Cash Management Information System for Yarn Spinning Company

by

Mr. Pornsak Soranaraksopon

A 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

November, 2001

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Project Title	Cash Management Information System for Yarn Spinning Company
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Academic Year	November 18, 2001

The Graduate School of Assumption University has approved this 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.

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ABSTRACT

This project represents an analysis and design for Cash Management System of Teparak Spinning Co., Ltd. The new computerized system is developed to improve the business process and cash management functions of the company and to solve the problems that occur in the existing system.

The existing cash management system is operated by a manual based system and stand-alone PC so it causes a lot of problems to the company. The main problem is the lack of effective management information to support cash flow forecasting, decision-making and company investment planning. The existing system causes the company high operating costs because the company has to have many people and resources to keep and manage the data. The new computerized system, developed using system analysis and design techniques, is proposed to replace the existing system. The new system consists of three clients and a server connected by LAN and implements the Microsoft Access 2000. The cost analysis of the proposed system is determined by using payback method and the break-even point between existing system and proposed system. At the beginning the proposed system will cost more than the existing system but in two years and four months, both systems will cost the same and then the accumulating cost of the proposed system will be lower. The new computerized system is designed to be user-friendly, will speed up data managing and provide accurate and up-to-date information for the management.

After implementation, it will help the company's performance. After users become familiar with the new system, the company will find that the company will get more profit since the users get more efficient job and company will get more efficient information to support decision-making than before.

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I. INTRODUCTION

1.1 Background of the Project

The globalization of the world's industrial economies and the current economic situation, the effectiveness and efficiency of using information is the most important tool for the company to gain advantages over other competitors in the competitive business world. The power of today computer hardware, software and network has grown rapidly so many companies use the new computer technologies to apply to their current business environment in order to make company more competitive. The computer technologies can improve the use of meaningful information to be more powerful in addition, it can support decision-making management and reduce the time required to control and manage the information.

Teparak Spinning Co., Ltd. is a manufacturing company that produces and sells various kinds of yarn to customers. Since the company has an increase in the total amount of sales to customers and more consumption of the raw materials, it makes the company to also have more transactions of financial nature. The effectiveness of a computerized system would contribute to increase the performance of the financial department in doing business. It can be used to save working procedures and time, reducing human errors, and supporting decision-making of management or executive level of the company.

The new computerized cash management system is believed to provide a better support to the users in day-to-day operation, improve the operation time in doing business and also can support statistical data using decision-making and investment planning of the company.

1.2 Objectives of the Project

The objectives of the project are as follows:

(1) To study the existing manual system and design the new system for cash management system which will make it more effective and efficient.

(2) To design and develop the computerized Information system for cash management system.

(3) To store reliable information for collecting money and payment which can be used to analyze into more useful information in the future.

(4) To reduce the redundant or duplicate work of the staff.

(5) To reduce the expenditure of the organization.

(6) To provide timely reports with more accuracy and reliability to the top management for making decisions and for cash flow forecasting.

(7) To provide management with timely, meaningful and reliable information which improves management's decision making in planning and controlling in order to achieve the organization plan and goal.

(8) To facilitate the work of operating staff.

(9) To maximize the value of the company while maintaining liquidity.

(10) To prepare enough cash to dispense effectively with the disbursal needs that arise in the course of doing business.

1.3 Scope of the Project

The computerized solution for this project will cover the major aspects of a cash management information system. It consists of the following:

(1) Create and manage a money-receiving subsystem that records can link to sales department system.

(2) Create and manage payment subsystem that records can link to purchasing department system and personnel department system.

(3) Create and manage T/R payment subsystem that can link to cotton ordering system and imported spare parts ordering system.

(4) Develop Bank's expense subsystem to record the bank's expense details.

(5) Develop the information supporting subsystem that can provide useful and reliable information to the financial manager for supporting decision-making.

(5) Develop the system that can facilitate the day-to-day operation of the operating staff.

1.4 Deliverables of the Project

(1) Project Introduction

(a) Background of the project

(b) Objectives

(c) Scope

(2) The Existing System

(a) Background of the organization

(b) Existing business function

(c) Current problems and areas for improvements

(3) The Proposed System

(a) System specification

(1) Context diagram

(2) Data flow diagram

(b) System design

(1) Database Design

(2) Structure Chart

(3) Interface Design

(4) Report Design

(5) Data Dictionary

(c) Hardware and software requirement

(d) Security and controls

(e) Cost/benefit analysis

(4) Project Implementation

(a) Project implementation plan

(b) Test plan

(5) Conclusions and Recommendations

1.5 Project Plan:

The procedures of the cash management information system project are based on the concept of System Development Life Cycle (SDLC). The Processes are divided into 3 main phases as following:

(1) Analysis of the existing system.

(2) Analysis and design of the proposed system.

(3) Implementation of the proposed system.

This project plan of Cash Management Information System is given in Figure 1.1.

No.	Task Name
	I. Analysis of the Existing System
1	Define the Objective and Scope
2	Study the Existing System
3	Identify the Existing Problems
4	Develop Context Diagram
5	Develop Data Flow Diagram
6	Cost and Benefit Analysis
	II. Analysis and Design of the Proposed System
7	Interface Design
8	Report Design
9	Database Design
10	Network Design
11	Program Design
	III. Implementation of the Proposed System
12	Coding
13	Hardware Installation
14	Software Installation
15	Testing
16	Conversion

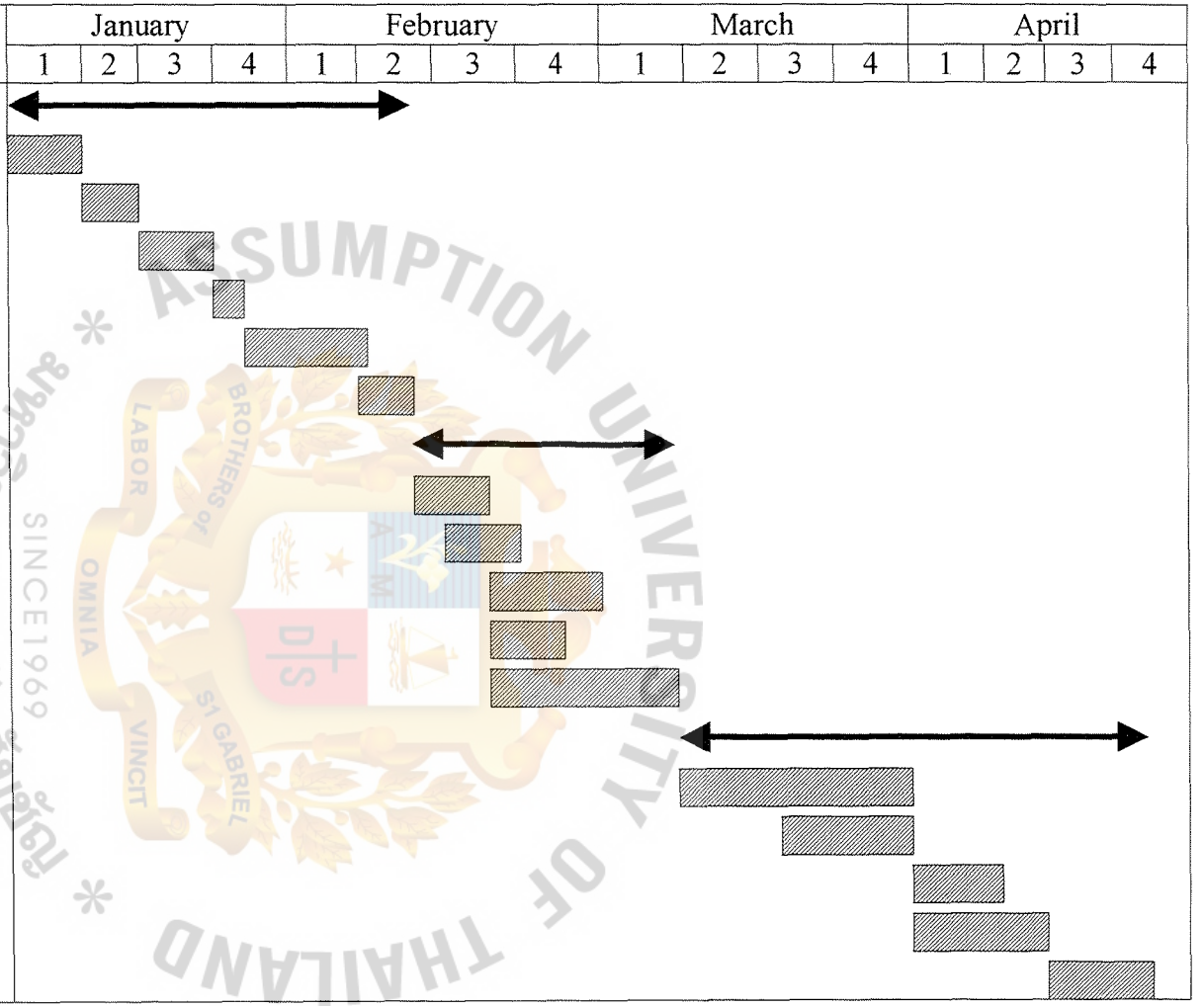

Figure 1.1. Project Plan of Cash Management Information System of Teparak Spinning Co., Ltd.

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II. THE EXISTING SYSTEM

2.1 Background of the Organization

Teparak Spinning Company Limited (TPS) was established in 1989 to manufacture various high quality types of yarn to serve textile trade in both the domestic market as well as internationally. Its plant is located on Teparak Road, Samutprakan, Thailand. For almost thirteen years, the company has served the customers with competitiveness to challenge the country supplies. Today TPS moves further with better products and services.

TPS is a leading and trustworthy manufacturer of cotton and polyester yarn using the most advanced continuous and modern spinning technology for the spinning process. Highly advanced computer system is used in controlling every processing station. Technical problems, if any, can be identified immediately and resolved efficiently. The state of the art continuous spinning process used in the plant has resulted in consistently higher product quality and lower production cost than some other spinning companies, thus giving TPS a significant advantage among the competitors.

TPS has grown up along with the conscious mind on the apparel manufacturing technology. The company updates its machinery and techniques to stay competitive and serve customers who need new technology products.

General company's products:

(1) Spun Cotton Yarn for Knitting and Weaving (Ne.20, 30, 32, 40)

(2) Spun Polyester Yarn for Knitting (Ne.20, 32, 34)

(3) Combed Cotton Yarn for Knitting (Ne.20, 32, 40)

The organization chart is shown in Figure 2.1.

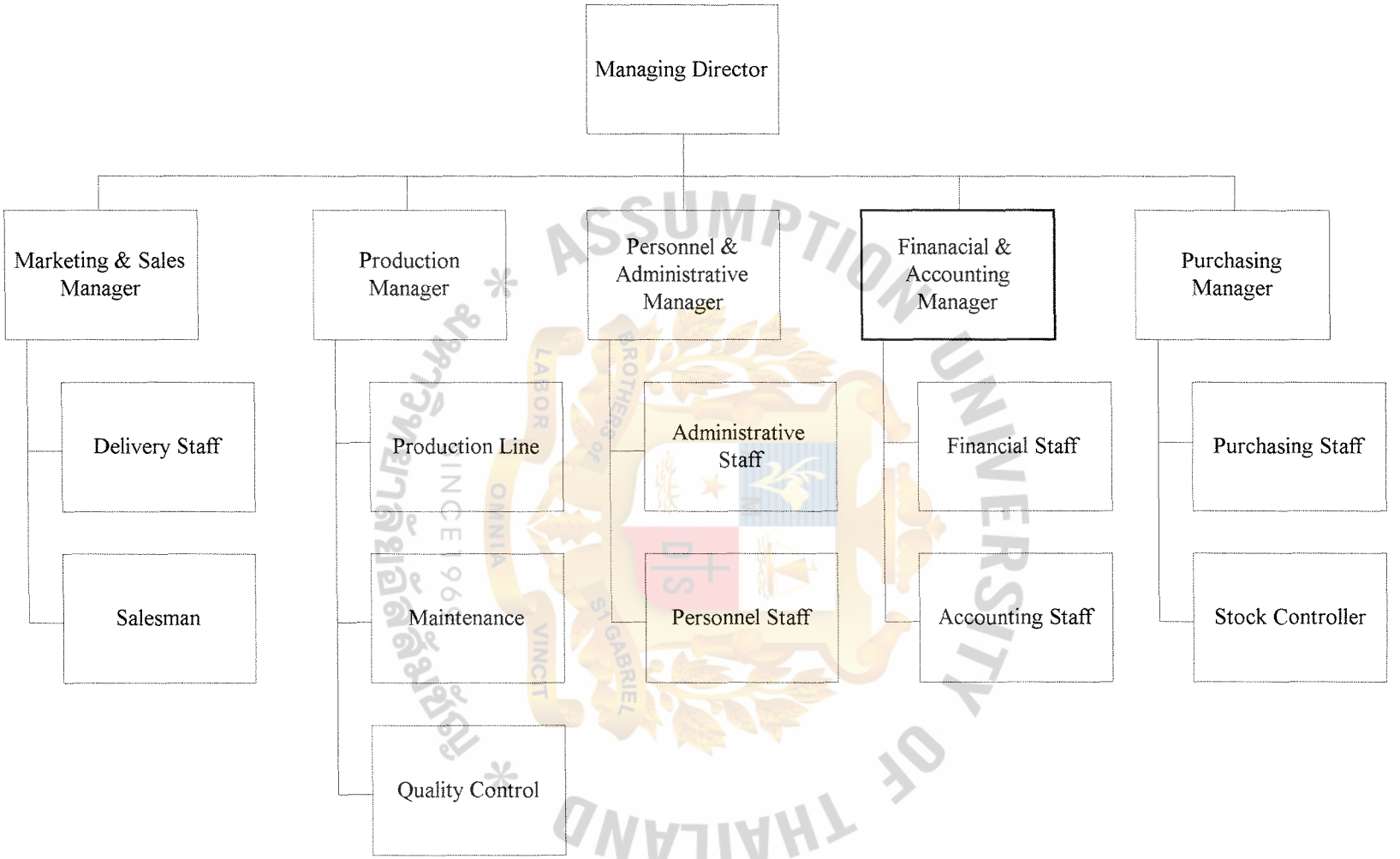

Figure 2.1. Organization Chart of Teparak Spinning Co., Ltd.

