()</p>	<p><===</p>

FIGURE C.37 : SAMPLE FOR ADVICE OF BILLS/CHEQUE
FOR COLLECTION SCREEN

Date 01/04/35	Outward Bills for Collection	(Report Menu)
<p>Debit Advice</p> <hr/> <p>Branch Code</p> <hr/>		
==> Remarks	<p>To print all branches</p> <p>- Enter Branch Code = 999</p>	

FIGURE C.38 : DEBIT ADVICE SCREEN

Date 01/04/35	Outward Bills for Collection	(Report Menu)
<p style="text-align: center;">Debit Advice</p> <hr/> <p style="text-align: center;">Branch Code 001</p>		
<p>===></p> <p>1. Correct</p>	<p style="text-align: center;">Insert slip (ค/บช. 401).</p> <p>2. Continue</p> <p style="text-align: center;">Your Selection ()</p>	<p><===</p> <p>3. Exit to report menu</p>

FIGURE C.39 : SAMPLE FOR DEBIT ADVICE SCREEN

Date 01/04/35	Outward Bills for Collection	(Report Menu)
<p>Advice To Customer</p> <hr/> <p>Branch Code <hr/></p>		
<p>==> Remarks To print all branches - Enter Branch Code = 999</p>		

FIGURE C.40 : ADVICE TO CUSTOMER SCREEN

Date 01/04/35	Outward Bills for Collection	(Report Menu)
<p>Advice To Customer</p> <hr/> <p>Branch Code 001</p>		
<p>===></p> <p>1. Correct</p>	<p>Insert slip (ค/บช. 401).</p> <p>2. Continue</p>	<p><===</p> <p>3. Exit to report menu</p> <p>Your Selection ()</p>

FIGURE C.41 : SAMPLE FOR ADVICE TO CUSTOMER SCREEN

Date 01/04/35	Outward Bills for Collection	(Report Menu)
Credit Customer A/C _____ Branch Code _____		
==> Remarks	To print all branches - Enter Branch Code = 999	

FIGURE C.42 : CREDIT CUSTOMER A/C SCREEN

Date 01/04/35	Outward Bills for Collection	(Report Menu)
<p>Credit Customer A/C</p> <hr/> <p>Branch Code 001</p>		
<p>===></p> <p>1. Correct</p>	<p>Insert slip (ค/บช. 405).</p> <p>2. Continue</p> <p>3. Exit to report menu</p> <p>Your Selection ()</p>	<p><===</p>

FIGURE C.43 : SAMPLE FOR CREDIT CUSTOMER A/C SCREEN

Date 01/04/35	Outward Bills for Collection	(Report Menu)
<hr/>		
Credit Commission		
Branch Code _____		
==> Remarks	To print all branches - Enter Branch Code = 999	

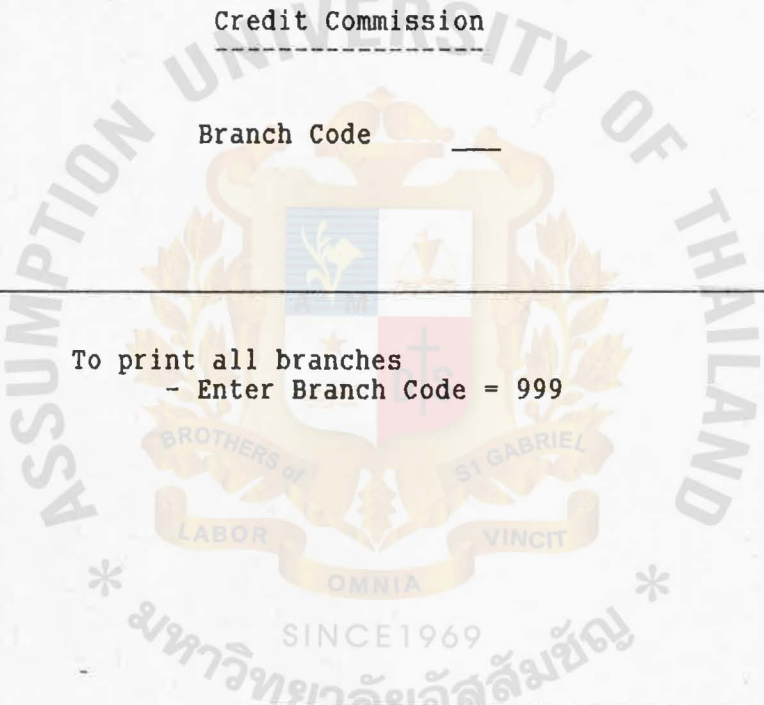


FIGURE C.44 : CREDIT COMMISSION SCREEN

Date 01/04/35	Outward Bills for Collection	(Report Menu)
<p style="text-align: center;"><u>Credit Commission</u></p> <p style="text-align: center;">Branch Code 001</p>		
<p>===></p> <p>1. Correct</p>	<p style="text-align: center;">Insert slip (ค/บข. 406).</p> <p>2. Continue</p> <p style="text-align: center;">Your Selection ()</p>	<p style="text-align: right;"><===</p> <p>3. Exit to report menu</p>

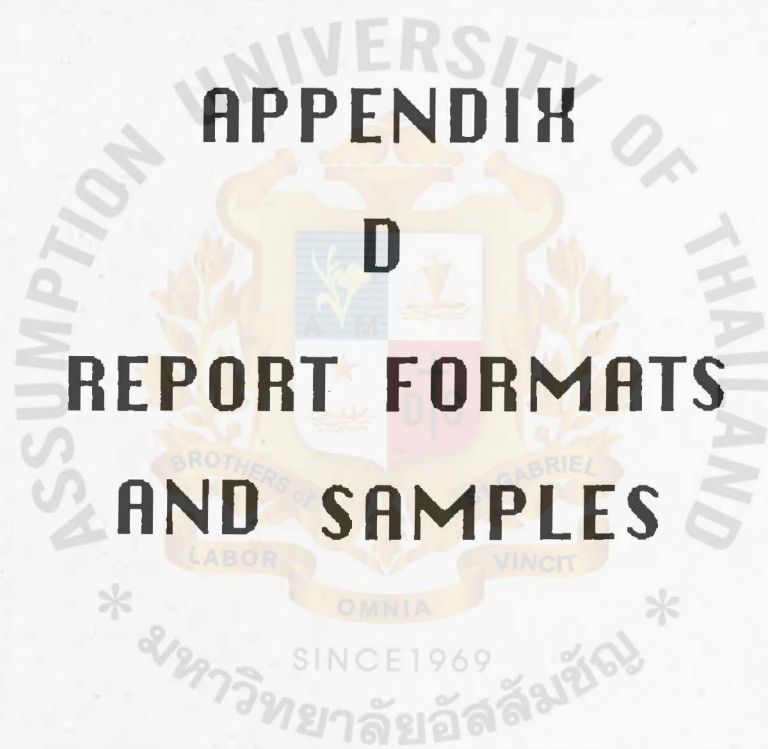
FIGURE C.45 : SAMPLE FOR CREDIT COMMISSION SCREEN

Date 01/04/35	Outward Bills for Collection	(Report Menu)
Credit Cable/Postage <hr/> Branch Code <hr/>		
==> Remarks	To print all branches - Enter Branch Code = 999	

FIGURE C.46 : CREDIT CABLE/POSTAGE SCREEN

Date 01/04/35	Outward Bills for Collection	(Report Menu)
<p>Credit Cable/Postage</p> <hr/> <p>Branch Code 001</p>		
<p>===></p> <p>1. Correct</p>	<p>Insert slip (ค/บพ. 406).</p> <p>2. Continue</p>	<p><===</p> <p>3. Exit to report menu</p> <p>Your Selection ()</p>

**FIGURE C.47 : SAMPLE FOR CREDIT CABLE/POSTAGE
SCREEN**



APPENDIX D REPORT FORMATS AND SAMPLES

OUTWARD BILLS FOR COLLECTION

page 999

XXXXXXXXXXXXX

TRANSACTION REPORT 99/99/99

SER	BRANCH	B/C NO.	ACCOUNT NO.	NAME	DRAWEE	BILL NO.	ISSUED	DUE	REFERENCE NO.	AMOUNT	REMARKS
999	999	999/999/9999/99	999-9-9999-9	XXXXXXXXXXXXXXXXXXXXX	99	9999999	99/99/99	99/99/99	999-99-9999-9-999	999,999,999.99	xxx xxx xxx
999	999	999/999/9999/99	999-9-9999-9	XXXXXXXXXXXXXXXXXXXXX	99	9999999	99/99/99	99/99/99	999-99-9999-9-999	999,999,999.99	xxx xxx xxx
999	999	999/999/9999/99	999-9-9999-9	XXXXXXXXXXXXXXXXXXXXX	99	9999999	99/99/99	99/99/99	999-99-9999-9-999	999,999,999.99	xxx xxx xxx
999	999	999/999/9999/99	999-9-9999-9	XXXXXXXXXXXXXXXXXXXXX	99	9999999	99/99/99	99/99/99	999-99-9999-9-999	999,999,999.99	xxx xxx xxx

FIGURE D.2 : OUTWARD B/C CARD FORMAT

ธนาคารอิสลามชัย จากัด		TR
สาขา xxxxxxxxxxxx		
DEBIT xxxxxxxxxxxxxxxxxxxx		
TO : B/C sent for collection 999 items		
as detail on outward B/C daily transaction report.		
Total (BAHT)		999,999,999.99
()
		Authorized Signature

ธนาคารอิสลามชัย จากัด		TR
สาขา xxxxxxxxxxxx		
CREDIT xxxxxxxxxxxxxxxxxxxx		
TO : B/C sent for collection 999 items		
as detail on outward B/C daily transaction report.		
Total (BAHT)		999,999,999.99
()
		Authorized Signature

FIGURE D.3 SUMMARY REPORT FORMAT

ธนาคารออมสิน จำกัด

สาขา XXXXXXXXXXXXXXXXXXXX (999)

ADVICE OF BILLS/CHEQUE FOR COLLECTION

TO XXXXXXXXXXXXXXXXXXXX (999)

DATE 99/99/99

We have sent bills/cheque for collection as the following entries.

B/C NO.	DRAWER	DRAWEE	BILL NO.	DUE DATE	AMOUNT	REPLY VIA	REMARKS
1. 999/999/9999/99	9999999999	99	9999999	99/99/99	999,999,999.99	XXXXXX	XXXXX
2. 999/999/9999/99	9999999999	99	9999999	99/99/99	999,999,999.99	XXXXXX	XXXXX
3. 999/999/9999/99	9999999999	99	9999999	99/99/99	999,999,999.99	XXXXXX	XXXXX

(XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX) Total 999,999,999.99 (BAHT)

Authorized Signature

FIGURE D.4

ADVICE OF BILLS/CHEQUES FOR COLLECTION FORMAT

ธนาคารพาณิชย์ จำกัด

สาขา XXXXXXXXXXXXXXXXXX (999)

ADVICE OF BILLS/CHEQUE FOR COLLECTION

TO XXXXXXXXXXXXXXXXXX (999)

DATE 99/99/99

We have sent bills/cheque for collection as the following entries.

B/C NO.	DRAWER	DRAWEE	BILL NO.	DUE DATE	AMOUNT	REPLY VIA	REMARKS
999/999/9999/99	9999999999	99	99999999	99/99/99	999,999,999.99	4-DNL	XXXXX

(XX)

=====

A/C No. 999-9-99999-9

NAME: XXXXXXXXXXXXXXXXXXXXXXXXXX

COMMISSION: 999,999.99

CABLE/POSTAGE: 999,999.99


PROCEED

999,999,999.99 (BAHT)


Authorized Signature

FIGURE D.4 (CONT.)

ADVICE OF BILLS/CHEQUES FOR COLLECTION FORMAT

 ธนาคารอัสสัมชัญ จำกัด
สาขา _____

ก/บช 401

 ธนาคารอัสสัมชัญ จำกัด
ASSUMPTION BANK LTD.

สาขา _____ วันที่ _____ รหัสอ้างอิง T

DEBIT

เพื่อเข้าบัญชี


รายการ PARTICULARS	จำนวนเงิน AMOUNT

บาท

ธนาคารกรุงไทย จำกัด

สำหรับเข้าบัญชี
FOR BOOK-KEEPING PURPOSE

ลายมือชื่อผู้มีอำนาจลงนาม ก/บช 405

 ธนาคารอัสสัมชัญ จำกัด
ASSUMPTION BANK LTD.