2.2 Existing Business Function

Cash flow of Teparak Spinning Company can be divided into two parts:

(1) Income: Which is from selling company's products to customers. The company can get the money from customers in three ways.

(a) Collecting Cheque: After products were sent to customers for a period of time, Company will send a staff to get cheques from customers to liquidate their account.

(b) Transferring Money: Customers may transfer money to company account before or after receiving the products.

(c) Cash: Customers also can pay company in cash at financial department.

(2) Expenditure: There are three alternatives for company to make the payment.

(a) Paying Cheque: Company pays its cheque to most local suppliers and to the government entities or state enterprises.

(b) Trust Receipt (T/R) Payment: Company pays T/R to the bank for imported raw material, imported spare parts and imported machines.

(c) Cash: Company pays cash to some suppliers for the products whose costs are not so high and pay to company's employees their salary, however the company still uses its cheque to withdraw money from bank for cash payments.

All transactions in the cash management system are carried out manually with a little support by Excel program. The information of the company's income is sent from the Sales department. The information of the company's expenditure is captured by Purchasing department, Personnel department, Sales department, and from outside

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organization (Bank, State Enterprise, etc.). These are activities performed by financial department.

(1) Collecting Money

(a) Get Sales information and Delivery Bill from Sales department.

(b) Record into accounts receivable.

(c) Issue invoice to customer.

(d) Collect Money (Cash, Cheque) from customer or waiting customer to transfer money to company's account.

(e) Credit accounts receivable.

(f) Record into Cheque receiving record and cheque holding record.

(g) Report to financial manager.

(2) Paying expense

(a) Get Payment information.

(b) Credit into account payable.

(c) Prepare cheque or cash for each payment.

(d) Pay the expense in due payment date.

(e) Debit account payable.

(f) Record to payment record.

(g) Report to financial manager.

(3) Getting Letter of Credit (L/C) and Trust Receipt (T/R) information

(a) Get L/C information from purchasing department.

(b) Get T/R Due date, T/R Amount from bank.

(c) Prepare money for each T/R payment.

(d) Report to financial manager.

(4) Getting bank interests, bank fees and loan payment information.

(a) Get bank interest, bank fees and loan payment information from each bank account.

(b) Record into receiving record or payment record.

(5) Depositing cash or cheque to the bank.

(a) Prepare cheque and cash that can deposit into the bank.

(b) Check bank account balance and cheque payment detail.

(c) Separate cheque and cash into each bank account.

(d) Record depositing cheque and cash into the deposit record for each account.

(e) Take cheque and cash to the bank.

(f) Confirm cheque pay-in into the deposit record.

(g) Update cheque-holding status.

(h) Report to the financial manager.

(6) Selling cheque to the bank.

(a) Financial staffs report to the financial manager when company needs to sell cheque.

(b) Financial manager prepares report for the Managing Director approval.

(c) Managing Director approves the report.

(d) Financial staffs prepare cheque that can sell to the bank and make report to the financial manger.

(e) Financial manager and Managing Director approve cheque and report.

(f) Take cheque to the bank.

(g) Update to deposit record.

(h) Update to cheque holding record.

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(i) Update to selling cheque record.

(j) Report to the financial manager.

(7) Selling Promissory Note (P/N) to the bank.

(a) Financial staff reports to financial manager when company needs to sell Promissory Notes.

(b) Financial manager prepares report for the Managing Director approval.

(c) Managing Director approves the report.

(d) Financial staffs prepare Promissory Notes and make reports to the financial manger.

(e) Financial manager and Managing Director approve the Promissory Notes and the reports.

(f) Take Promissory Notes to the Bank.

(g) Get confirmed Promissory Notes from the bank and record Promissory Notes due date and amount of money to the book.

(h) Update to P/N budget status.

(i) Report to the financial manager.

2.3 Current Problems and Areas for Improvement

Several problems were identified during the analysis of the existing system. The problems could be summarized as follows:

(1) Problem of recording cheque holding.

Since company records collecting cheques manually in the book, it needs two books to record the cheque data: First book used to record cheques collected on each day and another one is used to record cheque details sorted by cheque date. So it is obvious that the staff has to waste time

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and resources to do these two similar processes and it also may cause redundancy problems between these two data.

(2) Problem of managing cheque holding.

The company can either deposit cheques or sell cheques to the banks so it is hard to update the cheque holding record. Managers also cannot know the updated total amount of cheques that company is holding promptly, it needs the staff to recalculate and recheck the status of cheques everytime managers need to know the total amount of cheques.

(3) Problem of checking receiving money from customers with the total amount in invoice.

The company does not have the shared data system between sales department and financial department, therefore, everytime customer pays cash or cheque to financial department, the financial department staff has to spend a lot of time to find the copy of the invoice to check the amount of money received with the invoice amount.

(4) Problem of managing cheque payment record.

The company has to record cheque payments for each bank account, as the company has more than one account to pay the cheque so it has more than one diary book to record the cheque paid details sorting them by dates paid. So it is hard for the staff to find the paid record in the books by searching the details that not on the paid date (paid amount, supplier name or cheque number).

(5) Problem of managing and controlling cash flow.

The company records the collected cheque data, paid cheque data, loan payment data, selling cheque data, Promissory Note data and Trust

Receipt information separately in each book, so it is hard to calculate how much money the company gets in or pays out on each day, that makes it hard for the company to control and mange the cash flow each bank's account which may cause the company to lose lots of money on bank's interest and may suffer from money shortage problems.

(6) Problem of preparing and managing money for Trust Receipt (T/R) payment and loan payment.

It is hard to know what the cash flow on each day is so it will make it hard to arrange for money to pay for T/R and loan to the bank. If the company does not have enough money to pay for T/R or loan to the bank on the due date, Bank will charge it with interest.

(7) Problem of forecasting budget available for future investment.

Managers cannot see the total cash flow in the future, the past cash flow of the company and the existing system cannot show the P/N budget available and cheque selling budget available so it will be hard for forecasting available budgets for the future investment.

(8) Security Problem.

The current system does not help or support the manager to control the staff in cheque collecting and cheque managing. So there is a risk that the financial staff can cheat the company.

Context diagram of the existing system is given in Figure 2.2 and level 0 Dataflow Diagram of the existing system is given in Figures 2.3 and 2.4.

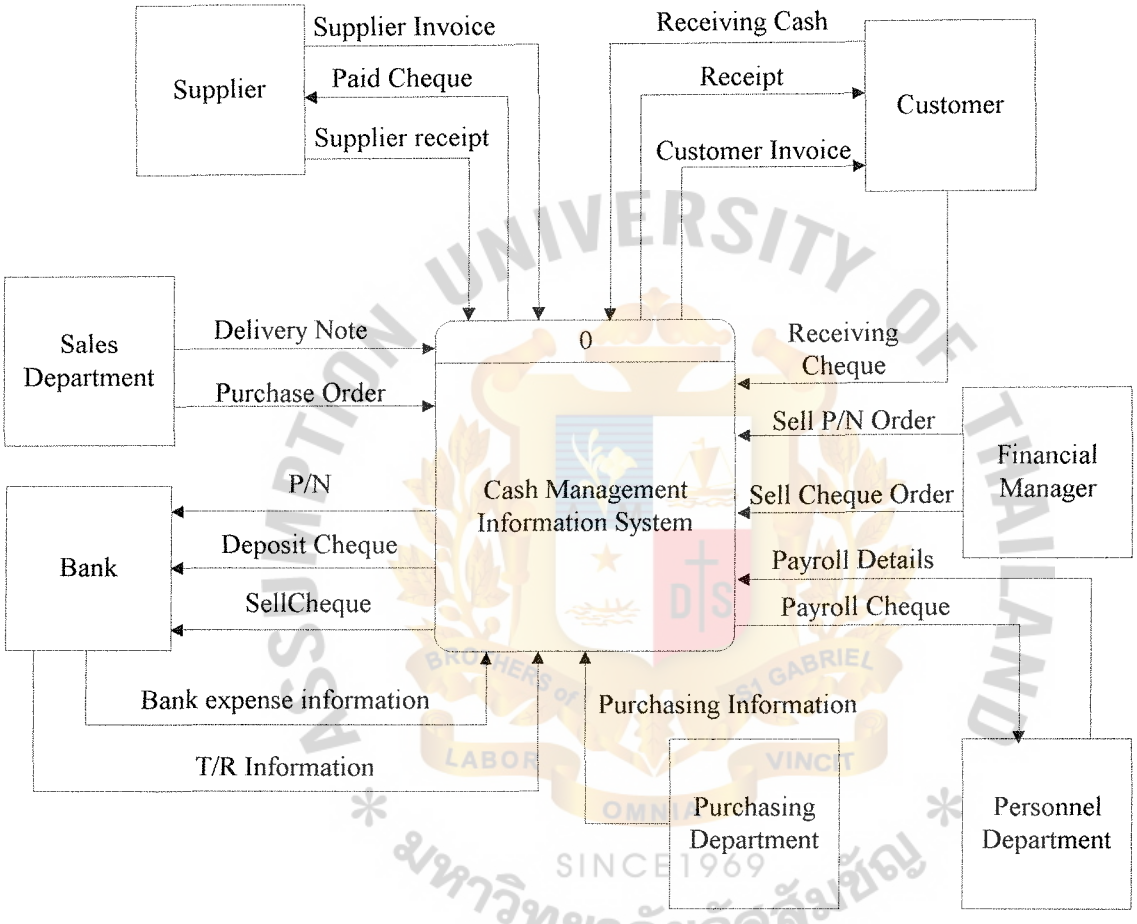

Figure 2.2. Context Level Data Flow Diagram of the Existing Cash Management Information System.