สาขา _____ วันที่ _____ รหัสอ้างอิง T

CREDIT

เพื่อหักบัญชี

รายการ PARTICULARS	จำนวนเงิน AMOUNT

บาท

ธนาคารกรุงไทย จำกัด

สำหรับหักบัญชี
FOR BOOK-KEEPING PURPOSE

ลายมือชื่อผู้มีอำนาจลงนาม ก/บช 406

FIGURE D.5 : THE 401 FORM , 405 FORM AND 406 FORM

OUTWARD BILLS FOR COLLECTION SONGWAD TRANSACTION REPORT 01/04/35									
SER	BRANCH	B/C NO.	ACCOUNT NO.	NAME	DRAVEE BILL NO.	ISSUED	DUE	REFERENCE NO.	AMOUNT , REMARKS
1	005	005/005/0056/35	005-1-00000-3	ศูนย์ฯ หาด	03 1237853	01/04/35			65,000.00
2	001	005/001/0047/35	005-1-03707-6	เจ้าหนี้ จักรวรรดิ	05 2541366	01/04/35			80,000.00 CDR OUT
3	001	005/001/0047/35	005-1-03707-6	เจ้าหนี้ จักรวรรดิ	05 2541366	01/04/35			80,000.00
4	001	005/001/0047/35	005-1-03707-6	เจ้าหนี้ จักรวรรดิ	05 2541366	01/04/35	X31-20-2524-6-005		80,000.00 DEL REV
5	001	005/001/0047/35	005-1-03707-6	เจ้าหนี้ จักรวรรดิ	05 2541366	01/04/35	X31-20-2524-6-005		80,000.00 CDR REV COLL
6	001	005/001/0047/35	005-1-03707-6	เจ้าหนี้ จักรวรรดิ	05 2541366	01/04/35	X31-90-2510-1-005		80,000.00 COLL
7	001	005/001/0048/35	005-1-05252-0	ธนาคารกรุงเทพ	06 4511211	02/04/35			67,000.00
8	001	005/001/0049/35	005-1-05252-0	ธนาคารกรุงเทพ	08 1245457	01/04/35			75,000.00
9	001	005/001/0050/35	005-1-04545-1	ศูนย์ฯ หาด	04 2145454	05/04/35			9,000.00
10	001	005/001/0051/35	005-1-04545-1	ศูนย์ฯ หาด	06 5661871	01/04/35			4,500.00
11	001	005/001/0051/35	005-1-04545-1	ศูนย์ฯ หาด	06 5661871	01/04/35	X31-90-2505-5-005		4,500.00 COLL
12	001	005/001/0049/35	005-1-05252-0	ธนาคารกรุงเทพ	08 1245457	01/04/35	X31-90-2547-0-005		75,000.00 COLL

FIGURE D.6 : SAMPLE FOR TRANSACTION REPORT

ASSUMPTION BANK LTD.										001	TAVARAJ		
KRUNG THAI BANK LTD.											PAGE		
SONGWAD													
OUTWARD DOMESTIC BILLS FOR COLLECTION										005/001	SV /YR.		
DATE	B/C NO.	CUSTOMER A/C	DRAWER DRAVEE NO.	ISSUED DATE	D/E DATE	DEBIT	CREDIT	BALANCE	COMMISSION	CABLE/ POSTAGE	I.D.	REMARKS	AUTHO. LINE SIGN.
B / F								0.00					1
01/04/35	001/0047/35	1-03707-6	1547552661 05	2541366	01/04/35	80,000.00		80,000.00				0111 COR OUT	2
01/04/35	001/0047/35	1-03707-6	1547552661 05	2541366	01/04/35		80,000.00	0.00		20.00		0111 COR OUT	3
01/04/35	001/0047/35	1-03707-6	1547552661 05	2541366	01/04/35	80,000.00		80,000.00				0111	4
01/04/35	001/0047/35	1-03707-6	1547552661 05	2541366	01/04/35		80,000.00	0.00	160.00	40.00		0111 DEL REV	5
01/04/35	001/0047/35	1-03707-6	1547552661 05	2541366	01/04/35	80,000.00		80,000.00				0111 DEL REV	6
01/04/35	001/0047/35	1-03707-6	1547552661 05	2541366	01/04/35		80,000.00	0.00	160.00	40.00		0111 COR REV	7
01/04/35	001/0047/35	1-03707-6	1547552661 05	2541366	01/04/35	80,000.00		80,000.00				0111 COR REV	8
01/04/35	001/0047/35	1-03707-6	1547552661 05	2541366	01/04/35		80,000.00	0.00	160.00	40.00		0111 ONL	9
01/04/35	001/0048/35	1-05252-0	1121221211 06	4511211	03/04/35	67,000.00		67,000.00				0111	10
01/04/35	001/0049/35	1-05252-0	0212464641 08	1245457	01/04/35	75,000.00		142,000.00				0111	11
01/04/35	001/0049/35	1-05252-0	0212464641 08	1245457	01/04/35		75,000.00	67,000.00				0111 ONL	12
01/04/35	001/0050/35	1-04545-1	0851234001 04	2145454	05/04/35	9,000.00		76,000.00				0111	13
01/04/35	001/0051/35	1-04545-1	2155569102 06	5661871	01/04/35	4,500.00		80,500.00				0111	14
01/04/35	001/0051/35	1-04545-1	2155569102 06	5661871	01/04/35		4,500.00	76,000.00	20.00	10.00		0111 ONL	15

FIGURE D.6 : SAMPLE FOR OUTWARD B/C CARD





	ธนาคารอิสลามแห่งประเทศไทย สาขา <u>SONGWAD</u>	DATE 01/04/35	TR	
DEBIT OUTWARD DOMESTIC B/C				
To : B/C sent for collection 6 items as detail on outward B/C daily transaction report.				
Total (BAHT) (Two hundred thirty one thousand five hundred only)				231,500.00
_____ Authorized Signature				
<hr/>				
	ธนาคารอิสลามแห่งประเทศไทย สาขา <u>SONGWAD</u>	DATE 01/04/35	TR	
CREDIT LIABILITIES UNDER OUTWARD DOMESTIC B/C				
By : B/C sent for collection 6 items as detail on outward B/C daily transaction report.				
Total (BAHT) (Two hundred thirty one thousand five hundred only)				231,500.00
_____ Authorized Signature				
<hr/>				
	ธนาคารอิสลามแห่งประเทศไทย สาขา <u>SONGWAD</u>	DATE 01/04/35	TR	
DEBIT LIABILITIES UNDER OUTWARD DOMESTIC B/C				
To : Reverse outward B/C 3 items as detail on outward B/C daily transaction report.				
Total (BAHT) (One hundred fifty nine thousand five hundred only)				159,500.00
_____ Authorized Signature				
<hr/>				
	ธนาคารอิสลามแห่งประเทศไทย สาขา <u>SONGWAD</u>	DATE 01/04/35	TR	
CREDIT OUTWARD DOMESTIC B/C				
By : Reverse outward B/C 3 items as detail on outward B/C daily transaction report.				
Total (BAHT) (One hundred fifty nine thousand five hundred only)				159,500.00

FIGURE D.8 : SAMPLE FOR SUMMARY REPORT



ธนาคารแห่งประเทศไทย จำกัด

ตรา SONGVAD (005)

ADVANCE OF BILLS/CHEQUE FOR COLLECTION
TO HEAD OFFICE (COLLECTION DIVISION) (X31)

DATE 01/04/35

We have sent bills/cheque for collection as the following entries.

B/C NO.	DRAWER	DRAVEE	BILL NO.	DUE DATE	AMOUNT	REPLY VIA	REMARKS
1.005/001/0047/35	1547552661	05	2541366	01/04/35	80,000.00	1-M/T	
2.005/001/0048/35	1121221211	06	4511211	02/04/35	6,100.00	2-T/T	
3.005/001/0050/35	8851234001	04	2145454	05/04/35	900.00	2-T/T	

(Eighty seven thousand only)

Total 87,000.00 (BAHT)

Authorized Signature

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๓/๒๓ ๔๐๑



ธนาคารแห่งประเทศไทย จำกัด

ตรา SONGVAD (005)

ADVANCE OF BILLS/CHEQUE FOR COLLECTION
TO HEAD OFFICE (COLLECTION DIVISION) (X31)

DATE 01/04/35

We have sent bills/cheque for collection as the following entries.

B/C NO.	DRAWER	DRAVEE	BILL NO.	DUE DATE	AMOUNT	REPLY VIA	REMARKS
4.005/001/0049/35	0212464641	03	1245457	01/04/35	75,000.00	3-PHONE	

(Seventy five thousand only)

Total 75,000.00 (BAHT)

Authorized Signature

๑๗/๒๓๔ ๑๐๐

๓/๒๓ ๔๐๑



ธนาคารแห่งประเทศไทย จำกัด

ตรา SONGVAD (005)

ADVANCE OF BILLS/CHEQUE FOR COLLECTION
TO HEAD OFFICE (COLLECTION DIVISION) (X31)

DATE 01/04/35

We have sent bills/cheque for collection as the following entries.

B/C NO.	DRAWER	DRAVEE	BILL NO.	DUE DATE	AMOUNT	REPLY VIA	REMARKS
5.005/001/0051/35	2155569102	06	5661871	01/04/35	4,500.00	4-ONL	

(Four thousand five hundred only)

A/C NO. 005-1-04545-1
COMMISSION: 20.00

NAME: สุมาลี ทาภา
CABLE/POSTAGE: 10.00

PROCEED

4,470.00 (BAHT)


Authorized Signature


๑๗/๒๓๔ ๑๐๐

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FIGURE D.9

SAMPLE FOR ADVANCE OF BILLS/CHEQUE FOR COLLECTION

 ธนาคารอิสลามแห่งประเทศไทย จำกัด สาขา _____ SONGVAD _____ (005)		
DEBIT ADVICE TO HEAD OFFICE (COLLECTION DIVISION) (X31) We have DEBITED the following B/C to your account.		DATE 01/04/35
	B/C NO. REFERENCE NO. 1 005/001/0047/35 X31-90-2510-1-005	AMOUNT 80,000.00
(Eighty thousand only)	Total (BAHT)	80,000.00
		Authorized Signature
		8/11 401

 ธนาคารอิสลามแห่งประเทศไทย จำกัด สาขา _____ SONGVAD _____ (005)		
DEBIT ADVICE TO HEAD OFFICE (COLLECTION DIVISION) (X31) We have DEBITED the following B/C to your account.		DATE 01/04/35
	B/C NO. REFERENCE NO. 2 005/001/0049/35 X31-90-2547-0-005	AMOUNT 75,000.00
(Seventy five thousand only)	Total (BAHT)	75,000.00
		Authorized Signature
		8/11 401




 ธนาคารอิสลามแห่งประเทศไทย จำกัด สาขา _____ SONGVAD _____ (005)		
DEBIT ADVICE TO HEAD OFFICE (COLLECTION DIVISION) (X31) We have DEBITED the following B/C to your account.		DATE 01/04/35
	B/C NO. REFERENCE NO. 3 005/001/0051/35 X31-90-2505-5-005	AMOUNT 4,500.00
(Four thousand five hundred only)	Total (BAHT)	4,500.00
		Authorized Signature

FIGURE D.10 : SAMPLE FOR DEBIT ADVICE

 ธนาคารแห่งประเทศไทย จำกัด SONGVAD		DATE 01/04/35	
CREDIT NOTE			
TO 005-1-03707-6		เจ้าหนี้ จีราวิระโรจนกุล	
We have CREDITED the following entries to your account with us			
B/C NO.	BILL NO.	DRAVEE	REFERENCE NO. DATE AMOUNT
005/001/0047/35	2541366	05	X31-90-2510-1-005 28/03/35 80,000.00
Total (BAHT)			80,000.00
(Eighty thousand only)			
		Authorized Signature	

 ธนาคารแห่งประเทศไทย จำกัด SONGVAD		DATE 01/04/35	
CREDIT NOTE			
TO 005-1-05252-0		ลูกค้ารวม สุจิตต์	
We have CREDITED the following entries to your account with us			
B/C NO.	BILL NO.	DRAVEE	REFERENCE NO. DATE AMOUNT
005/001/0049/35	1245457	08	X31-90-2547-0-005 12/03/35 74,800.00
(Deduct:- Commission & Postage 200.00)		Total (BAHT) 74,800.00	
(Seventy four thousand eight hundred only)			
		Authorized Signature	



 ธนาคารแห่งประเทศไทย จำกัด SONGVAD		DATE 01/04/35	
CREDIT NOTE			
TO 005-1-04545-1		สุมาลี ทาคา	
We have CREDITED the following entries to your account with us			
B/C NO.	BILL NO.	DRAVEE	REFERENCE NO. DATE AMOUNT
005/001/0051/35	5661871	06	X31-90-2505-5-005 27/03/35 4,500.00
Total (BAHT)			4,500.00
(Four thousand five hundred only)			
		Authorized Signature	

FIGURE D.11
SAMPLE FOR ADVICE TO CUSTOMER



ธนาคารอัสสัมชัญ จำกัด
ASSUMPTION BANK LTD.