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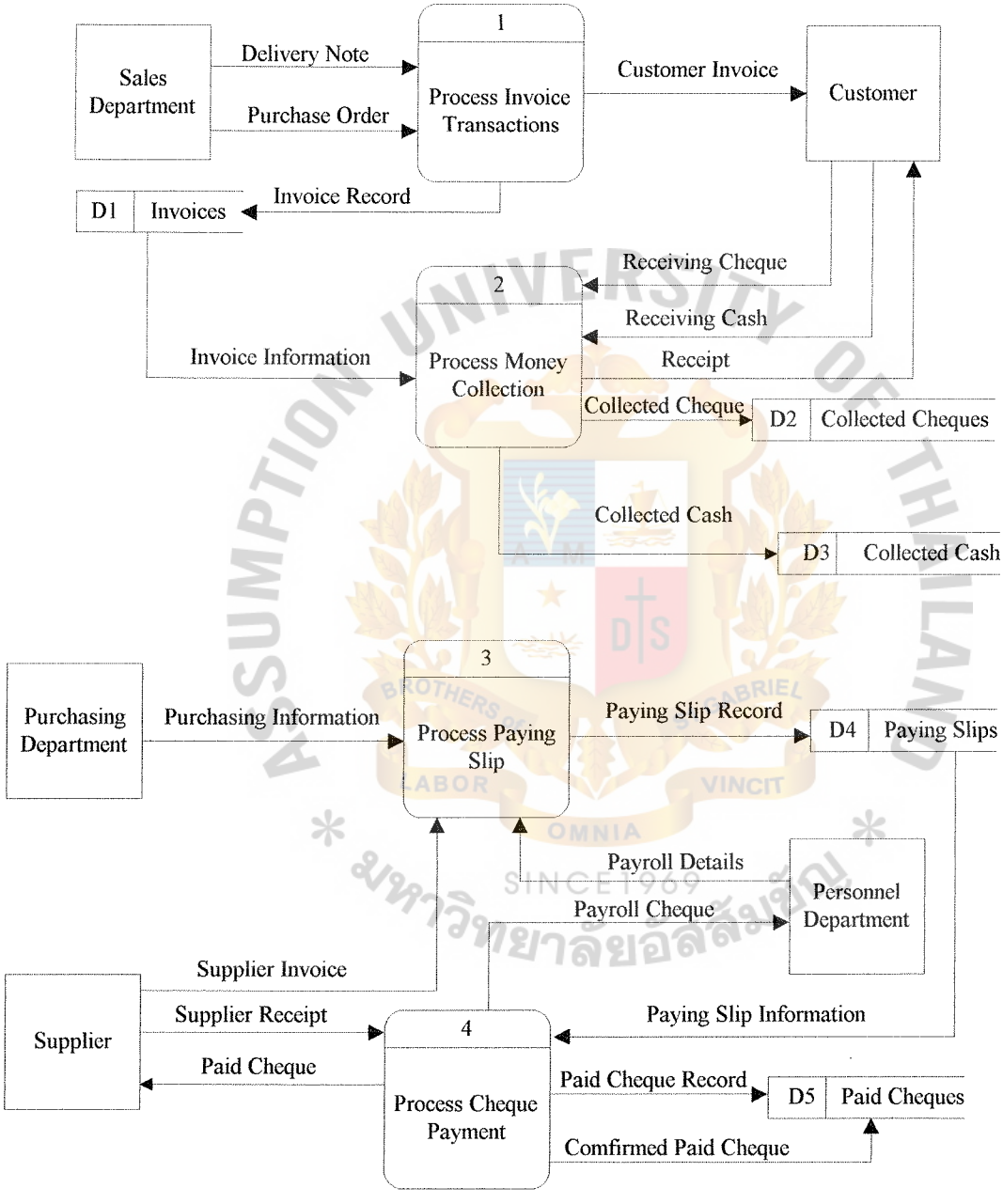

Figure 2.3. Level 0 Data Flow Diagram of the Existing Cash Management Information System.

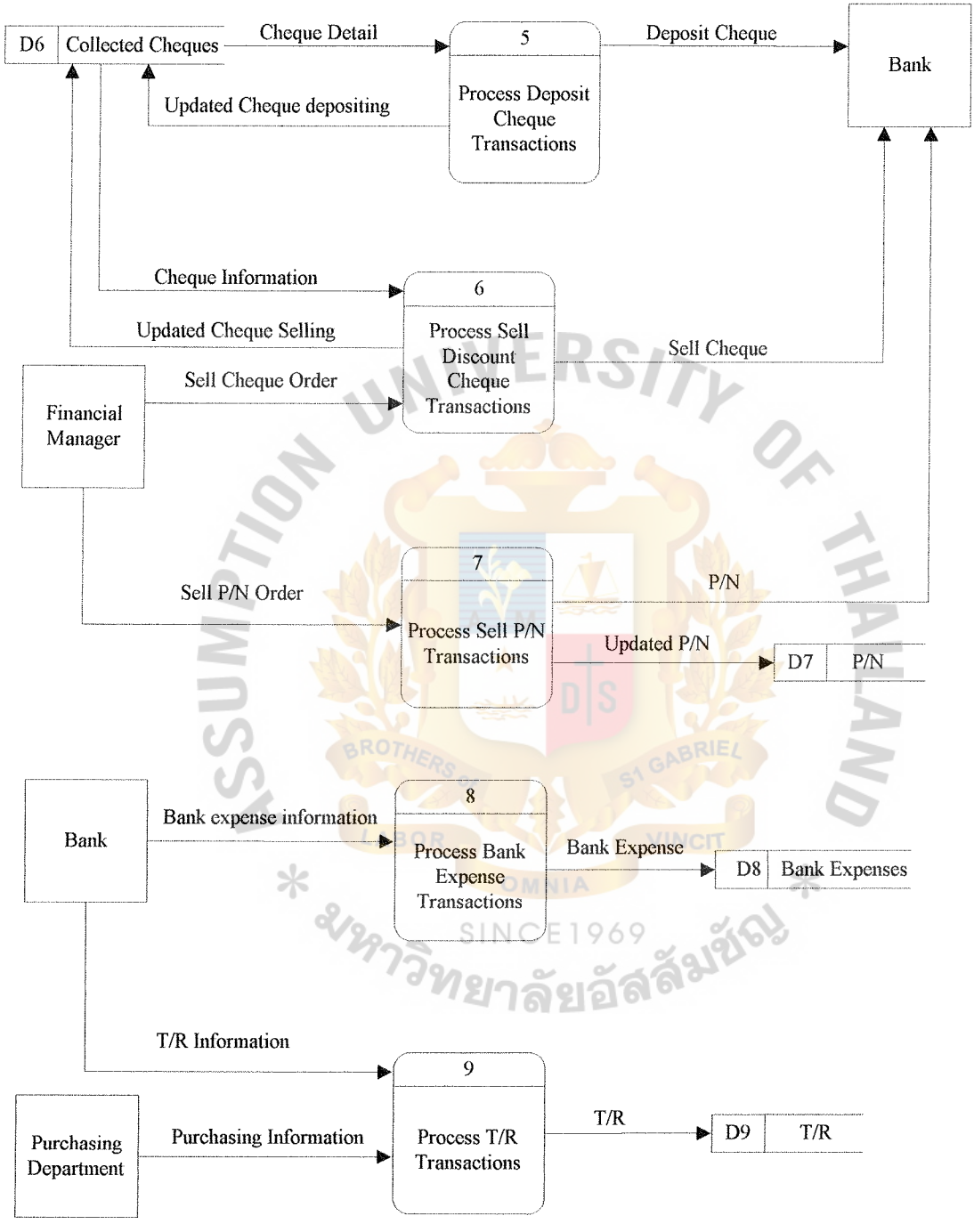

Figure 2.4. Level 0 Data Flow Diagram of the Existing Cash Management Information System (Continued).

III. THE PROPOSED SYSTEM

3.1 System Specification

Following on from the previous chapter, Teparak Spinning Co., Ltd. should have an effective computerized Cash Management Information System that can provide more updated and accurate information from the existing manual system and some ineffective computerized information system.

In order to achieve the targets, the new proposed Cash Management Information System should consist of the following features:

(1) Invoice Database converted from unstructured spreadsheet application file (Excel file) to effective database format designed and developed on database server, and is linked with Sales Database in order to use its information.

(2) T/R Database and Expense Database developed to support financial staffs' activities is connected with Purchasing Database for data verification

(3) Cash and Cheque Receiving Database replacing the existing manual system to facilitate the financial staffs' work, efficient the data query, and solve the problems occurring from the current system.

(4) Corporate Customer Database redesigned, developed and converted to the high performance database server, available for all financial staff and some other department staff (sales staff and accounting staff).

(5) Bank Expense Database developed for the staff to record all bank's expense that can categorize into various type of expense such as loan payment and interest payment.

(6) Cheque Depositing and Cheque Selling Database created to record all cheques deposits and selling transactions and is integrated with Cheque Receiving Database to be the same information.

Thus, the Cash Management Information System of financial department will facilitate the various processes of financial staffs, gain more productivity and solve the problems occurring from the existing system.

3.2 System Design

(1) Entity Relationship Diagram (ERD)

ERD data modeling is the technique used in organizing and documenting a system data. Data modeling, which is called database modeling, is usually a database implementation.

The ERD of the new system is shown in Appendix A as follows:

(a) A context level of entity relationship diagram

(b) A key-based attributed relationship diagram

(c) A fully attributed relationship diagram

The Data Dictionary, is the table which describes the details of each entity and attribute in ERD, is shown in Appendix B.

(2) Data Flow Diagrams (DFDs)

The logical Data Flow Diagrams (DFDs) are the structures analysis and design tools that analyst can be used to understand the process of system and the movement of the data through the system.

The logical data flow diagram will indicate the flow of the requirement and the data type used in developing the program to support the new system. With DFDs, the analyst can design the file to cover the requirements of the users and support the report design of the system.

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The details of data flow diagram of Cash Management Information System are shown in Appendix C, which includes:

(a) Context Data Flow Diagram

(b) Functional Decomposition Diagram

(c) Level 0 of Data Flow Diagram

(d) Level 1 of Data Flow Diagram

(e) Structure Chart

To understand the details of each process in data flow diagram, the process specification is shown in Appendix D.

(3) Input Design

The input screens of the system are in many forms for the various purposes that are shown in Appendix E.

(4) Output Design

There are 2 types of system output forms that are in the form of hardcopy and in the form of displayed screen. Some reports are generated periodically by the financial staff, such as on a weekly, monthly or yearly basis and other reports are generated by managers when requested. The outputs in the displayed screen are for monitoring daily operation purposes.

All the reports and outputs generated by the system are shown in Appendix F.

3.3 Hardware and Software Requirements

The hardware & software specifications for server and each client machine are shown in the Tables 3.1, 3.2, 3.3, 3.4 and 3.5 respectively.

Table 3.1. The Hardware Specification for the Server.

Hardware	Specification
CPU	Intel Pentium IV Processor 1.2 GHz.
Memory	128MB 100MHz SDRAM
Hard Disk	40 GB
CD-ROM Drive	52x CD-ROM Drive
Floppy Drive	1.44MB diskette drive
Network Adapter	10/100 Ethernet NIC
Display Screen	15"SVGA Monitor
Keyboard	USB Internet Keyboard (104-key)
Mouse	Internet Scroll Mouse
UPS	750 VA

Table 3.2. The Software Specification for the Server.

Software	Specification
Operating System	Microsoft Windows NT Server 4.0 (Service Pack 5)
Database Software	Microsoft SQL Server
Application Software	Microsoft Office 2000 Professional Edition Outsourcing Application Program

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Table 3.3. The Hardware Specification for Each Client Machine.

Hardware	Specification
CPU	Intel Pentium III Processor 1.0 GHz.
Memory	64MB 100MHz SDRAM
Hard Disk	20 GB
CD-ROM Drive	52x CD-ROM Drive
Floppy Drive	1.44MB diskette drive
Network Adapter	10/100 Ethernet NIC
Display Screen	15"SVGA Monitor
Keyboard	USB Internet Keyboard (104-key)
Mouse	Internet Scroll Mouse
UPS	750 VA

Table 3.4. The Software Specification for Each Client Machine.

Software	Specification
Operating System	Microsoft Windows 98
Application Software	Microsoft Office 2000 Professional Edition Microsoft Access 2000

The network configuration of the proposed Cash Management Information System is shown in Figure 3.1.

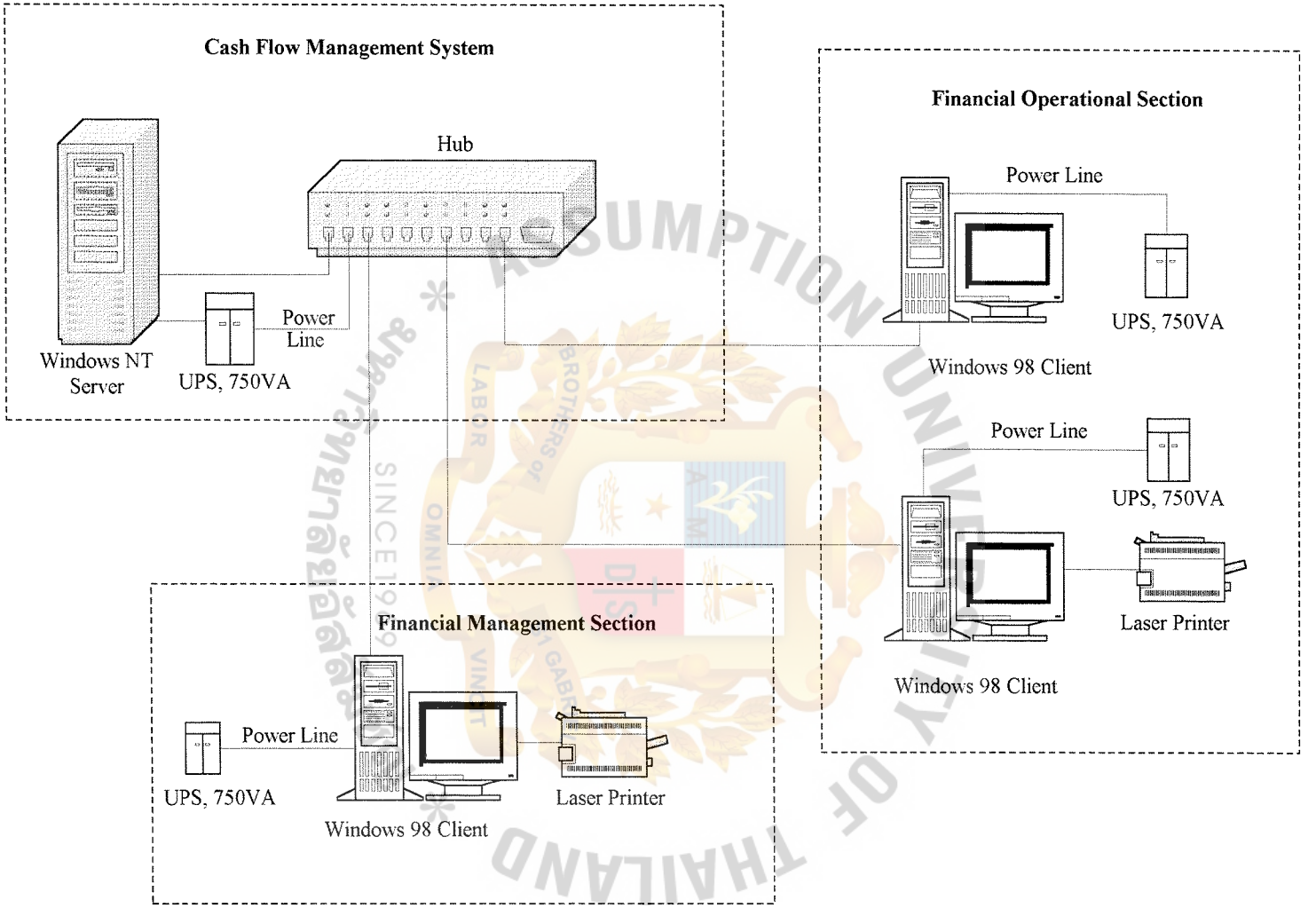

Figure 3.1. The Network Configuration of Cash Management Information System of Teparak Spinning Co., Ltd.