☒ T

สาขา SONGWAD
วันที่ 01/04/35
หน้าจำนวน


DEBIT

เมื่อเข้าบัญชี

HEAD OFFICE A/C 1				
005-1-05252-0				ธนาคารอัสสัมชัญ
B/C NO.	BILL NO.	DRAVEE	REFERENCE NO.	จำนวนเงิน AMOUNT
005/001/0048/35	4511211	06	X31-20-2523-8-005	6,100.00
Total (BAHT)				6,100.00
(Six thousand one hundred only)				

บาท
ธนาคารอัสสัมชัญ จำกัด

สำหรับบันทึกบัญชี
FOR BOOK KEEPING PURPOSE
สาขาอัสสัมชัญ
ก/นร 405



ธนาคารอัสสัมชัญ จำกัด
ASSUMPTION BANK LTD.

☒ T

สาขา SONGWAD
วันที่ 01/04/35
หน้าจำนวน

DEBIT


เมื่อเข้าบัญชี

HEAD OFFICE A/C 1				
005-1-04545-1				ธนาคารอัสสัมชัญ
B/C NO.	BILL NO.	DRAVEE	REFERENCE NO.	จำนวนเงิน AMOUNT
005/001/0050/35	2145454	04	X31-20-2521-1-005	870.00
(Deduct:- Commission & Postage 30.00) Total (BAHT)				870.00
(Eight hundred and seventy only)				

บาท
ธนาคารอัสสัมชัญ จำกัด

สำหรับบันทึกบัญชี
FOR BOOK KEEPING PURPOSE
สาขาอัสสัมชัญ
ก/นร 405

FIGURE D.12 : SAMPLE FOR CREDIT CUSTOMER A/C

 ธนาคารอัสสัมชัญ จำกัด ASSUMPTION BANK LTD.		วันที่ 01/04/35		วัตถุประสงค์	
สาขา SONGWAD					
CREDIT COMMISSION RECEIVED - INLAND BILLS					
เลขที่ 005-1-05252-0		รายการรับ			
B/C NO. 005/001/0048/35		BILL NO. 4511211	DRAWEE 06	AMOUNT 6,100.00	COLL
				20.00	
Total (BAHT)				20.00	
(Twenty only)					
บาท สำหรับบันทึก FOR BOOK-KEEPING PURPOSE		ธนาคารกรุงไทย จำกัด นายธนวัฒน์ โสณกุลธนนาม			



 ธนาคารอัสสัมชัญ จำกัด ASSUMPTION BANK LTD.		วันที่ 01/04/35		วัตถุประสงค์	
สาขา SONGWAD					
CREDIT HEAD OFFICE A/C 1		X31-20-2521-1-005			
เลขที่ 005-1-04545-1		หมายเลข พวค			
B/C NO. 005/001/0050/35		BILL NO. 2145454	DRAWEE 04	AMOUNT 900.00	RTD
				20.00	
Total (BAHT)				20.00	
(Twenty only)					
บาท สำหรับบันทึก FOR BOOK-KEEPING PURPOSE		ธนาคารกรุงไทย จำกัด นายธนวัฒน์ โสณกุลธนนาม			

FIGURE D.13 : SAMPLE FOR CREDIT COMMISSION

 ธนาคารอัสสัมชัญ จำกัด ASSUMPTION BANK LTD.		วันที่ 01/04/35		รหัสอ้างอิง T	
สาขา SONGVAD					
CREDIT		POSTAGE, CABLE & RADIOPHONE RECEIVED			
เพื่อหักบัญชี 005-1-05252-0		รายการรับเงิน			
B/C NO.		BILL NO.	DRAVEE	AMOUNT	จำนวนเงิน AMOUNT
005/001/0048/35	4511211	06	6,100.00	COLL	25.00
Total (BAHT)					25.00
(Twenty five only)					
บาท สำหรับผ่านบัญชี FOR BOOK KEEPING PURPOSE		ธนาคารกรุงไทย จำกัด ภายหลังโอนบัญชีธนาคาร ก/บ.ร. 406			


 ธนาคารอัสสัมชัญ จำกัด ASSUMPTION BANK LTD.		วันที่ 01/04/35		รหัสอ้างอิง T	
สาขา SONGVAD					
CREDIT		HEAD OFFICE A/C 1			
เพื่อหักบัญชี 005-1-04545-1		รายการรับเงิน			
B/C NO.		BILL NO.	DRAVEE	AMOUNT	จำนวนเงิน AMOUNT
005/001/0050/35	2145454	04	900.00	RTD	10.00
Total (BAHT)					10.00
(Ten only)					
บาท สำหรับผ่านบัญชี FOR BOOK KEEPING PURPOSE		ธนาคารกรุงไทย จำกัด ภายหลังโอนบัญชีธนาคาร ก/บ.ร. 406			

FIGURE D.14 : SAMPLE FOR CREDIT CABLE/POSTAGE



APPENDIX E FILE LAYOUT

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FILE LAYOUT			
FILE NAME : OURBRCH.DAT DRIVE OR PATH : C:\OURBRCH FILE MODE : RANDOM RECORD LENGTH : 128 KEY : First record only			
COLUMN	FIELD NAME	PICTURE	REMARK
1-7	File Flag	x(7)	"EXISTED"
8-10	Branch Code	9(3)	
11-14	Thai Abbreviated Name	x(4)	
15-39	Thai Full Name	X(25)	
40-43	English Abbreviated Name	X(4)	
44-68	English Full Name	X(25)	
69-108	Address	X(40)	
109-119	Register	X(11)	
120-128	Filler	X(9)	

TABLE E.1 : OURBRANCH FILE

FILE LAYOUT			
FILE NAME : BCMAS.DAT DRIVE OR PATH : C:\BC FILE MODE : RANDOM RECORD LENGTH : 128 KEY : Branch Code + 1			
COLUMN	FIELD NAME	PICTURE	REMARK
1-3	File Flag	X(3)	"MAS"
4-6	Branch Code	9(3)	
7-10	Thai Abbreviated Name	X(4)	
11-35	Thai Full Name	X(25)	
36-39	English Abbreviated Name	X(4)	
40-64	English Full Name	X(25)	
65-65	Clearing Area	9(1)	
66-67	Outward B/C No.	X(2)MKI	outward
68-68	Print Ledger Card	X(1)	"
69-69	Print Summary	X(1)	"
70-70	Print Advice Of Bill	X(1)	"
71-71	Print Debit Advice	X(1)	"
72-72	Print Credit Customer	X(1)	"
73-73	Print Credit Commission	X(1)	"
74-74	Print Credit Postage	X(1)	"

TABLE E.2 : BRANCH FILE

FILE LAYOUT (CONT.)			
FILE NAME : BCMAS.DAT DRIVE OR PATH : C:\BC FILE MODE : RANDOM RECORD LENGTH : 128 KEY : Branch code + 1			
COLUMN	FIELD NAME	PICTURE	REMARK
75-75	Print Daily Report	X(1)	outward
76-76	Transfer To H.O A/C 1	X(1)	"
77-77	Flag Reset Outward	9(1)	"
78-79	Inward B/C No.	X(2)MKI	inward
80-80	Print Ledger Card	X(1)	"
81-81	Print Summary	X(1)	"
82-82	Print Credit Advice	X(1)	"
83-83	Print H.O A/C 1	X(1)	"
84-84	Print Cheque Return	X(1)	"
85-85	Print Daily Report	X(1)	"
86-86	Transfer To H.O A/C 1	X(1)	"
87-87	Flag Reset Inward	9(1)	"

TABLE E.2 (CONT.) : BRANCH FILE

FILE LAYOUT			
FILE NAME : BCODLY.DAT (Header) DRIVE OR PATH : C:\BC FILE MODE : RANDOM RECORD LENGTH : 128 KEY : 1			
COLUMN	FIELD NAME	PICTURE	REMARK
1-3	File Code	X(3)	"DLY"
4-15	File Name	X(12)	"BCODLY.DAT"
16-20	Version	9(5)	
21-24	Today Date	X(4) MKS	YYMMDD
25-26	Record Count	X(2) MKI	
27-28	Outward Count	X(2) MKI	
29-30	Correct Outward Count	X(2) MKI	
31-32	Delete Outward Count	X(2) MKI	
33-34	Reverse Outward Count	X(2) MKI	
35-36	Cor rev Outward Count	X(2) MKI	
37-38	Del rev Outward Count	X(2) MKI	

TABLE E.3 : TRANSACTION FILE (HEADER)

FILE LAYOUT			
FILE NAME : BCODLY.DAT (Detail) DRIVE OR PATH : C:\BC FILE MODE : RANDOM RECORD LENGTH : 128 KEY : Record no. + 1			
COLUMN	FIELD NAME	PICTURE	REMARK
1-3	Destination Branch Code	9(3)	
4-5	B/C No.	X(2) MKI	
6-7	Accepted Year	9(2)	
8-37	Customer Name	X(30)	
38-44	Customer A/C Number	9(7)	
45-48	Outward Date	X(4) MKS	YYMMDD
49-50	Bank Code	9(2)	
51-57	Cheque No.	9(7)	
58-61	Issued Date	X(4) MKS	YYMMDD
62-65	Dued Date	X(4) MKS	YYMMDD
66-75	Drawee Id.	9(10)	
76-83	Cheque Amount	X(8) MKD	
84-84	Reply Via	9(1)	
85-88	Reverse date	X(4) MKS	
89-96	Commission	X(8) MKD	

TABLE E.4 : TRANSACTION FILE (DETAIL)

FILE LAYOUT (CONT.)			
FILE NAME : BCODLY.DAT (Detail) DRIVE OR PATH : C:\BC FILE MODE : RANDOM RECORD LENGTH : 128 KEY : Record no. + 1			
COLUMN	FIELD NAME	PICTURE	REMARK
97-104	Postage	X(8) MKD	
105-105	Type Of Reverse	9(1)	
106-107	Reason Of Return	9(2)	
108-117	Debit Account Number	9(10)	
118-118	Clearing Area	9(1)	
119-119	B/C Status	9(1)	
120-123	User Id.	9(4)	
124-125	Pointer To Daily File	9(2)	

TABLE E.4 (CONT.) : TRANSACTION FILE (DETAIL)

FILE LAYOUT			
FILE NAME : BCREV.DAT DRIVE OR PATH : C:\BC FILE MODE : RANDOM RECORD LENGTH : 128 KEY : Record Number			
COLUMN	FIELD NAME	PICTURE	REMARK
1-10	Customer Account Number	9(10)	
11-40	Customer Name	X(30)	
41-53	Reference	9(13)	
54-55	Type Of Comm & Post	9(1)	
56-61	Credit Date	9(6)	

TABLE E.5 : REVERSE FILE

FILE LAYOUT			
FILE NAME : COMMISS.DAT DRIVE OR PATH : C:\BC FILE MODE : RANDOM RECORD LENGTH : 128 KEY : Record No. 1			
COLUMN	FIELD NAME	PICTURE	REMARK
1-8	Commission Rate	X(8) MKD	"EXISTED"
9-16	Minimum Commission	X(8) MKD	
17-23	Flag Commission	X(7)	

TABLE E.6 : COMMISSION FILE

FILE LAYOUT			
FILE NAME : INWBC.bbb (Header) DRIVE OR PATH : A: FILE MODE : RANDOM RECORD LENGTH : 128 KEY : Record No. 1			
COLUMN	FIELD NAME	PICTURE	REMARK
1-5	File Flag	X(5)	"INWBC" *
6-11	Transaction Date	9(6)	
12-22	File Name	X(11)	
23-23	Transfer Flag	X(1)	
24-27	Version	X(4)	
28-31	Total Cheque	9(4)	
32-43	Total Amount	9(12)	
44-47	Total B/C Cheque	9(4)	
48-59	Total B/C Amount	9(12)	
60-63	Total IBP Cheque	9(4)	
64-75	Total IBP Amount	9(12)	
76-192	Filler	X(117)	

TABLE E.7 : INWARD TRANSACTION FILE (HEADER)

FILE LAYOUT			
FILE NAME : INWBC.bbb (Detail) DRIVE OR PATH : A: FILE MODE : RANDOM RECORD LENGTH : 128 KEY : Record No. (Sequent by transaction no.)			
COLUMN	FIELD NAME	PICTURE	REMARK
1-5	File Flag	X(5)	"INWBC"
6-6	File Key	X(1)	"1"
7-9	Our Branch Code	9(3)	
10-12	Destination Branch	9(3)	
13-14	B/C Year	9(2)	
15-18	B/C No.	9(4)	
19-25	Cheque No.	9(7)	
26-36	Cheque Amount	9(11)	
37-48	Filler	X(12)	
49-54	Due Date	9(6)	
55-60	Filler	X(6)	
61-61	Result Status	9(1)	
62-63	Return Reason	9(2)	
64-67	Filler	X(4)	
68-77	Reference No.	9(10)	

TABLE E.8 : INWARD TRANSACTION FILE (DETAIL)

FILE LAYOUT (CONT.)			
FILE NAME : INWBC.bbb (Detail) DRIVE OR PATH : A: FILE MODE : RANDOM RECORD LENGTH : 128 KEY : Record No. (Sequent by transaction no.)			
COLUMN	FIELD NAME	PICTURE	REMARK
78-78	Reply Via	9(1)	
79-108	Filler	X(30)	
109-110	Bank Code	9(2)	
111-128	Filler	X(18)	
129-138	Account Number	9(10)	
139-168	Account Name	X(30)	
169-177	Commission Amount	9(9)	
178-186	Cable/Postage Amount	9(9)	
187-192	Filler	X(6)	

TABLE E.8 (CONT.)