3.4 Cost/Benefits Analysis

(1) Cost of Existing System

Table 3.5. Existing System Cost Analysis, Baht.

Cost items		Years				
		1	2	3	4	5
Fixed Cost						
PC	2 units @ 30,000	12,000.00	12,000.00	12,000.00	12,000.00	12,000.00
Printer	2 units @ 15,000	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00
UPS, 750KVA	2 units @ 2,200	880.00	880.00	880.00	880.00	880.00
MS Office 2000	2 units @ 15,000	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00
Calculators	5 units @ 1,200	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00
Typewriter	1 unit @ 9,000	1,800.00	1,800.00	1,800.00	1,800.00	1,800.00
Operating Cost						
Salary Cost:						
Financial staff	2 persons @ 10,000	20,000.00	22,000.00	24,200.00	26,620.00	29,282.00
General clerk	3 persons @ 8,500	25,500.00	28,050.00	30,855.00	33,940.50	37,334.55
Office Supplies and Miscellaneous Cost:						
Stationary	Per Annual	11,000.00	12,100.00	13,310.00	14,641.00	16,105.10
Paper	Per Annual	5,500.00	6,050.00	6,655.00	7,320.50	8,052.55
Utility	Per Annual	15,000.00	16,500.00	18,150.00	19,965.00	21,961.50
Miscellaneous	Per Annual	15,000.00	16,500.00	18,150.00	19,965.00	21,961.50
Total Existing System Cost		119,880.00	129,080.00	139,200.00	150,332.00	162,577.20

Table 3.6. Five Years Accumulated Existing System Cost, Baht.

Year	Total Existing System Cost	Accumulated Cost
1	119,880.00	119,880.00
2	129,080.00	248,960.00
3	139,200.00	388,160.00
4	150,332.00	538,492.00
5	162,577.20	701,069.20
Total	701,069.20	-

(2) Cost of Proposed System

Table 3.7. Proposed System Cost Analysis, Baht.

Cost items		Years				
		1	2	3	4	5
Fixed Cost						
Hardware Cost:						
Server Cost	1 unit @ 50,000	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00
Client Cost	3 units @ 30,000	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00
Printer	2 units @ 15,000	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00
UPS, 750 KVA	4 units @ 2,200	1,760.00	1,760.00	1,760.00	1,760.00	1,760.00
Network Cost		1,200.00	1,200.00	1,200.00	1,200.00	1,200.00
Software Cost:						
Windows NT Server	1 unit @ 20,000	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00
MS SQL Server	1 unit @ 17,000	3,400.00	3,400.00	3,400.00	3,400.00	3,400.00
MS Office 2000	4 units @ 11,000	8,800.00	8,800.00	8,800.00	8,800.00	8,800.00
MS Access 2000	4 units @ 10,000	8,000.00	8,000.00	8,000.00	8,000.00	8,000.00
Accessory Cost:						
Calculators	2 units @ 1,200	480.00	480.00	480.00	480.00	480.00
Implementation Cost:						
Software Development Cost		12,000.00	-	-	-	-
Training Cost		2,000.00	-	-	-	-
Total Fixed Cost		75,640.00	61,640.00	61,640.00	61,640.00	61,640.00
Operating Cost						
Salary Cost:						
Financial staff	2 persons @ 10,000	20,000.00	22,000.00	24,200.00	26,620.00	29,282.00
General clerk	1 person @ 8,500	8,500.00	9,350.00	10,285.00	11,313.50	12,444.85
Office Supplies and Miscellaneous Cost:						
Stationary	Per Annual	6,000.00	6,600.00	7,260.00	7,986.00	8,784.60
Paper	Per Annual	4,000.00	4,400.00	4,840.00	5,324.00	5,856.40
Utility	Per Annual	10,000.00	11,000.00	12,100.00	13,310.00	14,641.00
Miscellaneous	Per Annual	10,000.00	11,000.00	12,100.00	13,310.00	14,641.00
Total Operaing Cost		58,500.00	64,350.00	70,785.00	77,863.50	85,649.85
Total Proposed System Cost		134,140.00	125,990.00	132,425.00	139,503.50	147,289.85

Table 3.8. Five Years Accumulated Proposed System Cost, Baht.

Year	Total Proposed System Cost	Accumulated Cost
1	124,040.00	124,040.00
2	128,040.00	252,080.00
3	134,640.00	386,720.00
4	141,900.00	528,620.00
5	149,886.00	678,506.00
Total	678,506.00	-

(3) The Comparison of the System Costs between Proposed System and Existing System.

Table 3.9. The Comparison of the System Costs between Proposed System and Existing System, Baht.

Year	Accumulated Existing System Cost	Accumulated Proposed System Cost
1	119,180.00	124,040.00
2	247,510.00	252,080.00
3	385,905.00	386,720.00
4	535,371.50	528,620.00
5	697,016.65	678,506.00

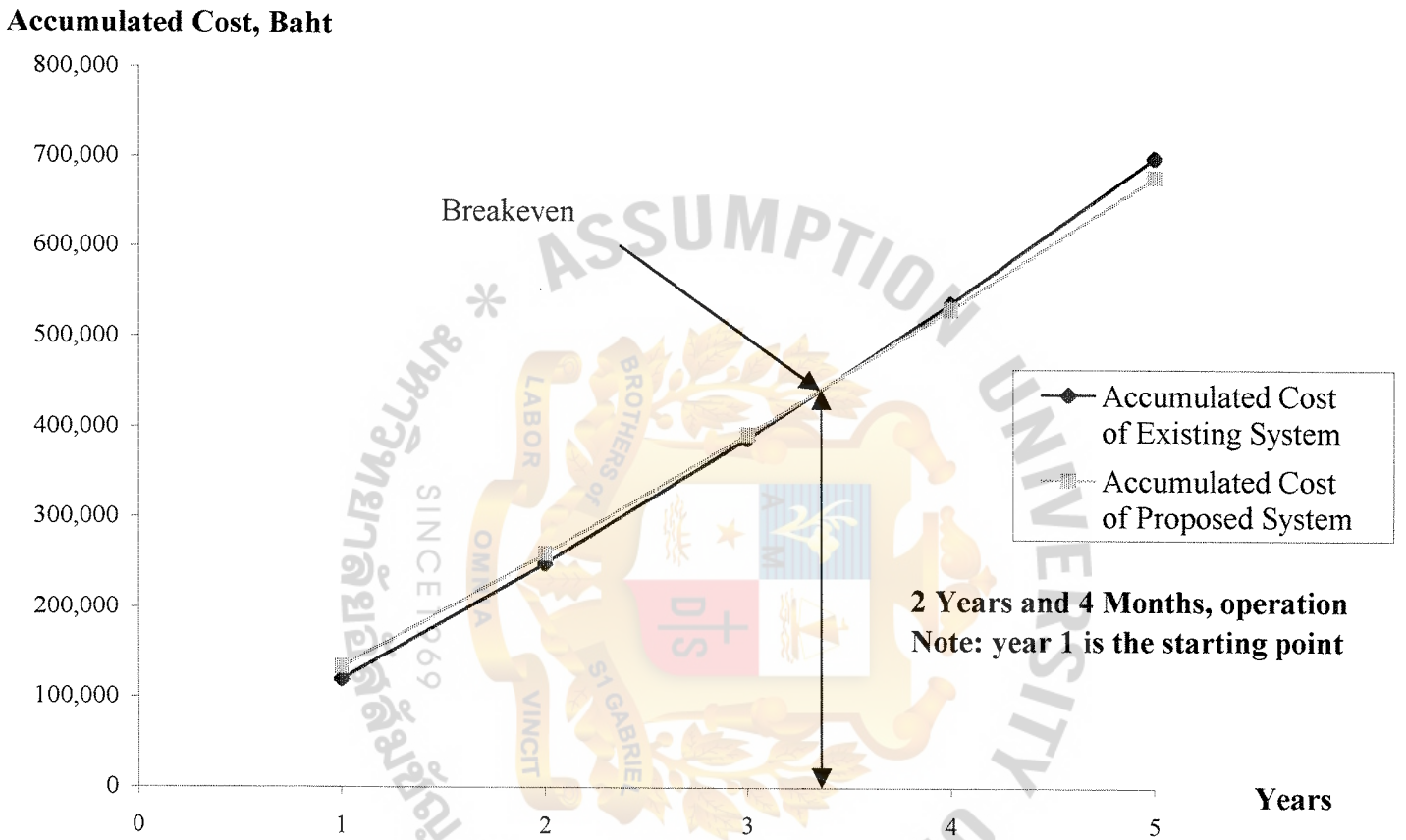

Figure 3.2. Cost Comparison between the Existing and Proposed System of Cash Management System of Teparak Spinning Co., Ltd.

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Payback Analysis

The following cost items are required, shown in Table 3.10.

(1) Investment Cost

Hardware cost	176,600 Baht
Software cost	122,000 Baht
Software Development Cost	12,000 Baht
Accessory cost	3,600 Baht
Training cost	2,000 Baht
Total Investment Cost	316,200 Baht

(2) Annual Operating Cost

People-ware cost	28,500 Baht
Office Supplies & Miscellaneous cost	30,000 Baht
Total Annual Operating Cost	58,500 Baht

(3) Annual Cost

The formula of annual cost of the proposed system is

Annual Cost = (Investment Cost/Estimated System Life) + Annual Operating Cost

= (316,200/5) + 58,500

= 121,740 Baht

(4) Saving

Staff	17,000 Baht
Office Supplies & Miscellaneous	16,500 Baht
Opportunity cost & Intangible Benefit	183,000 Baht
Total Saving	216,500 Baht

The Payback period is then calculated to judge the profitability of the system as Table 3.10. and Figure 3.3.

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Table 3.10. Payback Analysis for the Proposed Cash Management Information System of Teparak Spinning Co., Ltd., Baht.