INWARD TRANSACTION FILE (DETAIL)

FILE LAYOUT			
FILE NAME : TRBC.bbb (Header) DRIVE OR PATH : A: FILE MODE : RANDOM RECORD LENGTH : 128 KEY : Record No. 1			
COLUMN	FIELD NAME	PICTURE	REMARK
1-5	File Flag	X(5)	"TRBC"
6-11	Transaction Date	9(6)	
12-22	File Name	X(11)	
23-23	Transfer Flag	X(1)	*
24-27	Version	X(4)	
28-31	Total Cheque	9(4)	
32-43	Total Amount	9(12)	
44-47	Total B/C Cheque	9(4)	
48-59	Total B/C Amount	9(12)	
60-63	Total IBP Cheque	9(4)	
64-75	Total IBP Amount	9(12)	
76-192	Filler	X(117)	

TABLE E.9 : TRANSFERED FILE (HEADER)

FILE LAYOUT			
FILE NAME : TRBC.bbb (Detail) DRIVE OR PATH : A: FILE MODE : RANDOM RECORD LENGTH : 128 KEY : Record No. (Sequent by transaction no.)			
COLUMN	FIELD NAME	PICTURE	REMARK
1-5	File Flag	X(5)	"TRBC"
6-6	File Key	X(1)	"1"
7-9	Our Branch Code	9(3)	
10-12	Destination Branch	9(3)	
13-14	B/C Year	9(2)	
15-18	B/C No.	9(4)	
19-25	Cheque No.	9(7)	
26-36	Cheque Amount	9(11)	
37-48	Filler	X(12)	
49-54	Due Date	9(6)	
55-60	Filler	X(6)	
61-61	Result Status	9(1)	
62-63	Return Reason	9(2)	
64-67	Filler	X(4)	
68-77	Reference No.	9(10)	

TABLE E.10 : TRANSFERED FILE (DETAIL)

FILE LAYOUT (CONT.)			
FILE NAME : TRBC.bbb (Detail) DRIVE OR PATH : A: FILE MODE : RANDOM RECORD LENGTH : 128 KEY : Record No. (Sequent by transaction no.)			
COLUMN	FIELD NAME	PICTURE	REMARK
78-78	Reply Via	9(1)	
79-108	Filler	X(30)	
109-110	Bank Code	9(2)	
111-128	Filler	X(18)	
129-138	Account Number	9(10)	
139-168	Account Name	X(30)	
169-177	Commission Amount	9(9)	
178-186	Cable/Postage Amount	9(9)	
187-192	Filler	X(6)	

TABLE E.10 (CONT.) : TRANSFERED FILE (DETAIL)

FILE LAYOUT			
FILE NAME : RINWBC.bbb (Header) DRIVE OR PATH : A: FILE MODE : RANDOM RECORD LENGTH : 128 KEY : Record No. 1			
COLUMN	FIELD NAME	PICTURE	REMARK
1-5	File Flag	X(5)	"RINWBC"
6-11	Transaction Date	9(6)	
12-22	File Name	X(11)	
23-23	Transfer Flag	X(1)	*
24-27	Version	X(4)	
28-31	Total Cheque	9(4)	
32-43	Total Amount	9(12)	
44-47	Total B/C Cheque	9(4)	
48-59	Total B/C Amount	9(12)	
60-63	Total IBP Cheque	9(4)	
64-75	Total IBP Amount	9(12)	
76-192	Filler	X(117)	

TABLE E.11 : REVERSE INTER-BRANCH FILE (HEADER)

FILE LAYOUT			
FILE NAME : RINWBC.bbb (Detail) DRIVE OR PATH : A: FILE MODE : RANDOM RECORD LENGTH : 128 KEY : Record No. (Sequent by transaction no.)			
COLUMN	FIELD NAME	PICTURE	REMARK
1-5	File Flag	X(5)	"RINWBC"
6-6	File Key	X(1)	"1"
7-9	Our Branch Code	9(3)	
10-12	Destination Branch	9(3)	
13-14	B/C Year	9(2)	
15-18	B/C No.	9(4)	
19-25	Cheque No.	9(7)	
26-36	Cheque Amount	9(11)	
37-48	Filler	X(12)	
49-54	Due Date	9(6)	
55-60	Filler	X(6)	
61-61	Result Status	9(1)	
62-63	Return Reason	9(2)	
64-67	Filler	X(4)	
68-77	Reference No.	9(10)	

TABLE E.12 : REVERSE INTER-BRANCH FILE DETAIL

FILE LAYOUT (CONT.)			
FILE NAME : RINWBC.bbb (Detail) DRIVE OR PATH : A: FILE MODE : RANDOM RECORD LENGTH : 128 KEY : Record No. (Sequent by transaction no.)			
COLUMN	FIELD NAME	PICTURE	REMARK
78-78	Reply Via	9(1)	
79-108	Filler	X(30)	
109-110	Bank Code	9(2)	
111-128	Filler	X(18)	
129-138	Account Number	9(10)	
139-168	Account Name	X(30)	
169-177	Commission Amount	9(9)	
178-186	Cable/Postage Amount	9(9)	
187-192	Filler	X(6)	

TABLE E.12 (CONT.)

REVERSE INTER-BRANCH FILE (DETAIL)

FILE LAYOUT			
FILE NAME : RTRBC.bbb (Header) DRIVE OR PATH : A: FILE MODE : RANDOM RECORD LENGTH : 128 KEY : Record No. 1			
COLUMN	FIELD NAME	PICTURE	REMARK
1-5	File Flag	X(5)	"RTRBC"
6-11	Transaction Date	9(6)	
12-22	File Name	X(11)	
23-23	Transfer Flag	X(1)	*
24-27	Version	X(4)	
28-31	Total Cheque	9(4)	
32-43	Total Amount	9(12)	
44-47	Total B/C Cheque	9(4)	
48-59	Total B/C Amount	9(12)	
60-63	Total IBP Cheque	9(4)	
64-75	Total IBP Amount	9(12)	
76-192	Filler	X(117)	

TABLE E.13 : REVERSE TRANSFERED FILE (HEADER)

FILE LAYOUT			
FILE NAME : RTRBC.bbb (Detail) DRIVE OR PATH : A: FILE MODE : RANDOM RECORD LENGTH : 128 KEY : Record No. (Sequent by transaction no.)			
COLUMN	FIELD NAME	PICTURE	REMARK
1-5	File Flag	X(5)	"RTRBC"
6-6	File Key	X(1)	"1"
7-9	Our Branch Code	9(3)	
10-12	Destination Branch	9(3)	
13-14	B/C Year	9(2)	
15-18	B/C No.	9(4)	
19-25	Cheque No.	9(7)	
26-36	Cheque Amount	9(11)	
37-48	Filler	X(12)	
49-54	Due Date	9(6)	
55-60	Filler	X(6)	
61-61	Result Status	9(1)	
62-63	Return Reason	9(2)	
64-67	Filler	X(4)	
68-77	Reference No.	9(10)	

TABLE E.14 : REVERSE TRANSFERED FILE (DETAIL)

FILE LAYOUT (CONT.)			
FILE NAME : RTRBC.bbb (Detail) DRIVE OR PATH : A: FILE MODE : RANDOM RECORD LENGTH : 128 KEY : Record No. (Sequent by transaction no.)			
COLUMN	FIELD NAME	PICTURE	REMARK
78-78	Reply Via	9(1)	
79-108	Filler	X(30)	
109-110	Bank Code	9(2)	
111-128	Filler	X(18)	
129-138	Account Number	9(10)	
139-168	Account Name	X(30)	
169-177	Commission Amount	9(9)	
178-186	Cable/Postage Amount	9(9)	
187-192	Filler	X(6)	

TABLE E.14 (CONT.)

REVERSE TRANSFERED FILE (DETAIL)