Cost Items	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Development cost:	316,200.00						
Operation & Maintenance cost:		58,500.00	64,350.00	70,785.00	77,863.50	85,649.85	94,214.84
Discount factor for 10%	1.000	0.909	0.826	0.751	0.683	0.621	0.564
Time adjusted costs (adjusted to present value):	316,200.00	53,176.50	53,153.10	53,159.54	53,180.77	53,188.56	53,137.17
Cumulative time-adjusted costs over life time	316,200.00	369,376.50	422,529.60	475,689.14	28,869.91	582,058.46	635,195.63
Benefits derived from operation of new system:	0.00	216,500.00	238,150.00	261,965.00	288,161.50	316,977.65	348,675.42
Discount factor for 10%	1.000	0.909	0.826	0.751	0.683	0.621	0.564
Time adjusted benefits (adjusted to present value):	0.00	196,798.50	96,711.90	196,735.72	196,814.30	196,843.12	196,652.93
Cumulative time-adjusted benefits over life time:	0.00	196,798.50	393,510.40	590,246.12	787,060.42	983,903.54	1,180,556.47
Cumulative lifetime time-adjusted costs + benefits:	-316,200.00	-172,578.00	-29,019.20	114,556.98	258,190.51	401,845.08	545,360.84

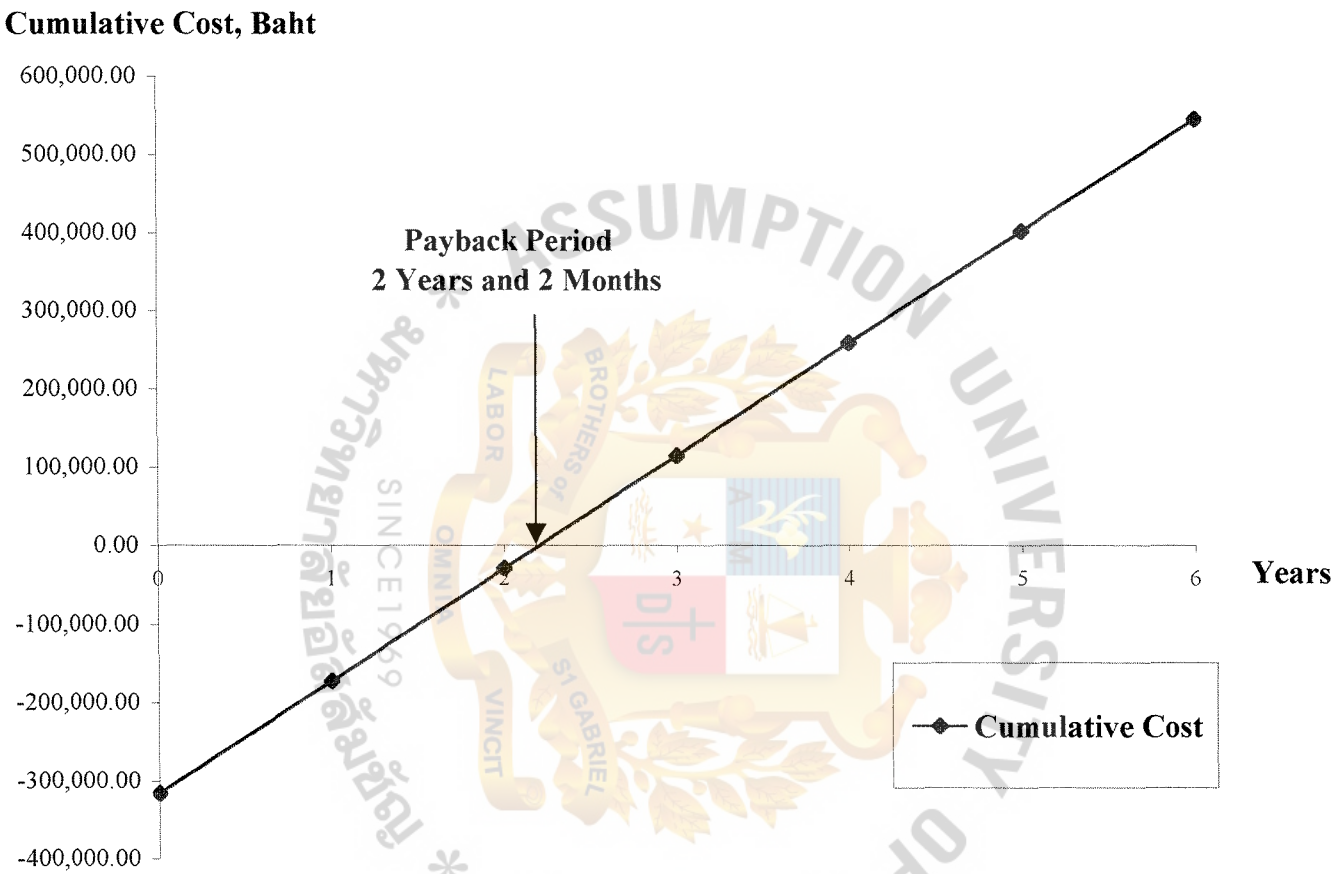

Figure 3.3. Payback Period of Cash Management System of Teparak Spinning Co., Ltd.

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As in Figure 3.3 the graph of cumulative cost of proposed system cross the x-axis at 2.15 years or the payback period of the proposed system is two years and two months.

Return-on-Investment Analysis technique compares the lifetime profitability of alternative solutions or projects. The ROI for a project is a percentage rate that measures the relationship between the amounts the business gets back from an investment and the amount invested.

The ROI for a potential project is calculated by using the data from Table 3.10 as follows:

ROI = (Estimated lifetime benefits – Estimated lifetime costs) / Estimated lifetime costs

ROI = ((1,180,556.47 – 635,195.63) / 635,195.63) x 100

= 0.86 x 100

= 86%

Therefore, the lifetime ROI is 86 percent. Simple division by the lifetime of the system yields an average ROI of 17.2 percent per year.

3.5 Security and Control

Since Cash flow information is an invaluable asset of the company in addition it is the highest confidential information of the company which cannot allow unauthorized people to access the information. Therefore, the various methods are created to protect the system from all possible risks that can happen to the system.

The security and control of proposed system possesses the properties as follows.

3.5.1 User Identification

This method is used to ensure that only authorized users can enter the system and access the information. Each user in the Financial Department and some managers have the specific user name and password to log in into the system. Therefore, unauthorized

people who do not have a username and password are not allowed to access the information area. Furthermore, both username and password can also be used to limit the user access level to the information.

3.5.2 Data Entry Control (Input Control)

The input control is implemented through various checks incorporated in the programs. The program can be set to check every record entered. This method can ensure the correctness and completeness of data entry, so the company can ensure it has a good quality of data to analyze and generate reports.

3.5.3 Physical Security and System Security

The company should set the rules for using the computer to protect physical components as well as computer system:

(a) Do not use the computer without open air-conditioning.

(b) Do not smoke near the computer.

(c) Do not eat or drink any food near the computer.

(d) Shut down the computer when not using it.

(e) Do not allow users to fix any physical part of the computer by themselves.

(f) Do not allow users to download any program into the computer by themselves.

(g) User has to check virus before they open any file from diskette.

(h) All media such as floppy disk, CD-ROM must be kept in a safe place.

(i) Every computer must be connected to UPS and users are not allowed to remove UPS to the other place without permission.

(j) All computers must have routine virus checks at a specified time every week.

3.5.4 Data Backup

Even though many rules are set to prevent any risk that can happen to the information, the routine system backup of all database files onto floppy disk, CD-ROM and keeping it in the safe place are required at a specified time every week in order to ensure that the data can be recovered when the system crashes or the database files in the server are destroyed.

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IV. PROJECT IMPLEMENTATION

System Implementation is the conversion processes from an existing system to a proposed information system. The final design should be evaluated first by the users and management teams to make sure that the new proposed system can meet the requirements and objectives, and then the other remaining processes will be performed. It is expected that the system implementation would take approximately six weeks. The duration may vary depending on the readiness of the staffs to use the new system. The processes of the System Implementation are:

(1) Software development

(2) Hardware installation

(3) Personnel training

(4) Testing

(5) Conversion

(6) Documentation

4.1 Software Development

The Cash Management Information System is developed by using Microsoft Access as Database Management System (DBMS). The proposed system is developed based on being user friendly and the capability in making reports. The system allows user to add, edit and delete the data and also can search for desired data. In order to generate reports, the system will join tables in database file and make the calculation in the required field based on user and management requirements.

4.2 Hardware Installation

In order to establish the proposed system, the company requires new File Server as shown in the Cost/ Benefit Analysis section in the Chapter 3. The two existing PCs

need to install LAN card so they can work in the network system in the proposed system. The additional hardware required is one client that has specification as shown in Chapter 3 and a Hub.

4.3 Personnel Training

User training course is an important process in system implementation. The objective of training courses is to make users understand, become be familiar and be able to use the program correctly. The training courses should include computer concepts, functions of hardware and software, functions of the proposed system and how to use the system properly and efficiently. Users should be given the system manual, class lecture about the procedure and hands on experience on using new equipment. Furthermore, users also should be supervised by the programmer or system analyst when initially using the system. After Training, Users will trust in using the computer and can use it to provide a good job.

4.4 Testing

After the program has been designed and installed, module testing, program testing and system testing is required to ensure that the new system is free from errors and can work well with the other systems in the company.

Module testing would help to check errors in the program module. It can detect errors in coding and errors in logic. After finishing all module testing, Program testing is used to check the program to verify the way of the system working and to check whether each module can work together or not. System testing is checked to see whether the proposed system can share data or work with the other existing systems properly. When all testing is finished, the testing document plans and testing results should be made, so that when the company has to do the testing again in the future, programmers can use these plans and results to do the testing again.

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4.5 Conversion

Conversion is the process of changing from an existing manual system to a new proposed system. To convert the old format of data into a new format, the user must finish all transactions first. Then the converted program will list the field from the old system and place into the new system.

4.6 Documentation

Documentation of the proposed system is separated into two documents. First is the user guide, which describes how to access and use the program, how to correct the problems and how to use interface screens. The second is the flow of the system and data dictionary, both documents can help the users whenever they need or if they have a problem when using the program and can also help the programmer to develop and maintain the system.

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V. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The existing system of the company causes a lot of problems to the company as it cannot provide the useful information to the management level, it cannot support the routine job of the operational level and cannot detect or prevent any errors in the system.

This cash management information system is proposed to increase the efficiency of the existing system. It can provide timely, and reliable information to support decision-making in management and executive level of the company. It is also intended to facilitate the routine tasks of the operational level and to help the company to utilize the people and resources effectively.

The new computerized system consists of three clients and a server connected by LAN and is implemented on the Microsoft Access program. The cost analysis of the proposed system is determined by using payback method and the break-even point between existing system and proposed system. At the beginning the proposed system will cost more than the existing system but in two years and four months, both system will cost the same and then the accumulating cost of the proposed system will be lower. The payback period of the proposed system is two years and two months and the ROI is 86 percent in five years (system lifetime). The new system also can increase the security and control of the information in the system. It uses User Identification to ensure that only authorized users can enter the system and access the information and uses Data Entry Control to prevent data entry errors that may caused by users. The system has several benefits for using the proposed system identified after system development and implementation, it was found that the system meets all the project objectives. The time

required to finish a job for operational level is shorter and will reduce the number of staff in the department. The new system is also considered user friendly and can provide many useful information that the old system cannot generate such as cash flow reports and customer account receivable report. Many process of the new system also take less time than the old system.

Table 5.1 is the table of achievement that shows the time performance on each process of the proposed system compared with the existing system.

Table 5.1. The Degree of Achievement of the Proposed System.

Process	Existing System	Proposed System
Record Collected Money Information	2 minutes	1 minute
Record Paid Cheque Information	2 minutes	1 minute
Cash Flow queries process	30 minutes	1 minute
Trust Receipt outstanding queries process	3 minutes	1 minute
Check cheque holding status	15 minutes	1 minute
Total	52 minutes	5 minutes

Explanation of the degree of achievement of the proposed system:

(1) Record Collected Money Information

The existing system takes two minutes to record the money that company received each day compared with the proposed system that takes only one minute to finish the job because in the existing system, the staff has to record received information two times (money received/day and money received/customer) but in the proposed system, staff records into the program only once.

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(2) Record Paid Cheque Information

The existing system takes two minutes to record the cheque information that company pays because staff has to record into two books (cheque paid/day and cheque paid/customer). For the proposed system, staff takes only one minute to record cheque information into the program because staff needs to record the data only once and the program can generate the other reports.

(3) Cash Flow queries process

If the financial manager wants to know what the cash flow of company in each day or each month is, he has to know how much money is received each day and how much money is paid each day. Therefore, in the existing system, staffs take around 30 minutes or more to find all information needed and calculate it, but in the proposed system takes only one minute because the program can use the all information in database to generate reports.

(4) Trust Receipt (T/R) outstanding queries process

The existing system takes three minutes to perform the process for searching any T/R information of the company. The proposed system can search the same information in the database and will take only one minute.

(5) Check cheque holding status

To know how much cheque company holding and who owns each cheque, existing system has to takes 15 minutes to perform the process. The proposed system will take one minute to search the information in database.

From the table, the time required to finish the process of the proposed system is less than the existing system. Furthermore, some processes cannot be implemented by

the existing system (or can be implemented but will take a lot of time to finish). Therefore, it can be concluded that the proposed system will be more efficient and effective than the existing system.

5.2 Recommendations

There are some recommendations that company should consider in order to be successful in implementing the new computerized system.

(1) Users should involve all processes to give their requirements and feedback to system analysts and programmers, so the company can ensure that the new system will meet all user requirements.

(2) There are several tools and techniques that the company should use to get user requirements to do system analysis such as Joint Application Development (JAD), Rapid Application Development (RAD) and Prototyping.

(3) The new system should be able to link with other systems (Personnel, Purchasing, Production, Inventory, etc.) to receive the information from other departments in order to make data verification for company's expenses and the system must be linked with Accounting System to send required information to further process in Accounting Department. This can enhance the processing performance and reduce some work cycle of the company.

(4) The system should use graphs or graphics to enhance report processing so it can help the manager to better understand the information.