APPENDIX
F
DATA DICTIONARY

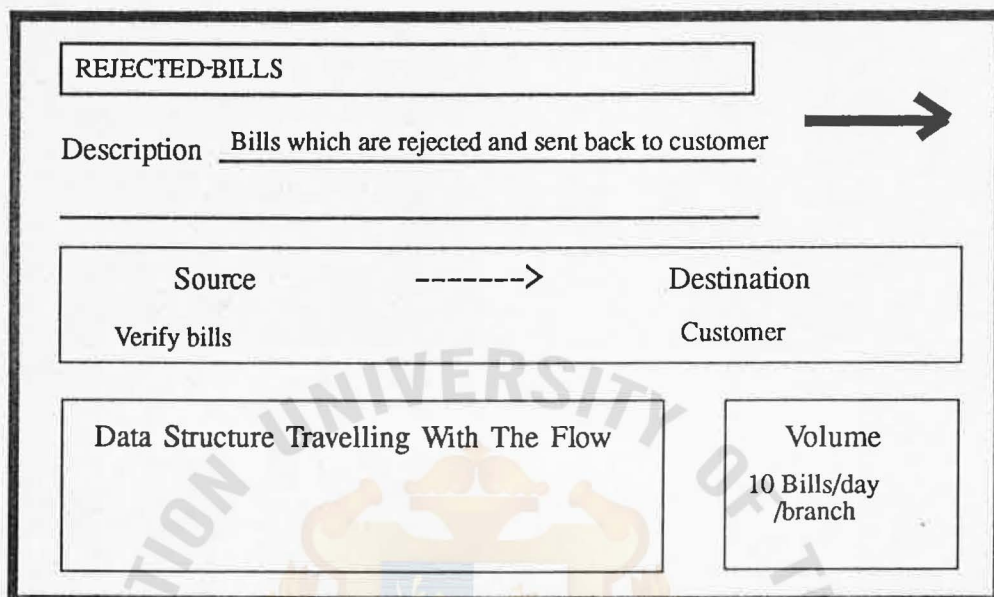


FIGURE F.1 : DATA FLOW ; REJECTED-BILLS

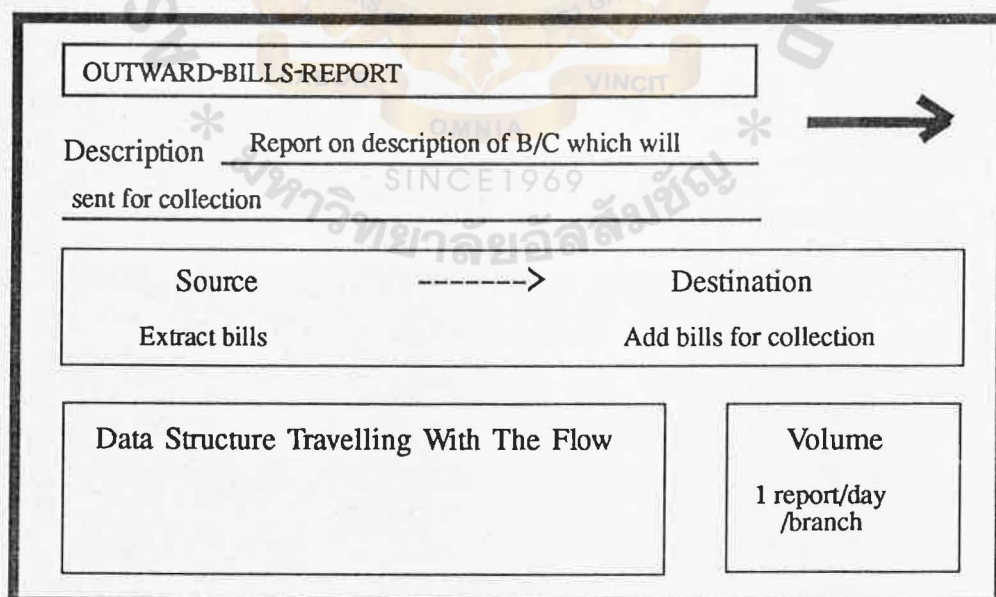


FIGURE F.2 : DATA FLOW ; OUTWARD-BILLS-REPORT

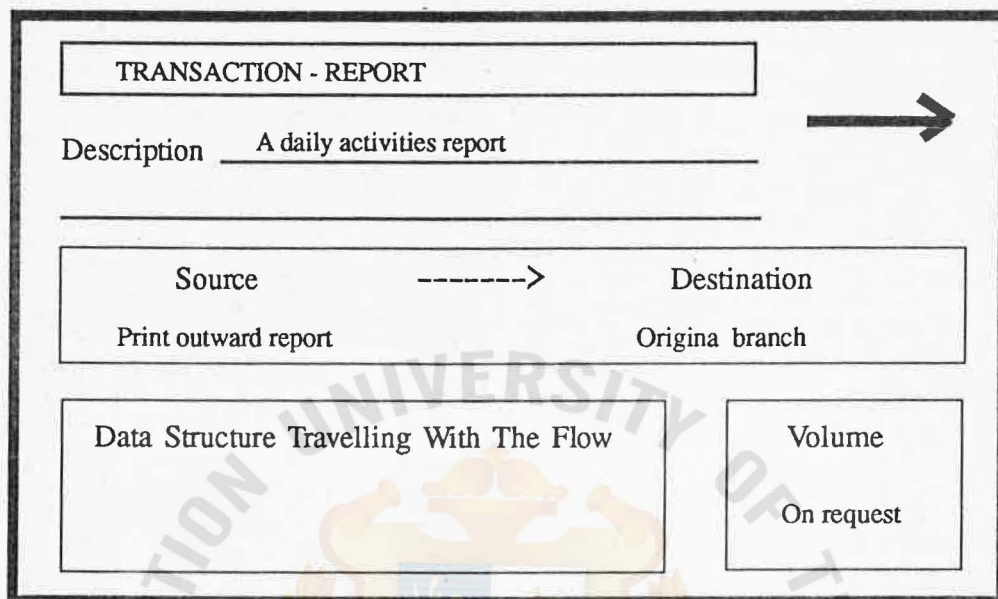


FIGURE F.3 : DATA FLOW ; TRANSACTION-REPORT

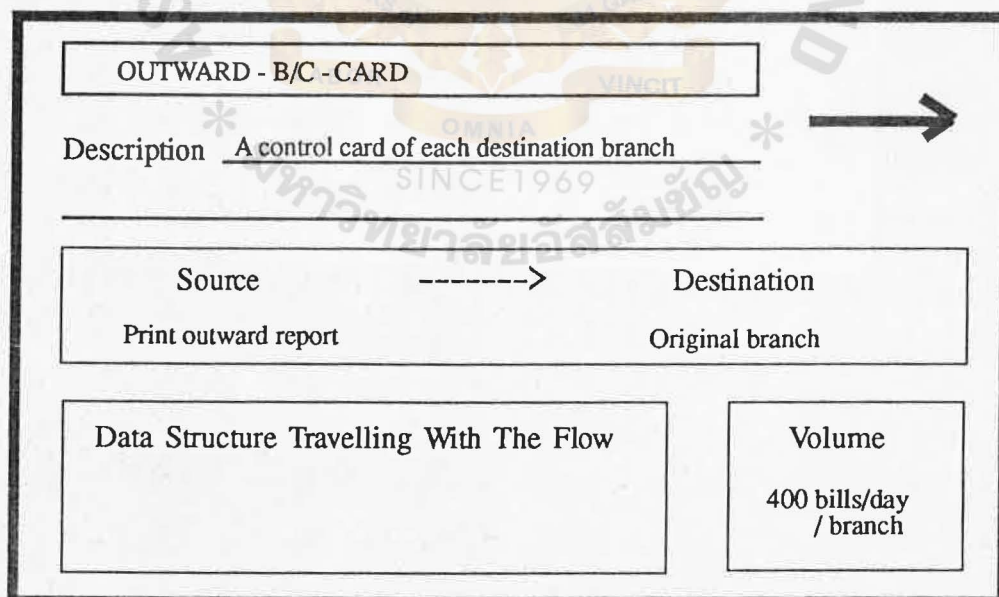


FIGURE F.4 : DATA FLOW ; OUTWARD-B/C-CARD

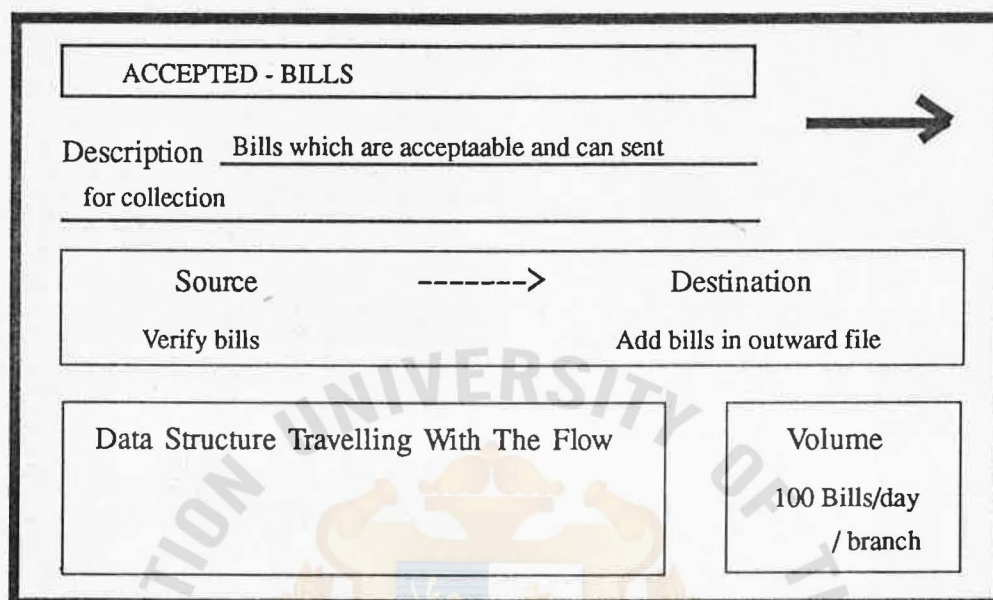


FIGURE F.5 : DATA FLOW ; ACCEPTED-BILLS

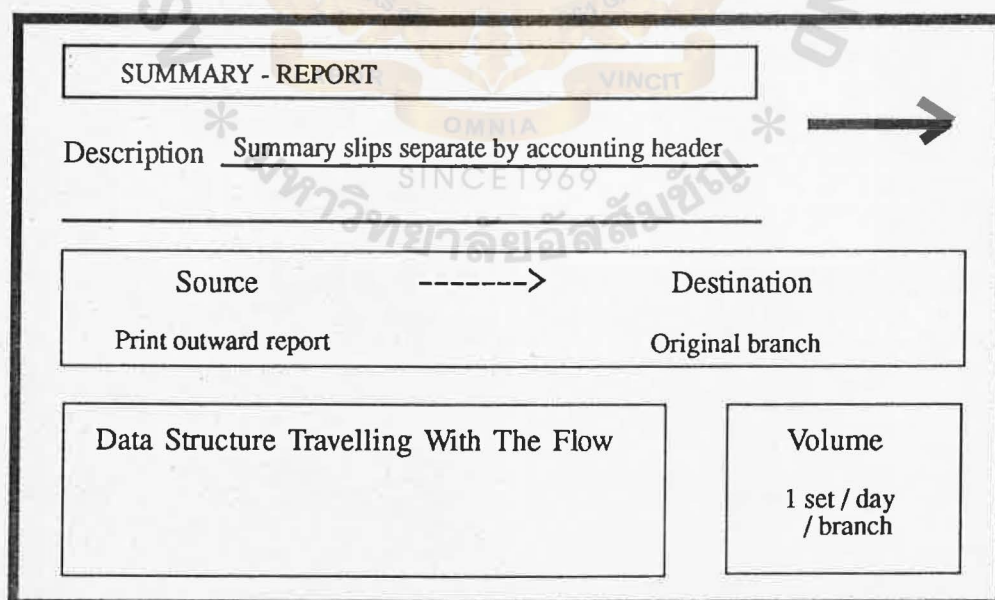


FIGURE F.6 : DATA FLOW ; SUMMARY-REPORT

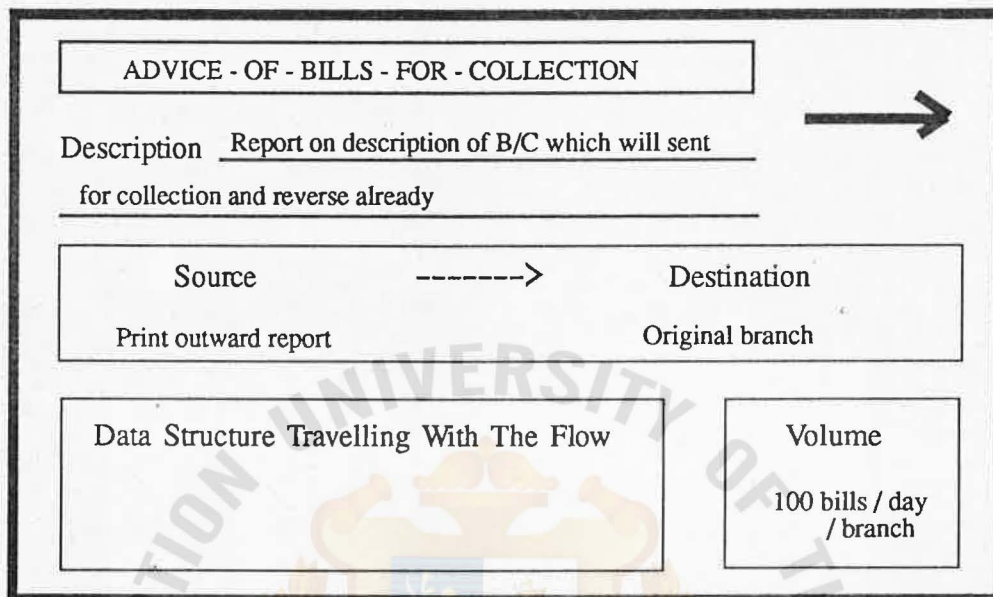