(5) Improve the system to be Executive Information System (EIS) or Decision Support System (DSS) by adding more external information to the system and increasing the analytical performance of the system.

APPENDIX A

DATABASE DESIGN

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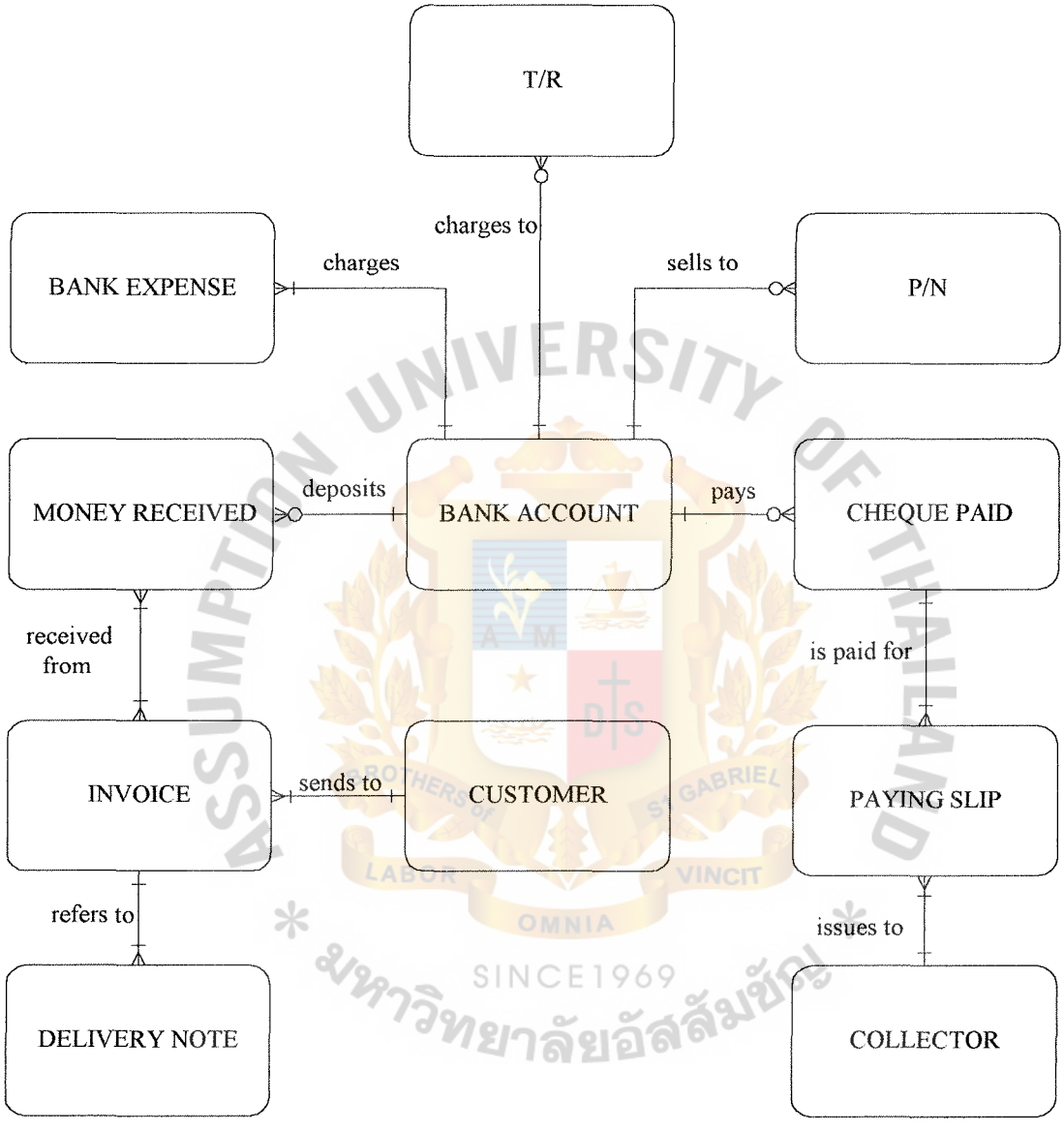

Figure A.1. Context Level Entity Relationship Diagram of Cash Management Information System.

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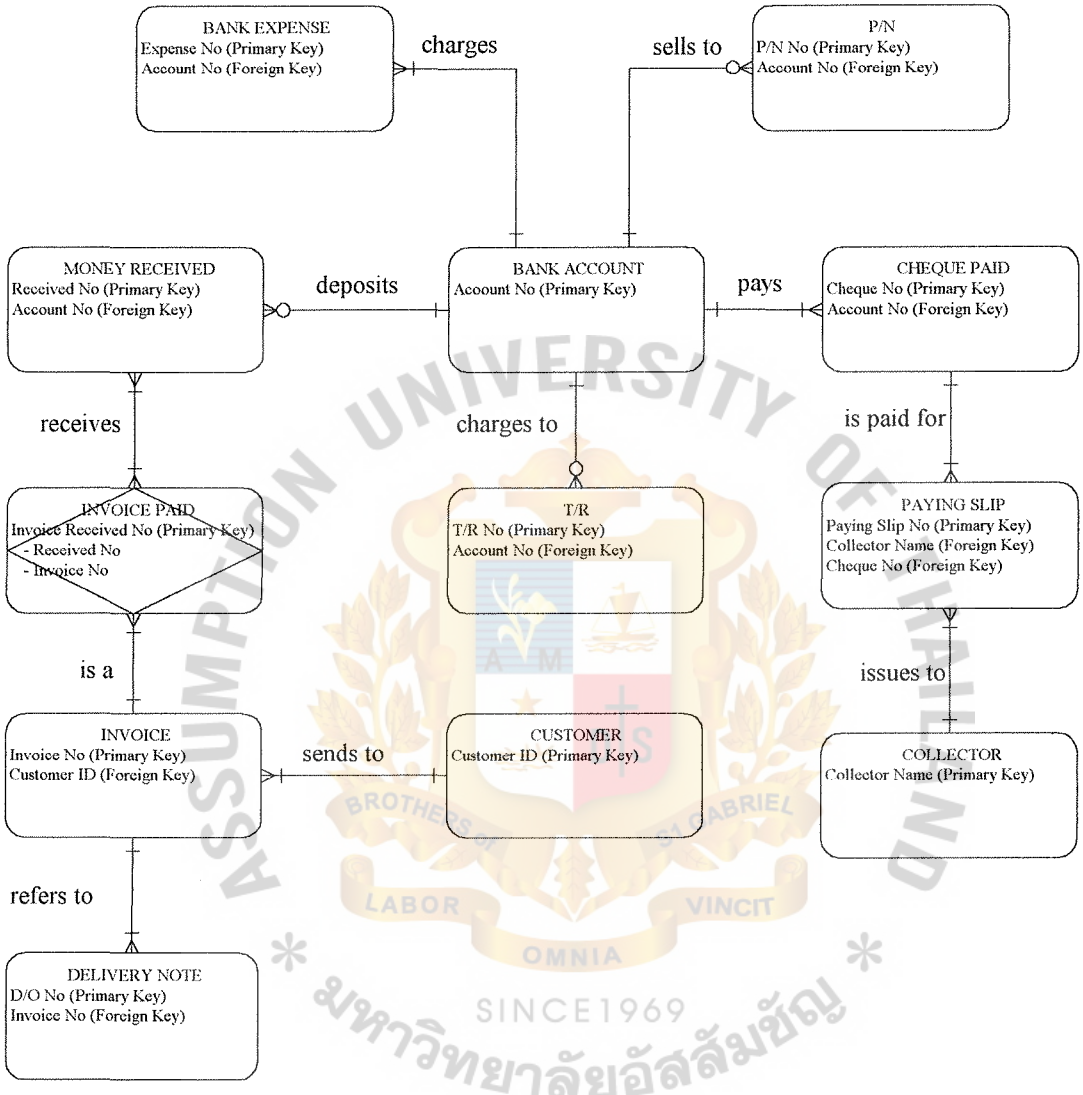

Figure A.2. Key-Based Attributed Entity Relationship Diagram of Cash Management Information System.

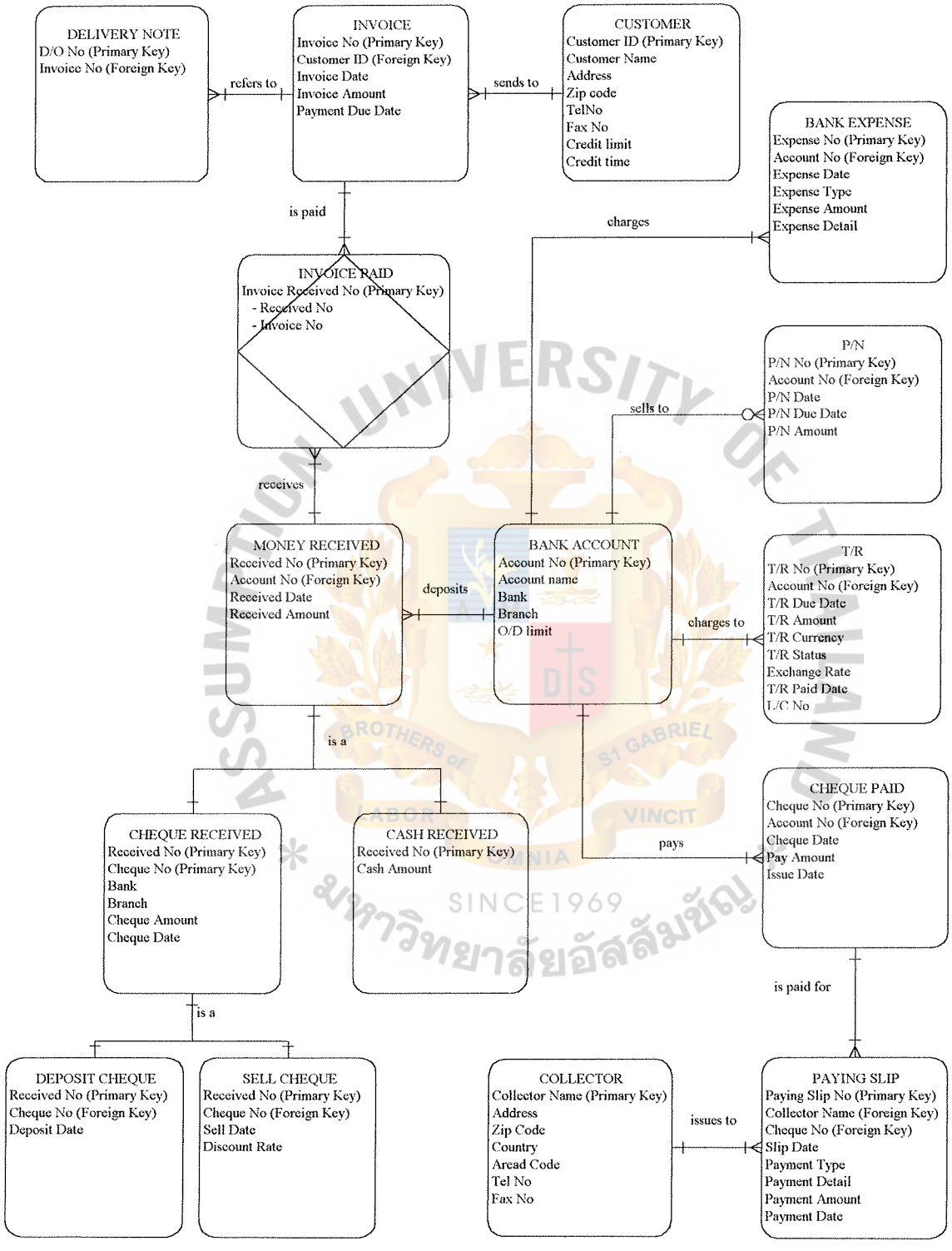

Figure A.3. Fully Attributed Entity Relationship Diagram of Cash Management Information System.

Table A.1. Structure of Bank Account Table.

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	Account No	int (10)	Y	Y		Money Received, T/R, Cheque Paid, P/N, Bank Expense	Self-checking digits	Primary Key
2	Account Name	Varchar (25)	Y					Attribute
3	Bank	Varchar (8)						Attribute
4	Branch	Varchar (10)						Attribute
5	O/D limit	int (8)						Attribute

Table A.2. Structure of Bank Expense Table.

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	Expense No	int (7)	Y	Y			Self-checking digits	Primary Key
2	Account No	int (10)	Y				Self-checking digits	Foreign Key
3	Expense Date	date	Y				> 1-Jan-2000 and < 1-Jan-2099	Attribute
4	Expense Type	int (1)					Between 1 and 9	Attribute
5	Expense Amount	decilmal (10,2)						Attribute
6	Expense Detail	varchar (15)			Y			Attribute

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Table A.3. Structure of P/N Table.