FIGURE F.7 : DATA FLOW ; ADVICE-OF-BILLS-FOR-COLLECTION

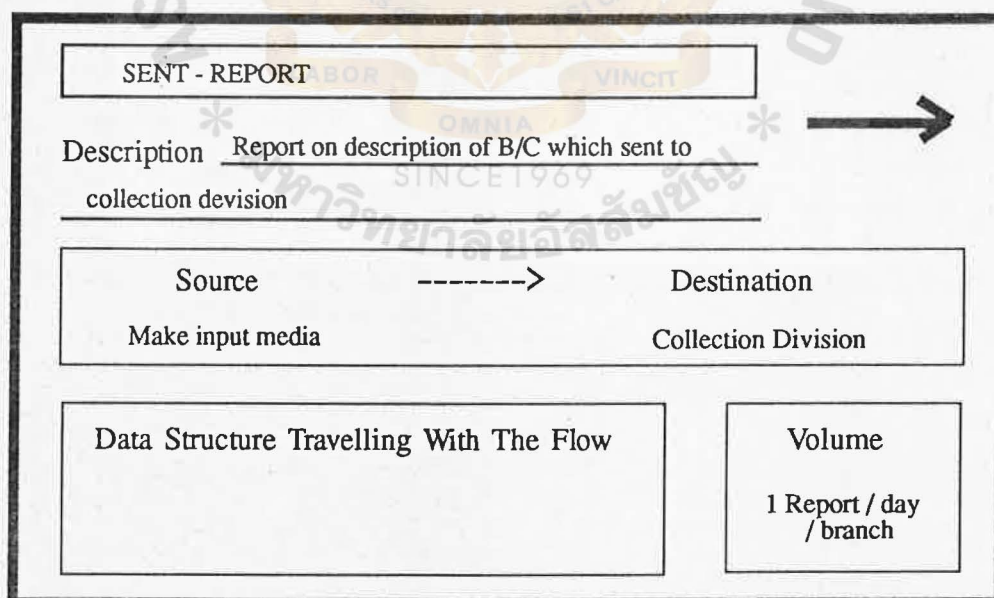


FIGURE F.8 : DATA FLOW ; SENT-REPORT

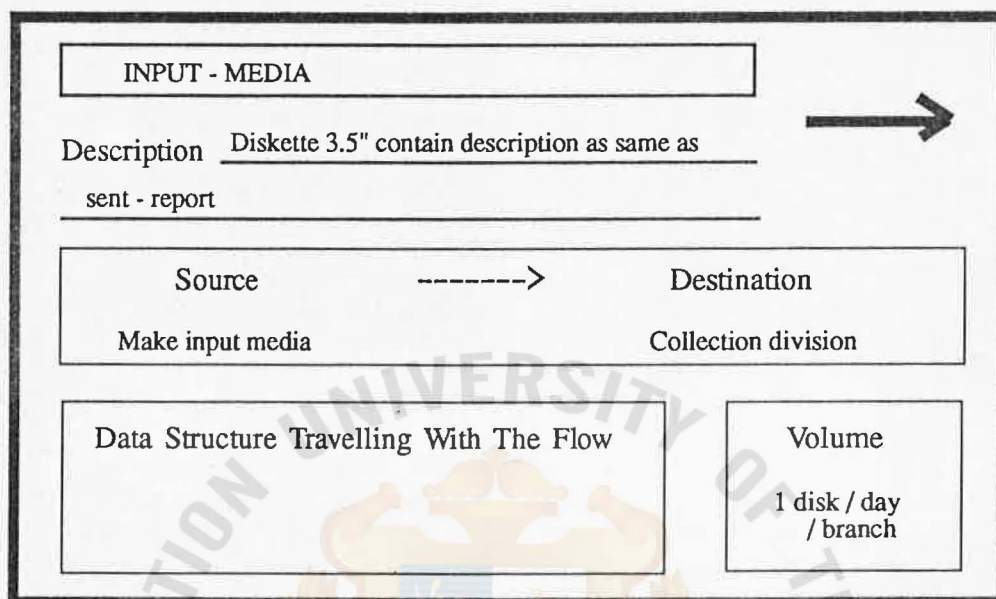


FIGURE F.9 : DATA FLOW ; INPUT-MEDIA

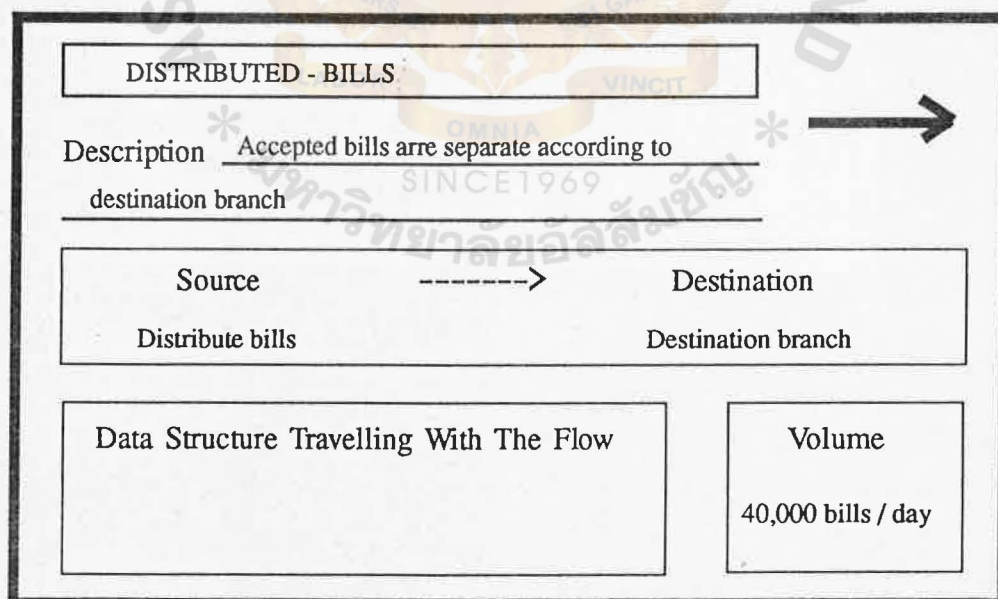


FIGURE F.10 : DATA FLOW ; DISTRIBUTED-BILLS

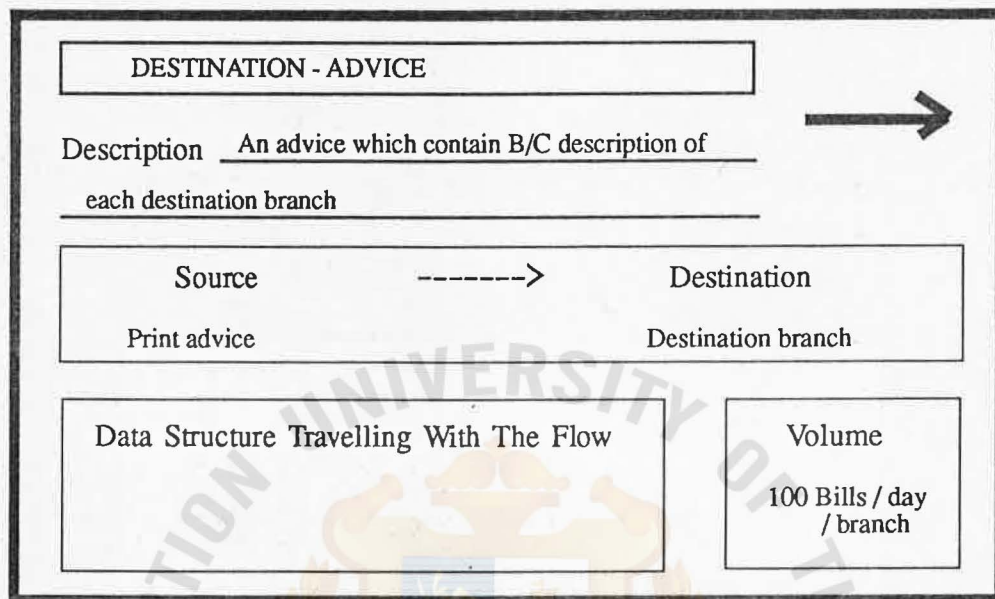


FIGURE F.11 : DATA FLOW ; DESTINATION-ADVICE

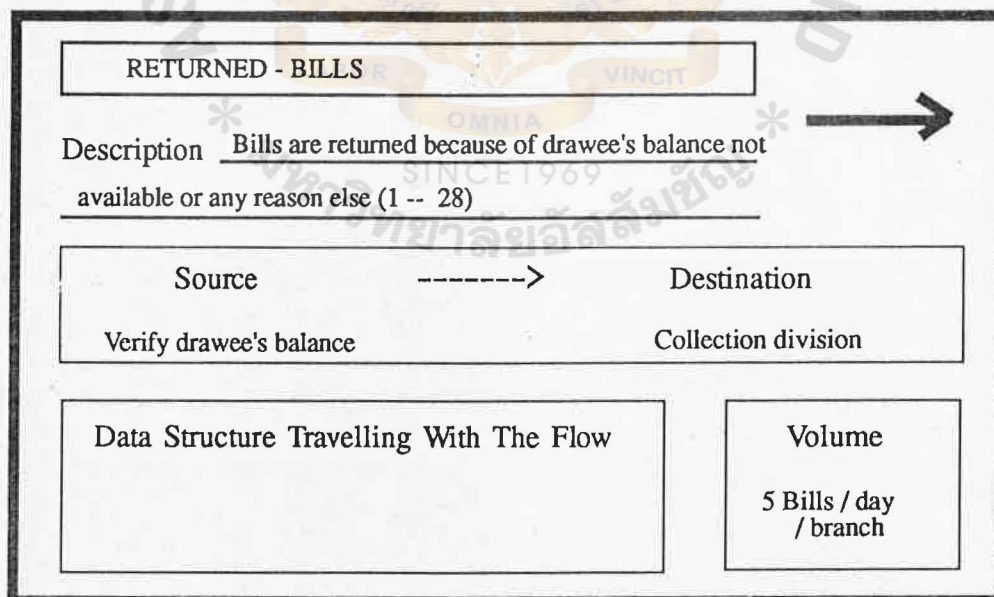


FIGURE F.12: DATA FLOW ; RETURNED-BILLS

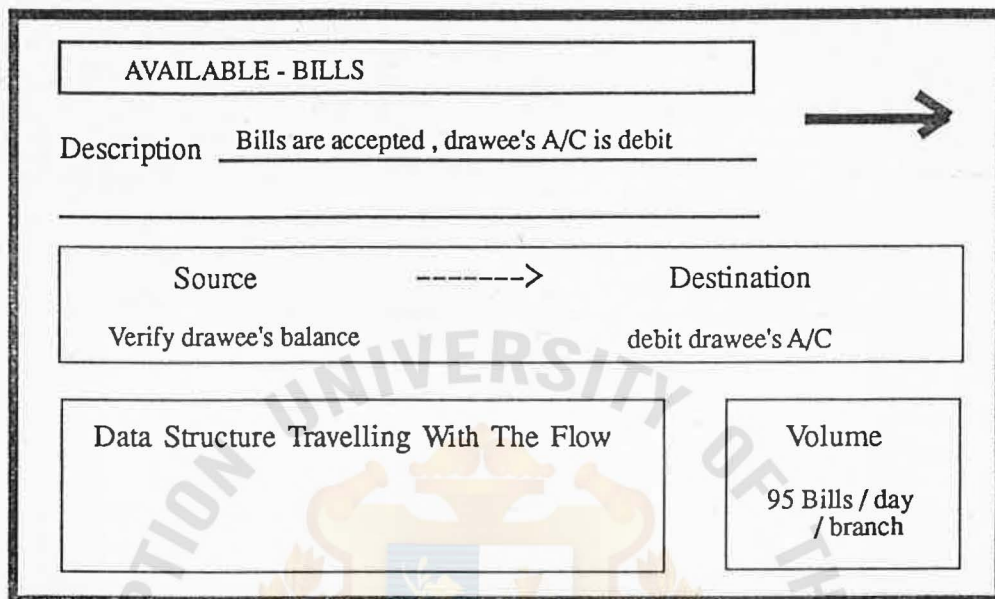


FIGURE F.13 : DATA FLOW ; AVAILABLE-BILLS

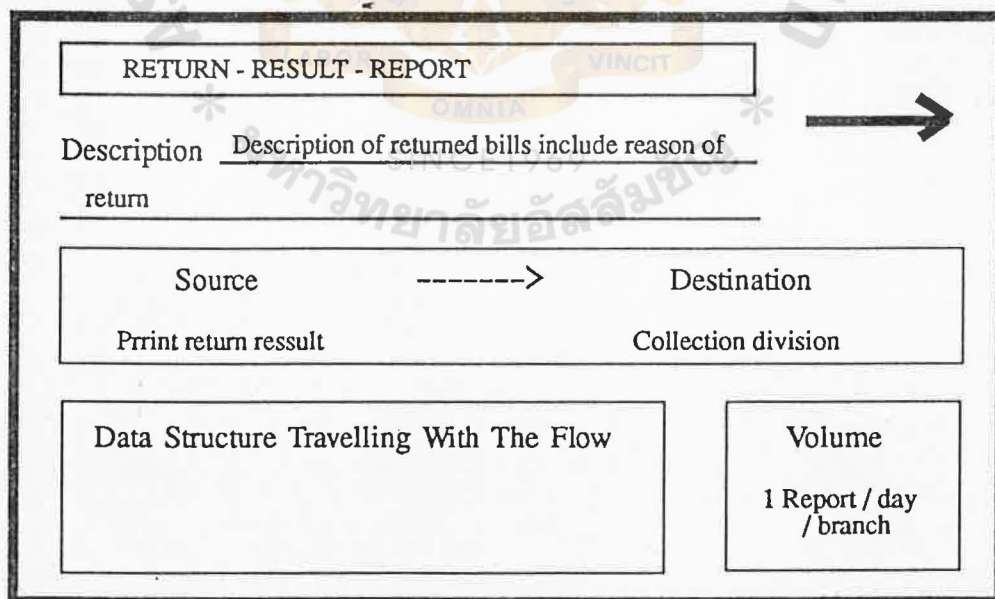


FIGURE F.14: DATA FLOW ; RETURN-RESULT-REPORT

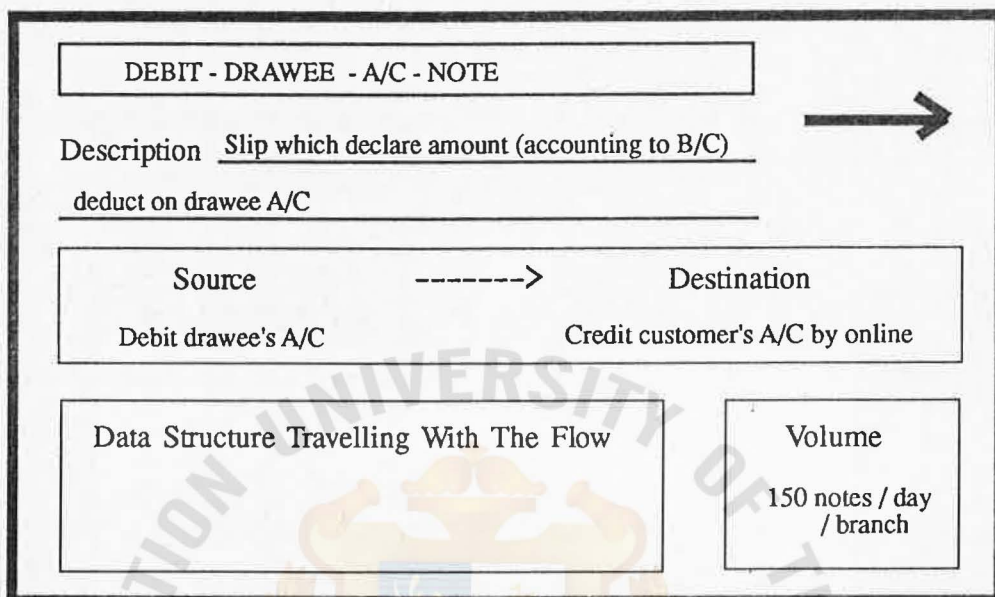


FIGURE F.15 : DATA FLOW ; DEBIT-DRAWEE-A/C-NOTE

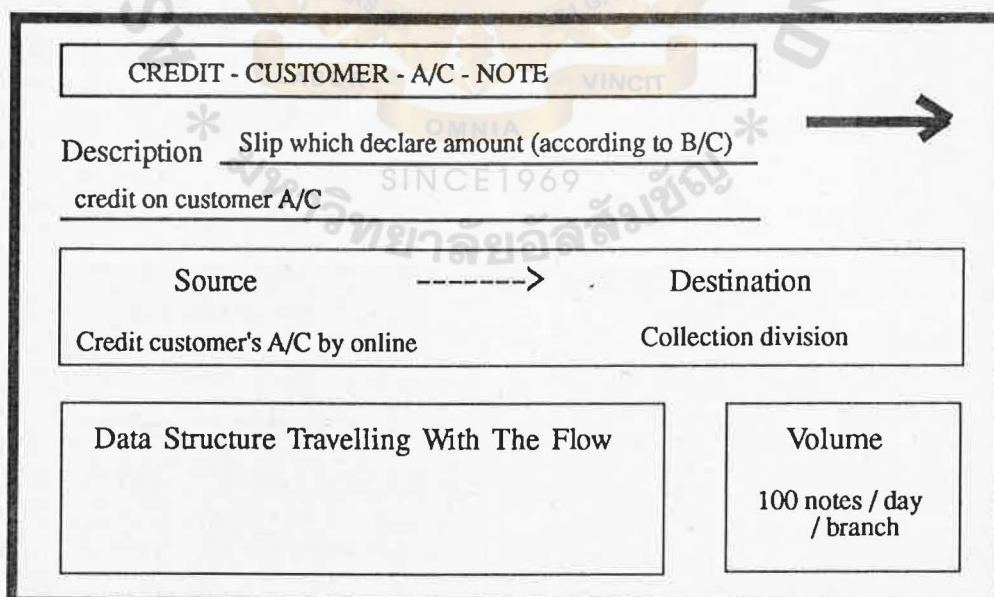


FIGURE F.16: DATA FLOW ; CREDIT-CUSTOMER-A/C-NOTE

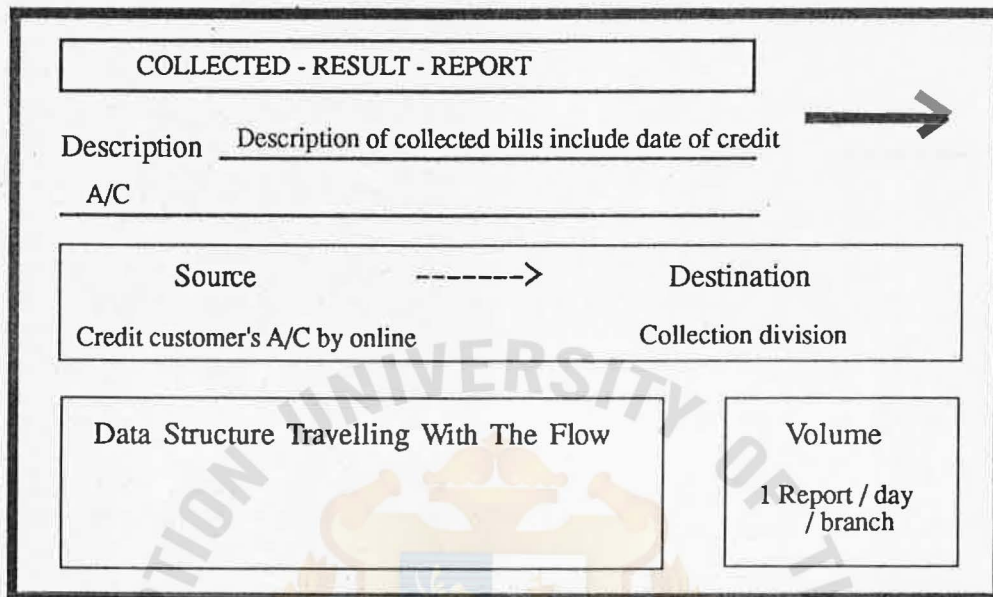


FIGURE F.17 : DATA FLOW ; COLLECTED-RESULT-REPORT

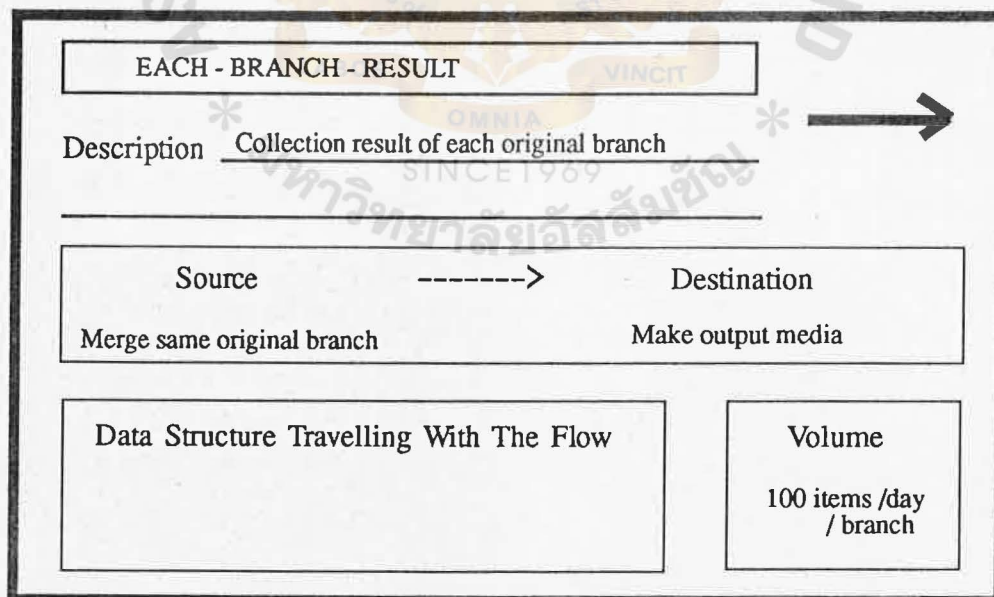


FIGURE F.18: DATA FLOW ; EACH-BRANCH-RESULT

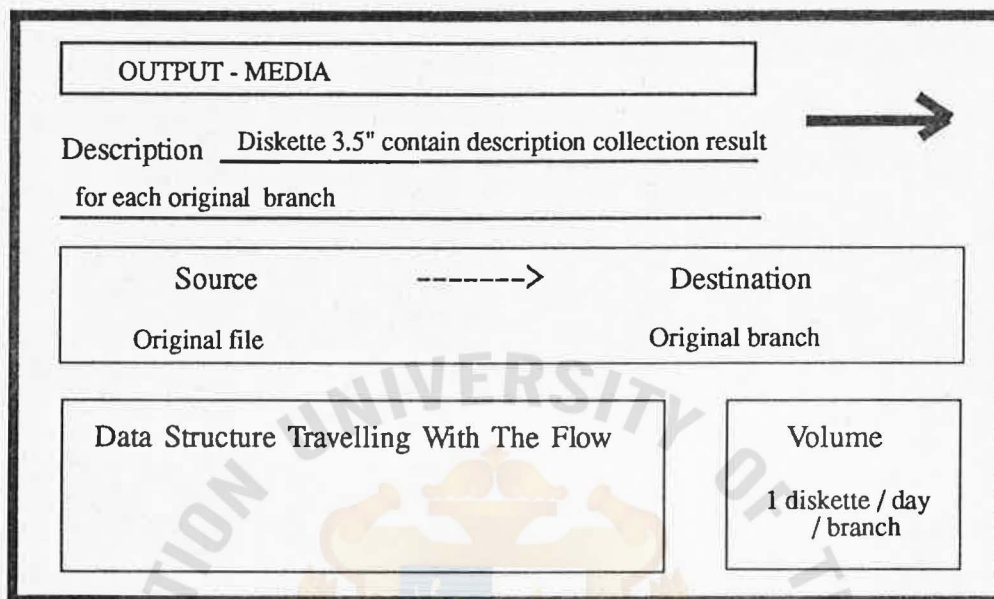


FIGURE F.19 : DATA FLOW ; OUTPUT-MEDIA

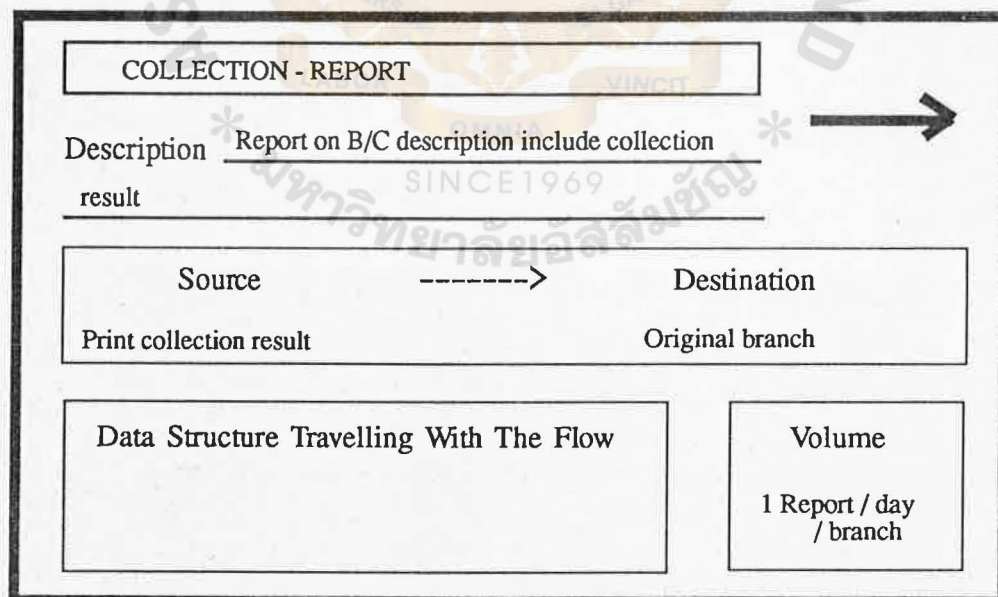