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	P/N No	int (6)	Y	Y			Self-checking digits	Primary Key
2	Account No	int (10)	Y				Self-checking digits	Foreign Key
3	P/N Date	date					> 1-Jan-2000 and < 1-Jan-2099	Attribute
4	P/N Due Date	date					> 1-Jan-2000 and < 1-Jan-2099	Attribute
5	P/N Amount	int (8)						Attribute

Table A.4. Structure of T/R Table.

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	T/R No	varchar (8)	Y	Y			Self-checking digits	Primary Key
2	Account No	int (10)	Y				Self-checking digits	Foreign Key
3	T/R Due Date	date	Y				> 1-Jan-2000 and < 1-Jan-2099	Attribute
4	T/R Amount	decimal (8,2)						Attribute
5	T/R Currency	varchar (3)					USD or EUR	Attribute
6	T/R Status	varchar (3)			Y		BHT or FWD	Attribute
7	Exchange Rate	decimal (5,3)						Attribute
8	T/R Paid Date	date	Y		Y		> 1-Jan-2000 and <= T/R Due Date	Attribute
9	L/C No	varchar (8)	Y	Y				Attribute

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Table A.5. Structure of Cheque Paid Table.

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	Cheque No	int (7)	Y	Y		Paying Slip	Self-checking digits	Primary Key
2	Account No	int (10)	Y				Self-checking digits	Foreign Key
3	Cheque Date	date	Y				> 1-Jan-2000 and < 1-Jan-2099	Attribute
4	Pay Amount	decimal (10,2)						Attribute
5	Issue Date	date	Y				> 1-Jan-2000 and < 1-Jan-2099	Attribute

Table A.6. Structure of Paying Slip Table.

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	Paying Slip No	int (7)	Y	Y			Self-checking digits	Primary Key
2	Collector Name	varchar (25)	Y				Self-checking digits	Foreign Key
3	Cheque No	int (7)	Y				Self-checking digits	Foreign Key
4	Slip Date	date					> 1-Jan-2000 and < 1-Jan-2099	Attribute
5	Payment Type	int (2)	Y				Between 1 and 20	Attribute
6	Payment Detail	varchar (30)			Y			Attribute
7	Payment Amount	decimal (10,2)						Attribute
8	Payment Date	date					> 1-Jan-2000 and < 1-Jan-2099	Attribute

Table A.7. Structure of Collector Table.

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	Collector Name	varchar (25)	Y	Y		Paying Slip	Self-checking digits	Primary Key
2	Address	varchar (40)	Y		Y			Attribute
3	Zip Code	varchar (7)	Y		Y			Attribute
4	Country	varchar (12)						Attribute
5	Area Code	int (3)			Y			Attribute
6	Tel No	int (8)	Y		Y			Attribute
7	Fax No	int (8)			Y			Attribute

Table A.8. Structure of Money Received Table.

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	Received No	int (6)	Y	Y		Invoice Paid, Cash Received, Cheque Received	Self-checking digits	Primary Key
2	Account No	int (10)	Y				Self-checking digits	Foreign Key
3	Received Date	date	Y				> 1-Jan-2000 and < 1-Jan-2099	Attribute
4	Received Amount	decimal (10,2)						Attribute

Table A.9. Structure of Cash Received Table.

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	Received No	int (6)	Y	Y			Self-checking digits	Primary Key, Foreign Key
2	Cash Amount	decimal (9,2)						Attribute

Table A.10. Structure of Cheque Received Table.

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	Received No	int (6)	Y	Y			Self-checking digits	Primary Key, Foreign Key
2	Cheque No	int (7)	Y			Deposit Cheque, Sell Cheque	Completeness checks	Primary Key
3	Bank	varchar (8)						Attribute
4	Branch	varchar (10)						Attribute
5	Cheque Amount	decimal (10,8)						Attribute
6	Cheque Date	date	Y				> 1-Jan-2000 and < 1-Jan-2099	Attribute

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Table A.11. Structure of Deposit Cheque Table.

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	Received No	int (6)	Y	Y			Self-checking digits	Primary Key, Foreign Key
2	Cheque No	int (7)	Y				Completeness checks	Foreign Key
3	Deposit Date	date	Y	*			> 1-Jan-2000 and < 1-Jan-2099	Attribute

Table A.12. Structure of Sell Cheque Table.

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	Received No	int (6)	Y	Y			Self-checking digits	Primary Key, Foreign Key
2	Cheque No	int (7)	Y				Completeness checks	Foreign Key
3	Sell Date	date	Y				> 1-Jan-2000 and < 1-Jan-2099	Attribute
4	Discount Rate	decimal (4,2)		*				Attribute

Table A.13. Structure of Invoice Paid Table.

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	Received No	int (6)	Y				Self-checking digits	Primary Key, Foreign Key
2	Invoice No	int (6)	Y				Self-checking digits	Primary Key, Foreign Key

Table A.14. Structure of Invoice Table.

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	Invoice No	int (6)	Y	Y		Delivery Note	Self-checking digits	Primary Key
2	Customer ID	int (4)	Y				Self-checking digits	Foreign Key
3	Invoice Date	date	Y				> 1-Jan-2000 and < 1-Jan-2099	Attribute
4	Invoice Amount	decimal (9,2)						Attribute
5	Payment Due Date	date					> 1-Jan-2000 and < 1-Jan-2099	Attribute

Table A.15. Structure of Delivery Note Table.

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	D/O No	int (6)	Y	Y			Self-checking digits	Primary Key, Foreign Key
2	Invoice No	int (6)	Y				Self-checking digits	Foreign Key

Table A.16. Structure of Customer Table.

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	Customer ID	int (4)	Y	Y		Invoice	Self-checking digits	Primary Key
2	Collector Name	varchar (25)	Y	Y				Attribute
3	Address	varchar (40)	Y		Y			Attribute
4	Zip Code	varchar (7)	Y		Y			Attribute
5	Tel No	int (8)			Y			Attribute
6	Fax No	int (8)			Y			Attribute
7	Credit limit	int (8)	Y		Y			Attribute
8	Credit time	int (3)			Y			Attribute

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APPENDIX B

DATA DICTIONARY

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Table B.1. Data Dictionary of Bank Account Table.

Field Name	Meaning
Account No	Company's bank account number
Account Name	Company's bank account name
Bank	Bank name
Branch	Branch name of Bank
O/D limit	The O/D budget of company in each bank account

Table B.2. Data Dictionary of Bank Expense Table.

Field Name	Meaning
Expense No	Company's expense code number
Account No	Company's bank account number
Expense Date	Company's expense date
Expense Type	Company's expense type
Expense Amount	Company's expense amount
Expense Detail	Company's expense details

Table B.3. Data Dictionary of P/N Table.

Field Name	Meaning
P/N No	Promissory Note number
Account No	Company's bank account number
P/N Date	Promissory Note date
P/N Due Date	The expire date for Promissory Note that company has to return money back to the bank and also pay for interest
P/N Amount	The amount of Promissory Note

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Table B.4. Data Dictionary of T/R Table.

Field Name	Meaning
T/R No	Trust Receipt number
Account No	Company's bank account number
T/R Due Date	The expire date for T/R that company has to pay money due to T/R amount
T/R Amount	Promissory Note due date
T/R Currency	The Currency of money in T/R (USD: US Dollar, EUR: EURO, JPY: Japanese Yen, etc.)
T/R Status	The Status of the T/R (Forward, Foreign, Baht)
Exchange Rate	The exchange rate of each T/R
T/R Paid Date	The payment date of the T/R
L/C No	Letter of Credit number of each T/R

Table B.5. Data Dictionary of Cheque Paid Table.

Field Name	Meaning
Cheque No	The cheque number of company pay cheque
Account No	Company's bank account number
Cheque Date	The date that company fills in the cheque (the date that company will pay the money)
Pay Amount	The amount of money appeared in the cheque
Issue Date	The date that company issues cheque to the collector

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Table B.6. Data Dictionary of Paying Slip Table.

Field Name	Meaning
Paying Slip No	The paying slip number
Collector Name	The name of supplier or someone that company pays cheque to
Cheque No	The cheque number of company pay cheque
Slip Date	The date of paying slip
Payment Type	The company's payment type
Payment Detail	The detail of each payment
Payment Amount	The amount of money company has to pay
Payment Date	The date that company has to pay the money (Due date of each payment)

Table B.7. Data Dictionary of Collector Table.

Field Name	Meaning
Collector Name	The name of supplier or the one that company pays money to
Address	Address of the collector
Zip Code	Zip code
Country	Country
Area Code	Telephone area code
Tel No	Telephone number
Fax No	Fax number

Table B.8. Data Dictionary of Money Received Table.

Field Name	Meaning
Received No	The number of money received
Account No	The company bank account number that company will deposit money to.
Received Date	The date that company receives money
Received Amount	The amount of money that company received

Table B.9. Data Dictionary of Cash Received Table.

Field Name	Meaning
Received No	The number of money received
Cash Amount	The amount of money that company received in cash

Table B.10. Data Dictionary of Cheque Received Table.

Field Name	Meaning
Received No	The number of money received
Cheque No	The cheque number that company received
Bank	The bank of the cheque
Branch	The branch of the bank of the cheque
Cheque Amount	Cheque paying amount

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Table B.11. Data Dictionary of Deposit Cheque Table.

Field Name	Meaning
Received No	The number of money received
Cheque No	The cheque number that company received
Deposit date	The date that cheque is deposited to the bank (The date that company get money to the account)

Table B.12. Data Dictionary of Sell Cheque Table.

Field Name	Meaning
Received No	The number of money received
Cheque No	The cheque number that company received
Sell date	The date that cheque is sold to the bank (The date that company get money to the account)
Discount Rate	The discount rate that used to calculate the amount of money that company will get

Table B.13. Data Dictionary of Invoice Paid Table.

Field Name	Meaning
Received No	The number of money received
Invoice No	Invoice number

Table B.14. Data Dictionary of Invoice Table.

Field Name	Meaning
Invoice No	Invoice number
Customer ID	Customer ID number
Invoice Date	Invoice Date
Invoice Amount	The amount of money in invoice
Payment Due Date	The date that customer has to pay money to the company

Table B.15. Data Dictionary of Delivery Note Table.

Field Name	Meaning
D/O No	The Delivery note number
Invoice No	Invoice number

Table B.16. Data Dictionary of Customer Table.

Field Name	Meaning
Customer ID	Customer ID number
Collector Name	Customer's name
Address	Customer's address
Zip Code	The Zip code of the address
Tel No	Customer's telephone number
Fax No	Customer's fax number
Credit limit	Sale limit of each customer
Credit time	Credit term limit

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APPENDIX C

DATA FLOW DIAGRAM

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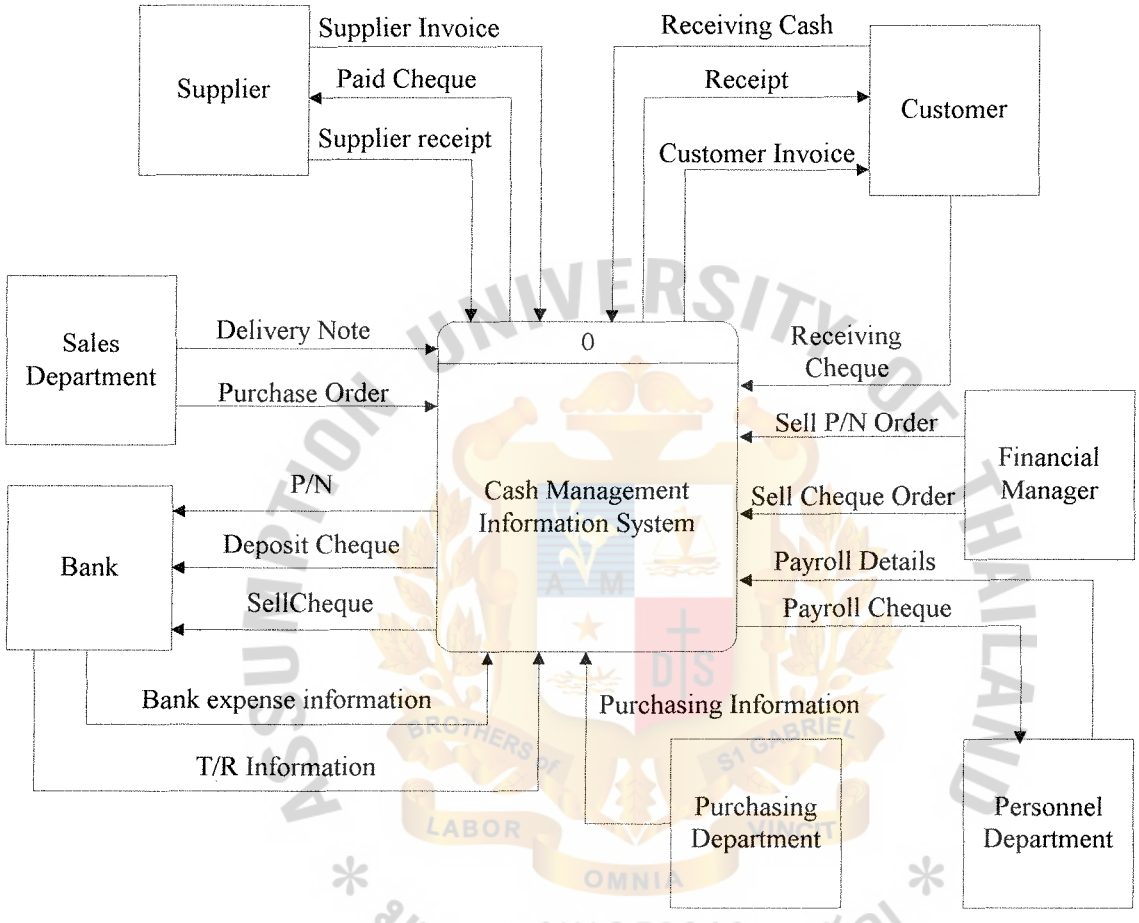

Figure C.1. Context Level Data Flow Diagram of the Proposed Cash Management Information System.