FIGURE F.20: DATA FLOW ; COLLECTION-REPORT

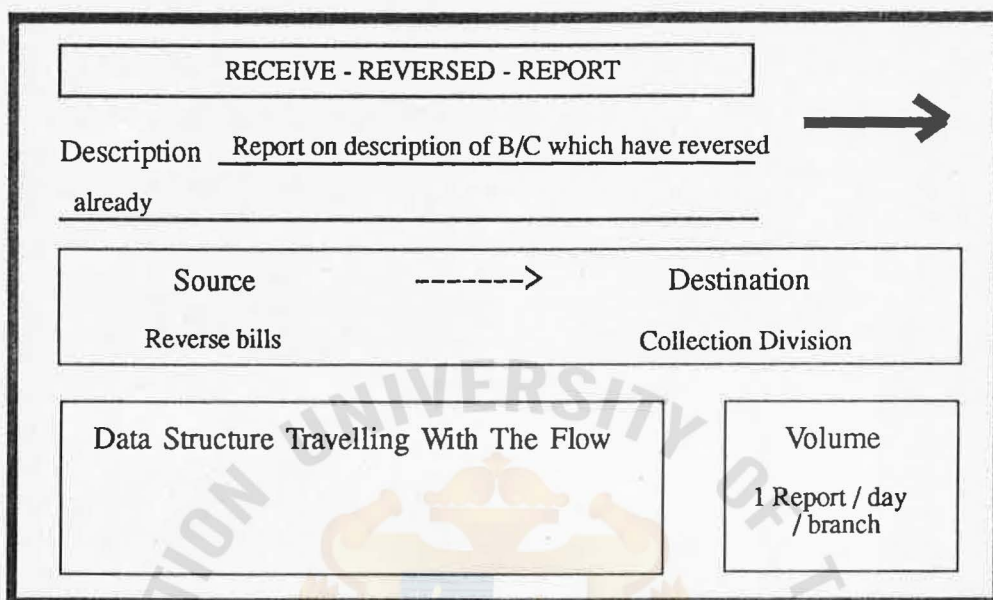


FIGURE F.21 : DATA FLOW ; RECEIVE-REVERSED-REPORT

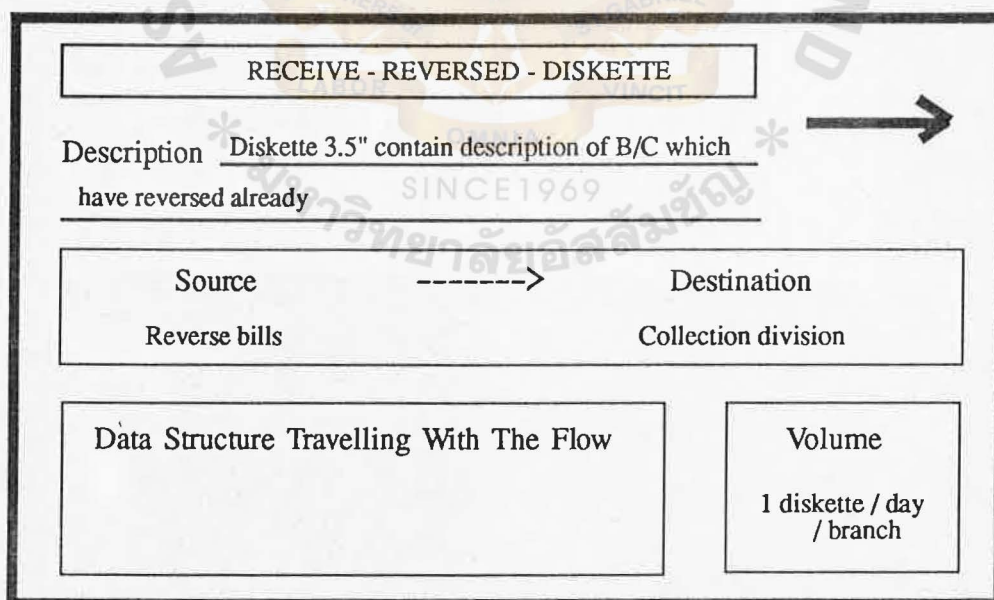


FIGURE F.22: DATA FLOW ; RECEIVE-REVERSED-DISKETTE

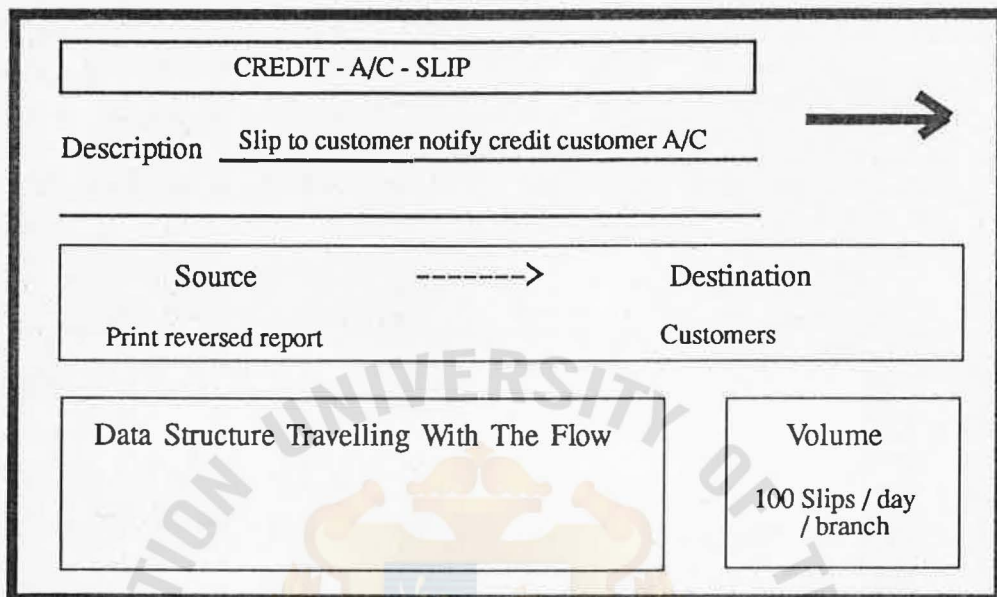


FIGURE F.23 : DATA FLOW ; CREDIT-A/C-SLIP

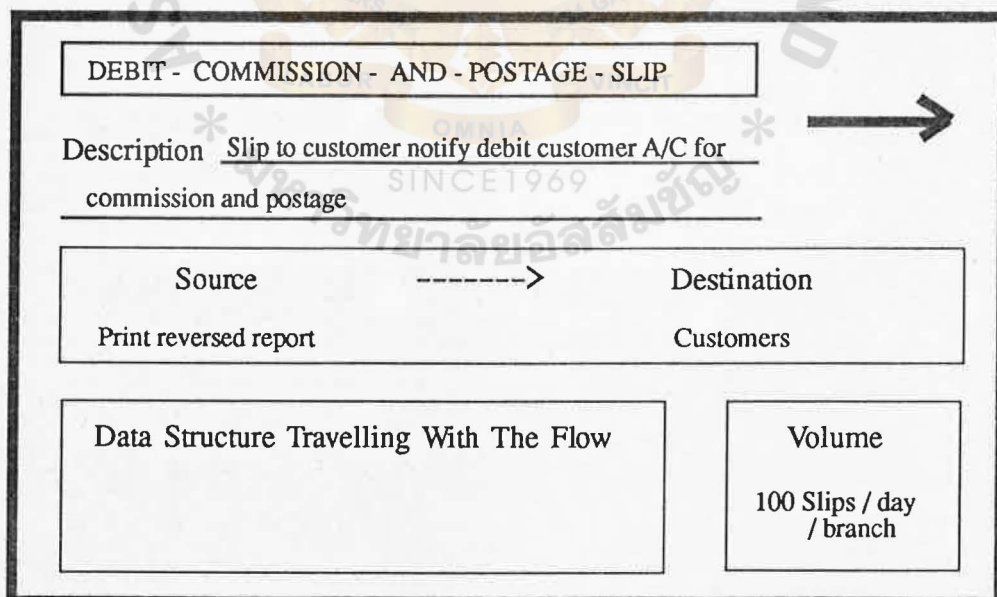


FIGURE F.24: DATA FLOW ; DEBIT-COMMISSION-AND-POSTAGE-SLIP

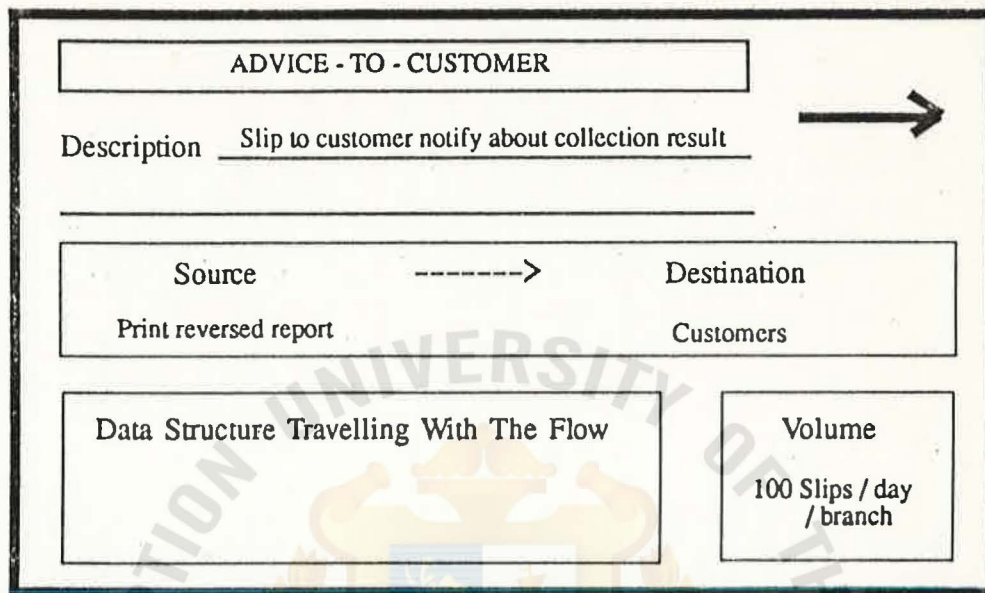


FIGURE F.25 : DATA FLOW ; ADVICE-TO-CUSTOMER

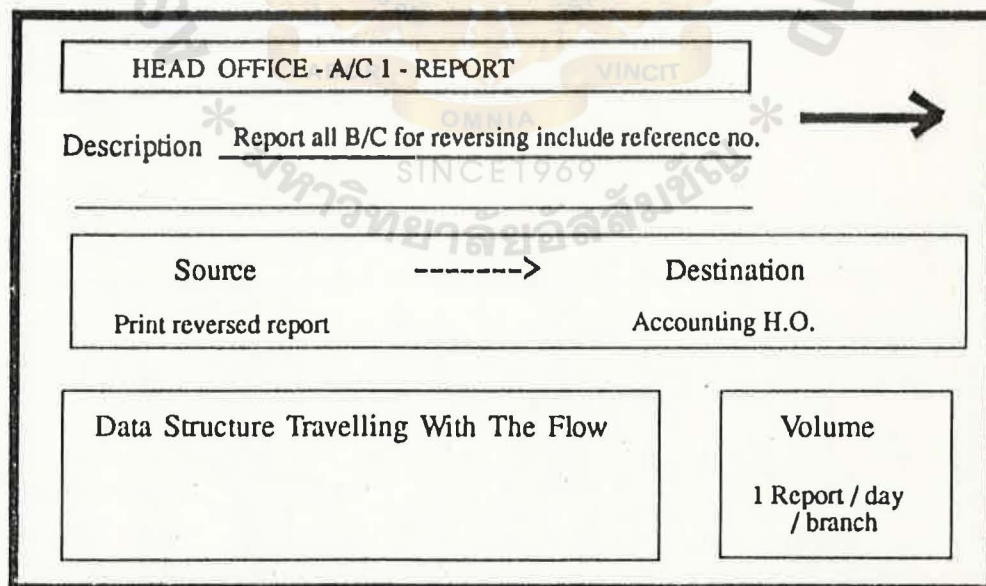


FIGURE F.26 : DATA FLOW ; HEAD OFFICE-A/C1-REPORT