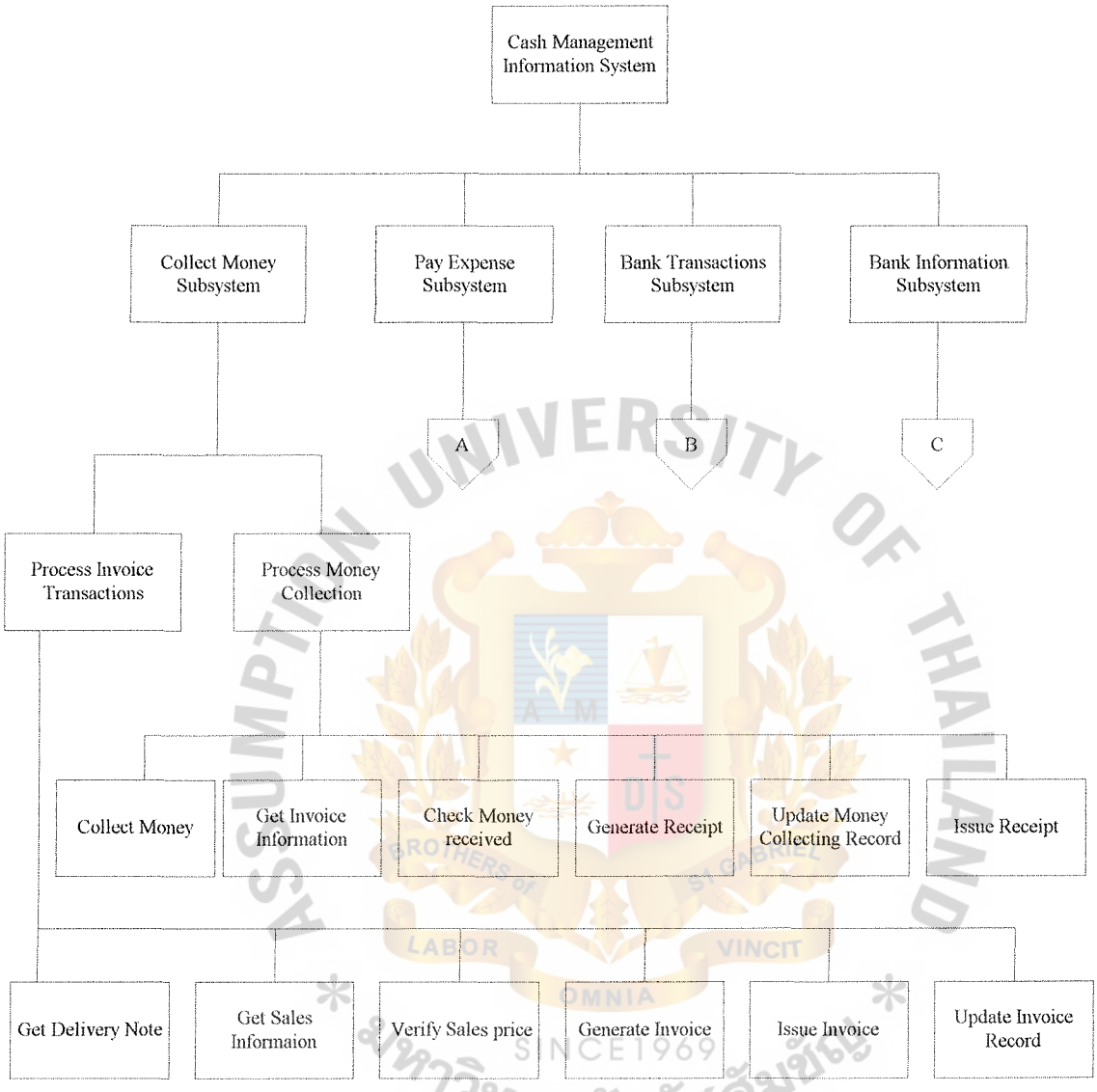

Figure C.2. A Functional Decomposition Diagram of the Proposed Cash Management Information System.

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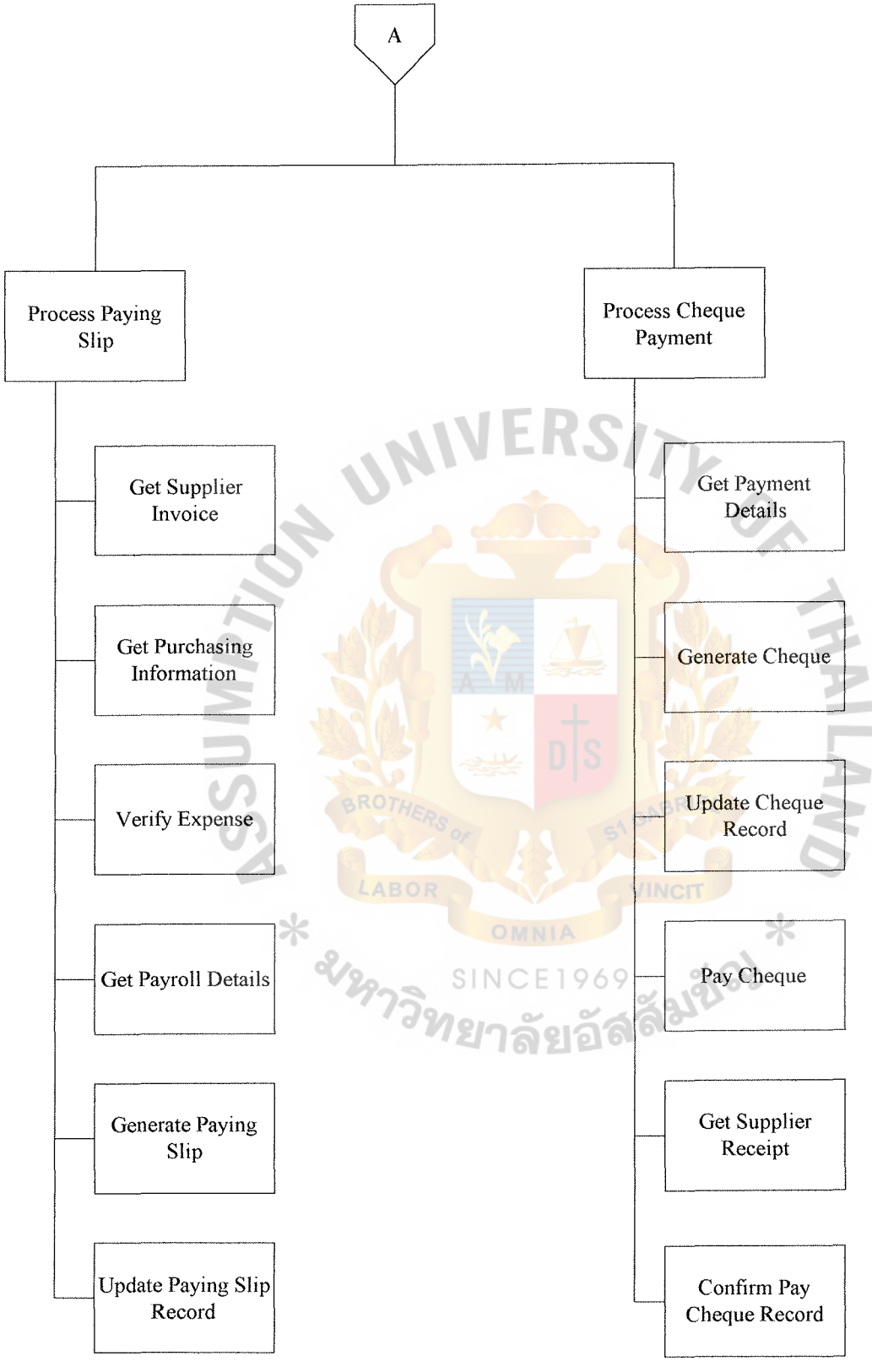

Figure C.3. A Functional Decomposition Diagram of the Proposed Cash Management Information System (Continued).

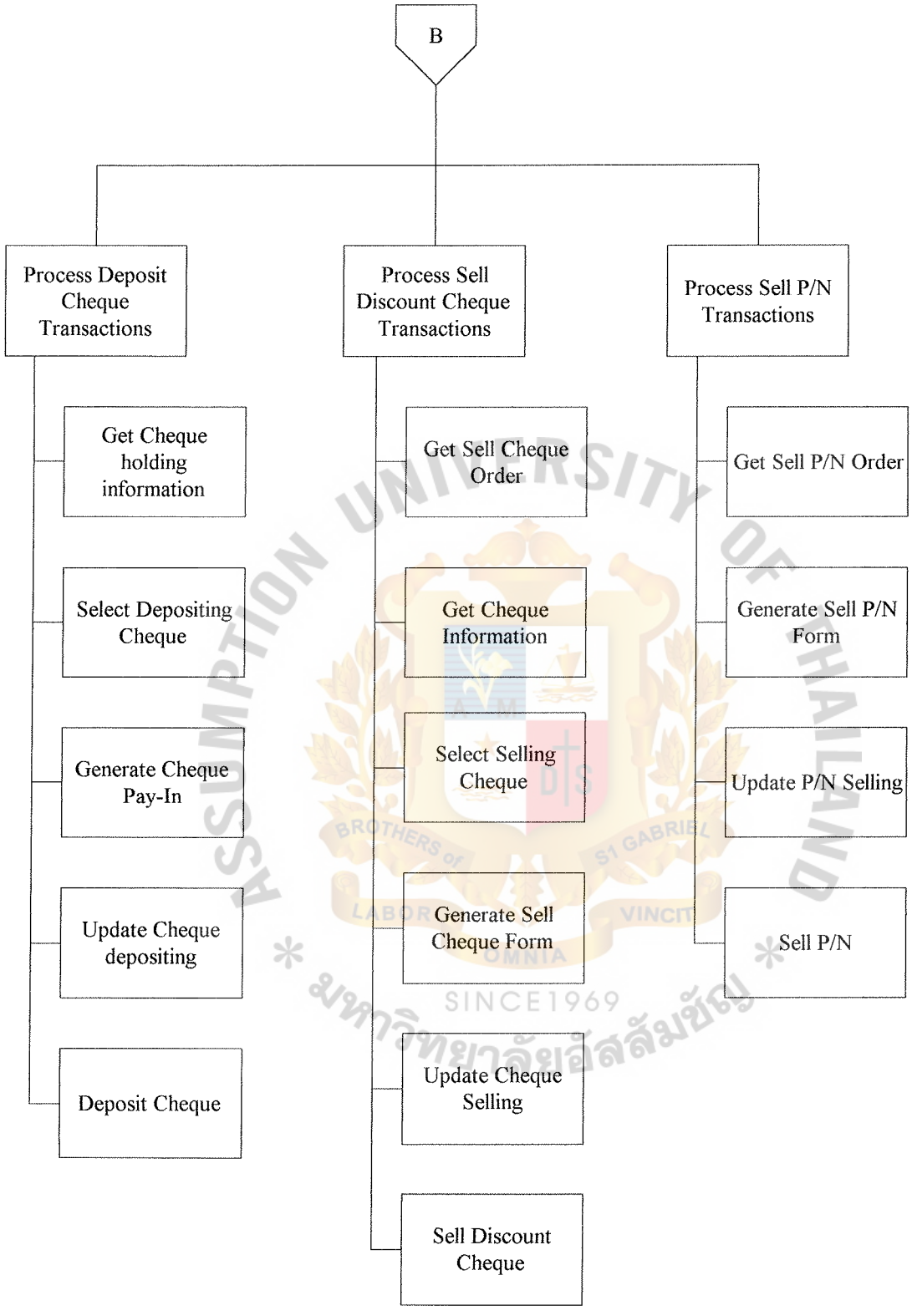

Figure C.4. A Functional Decomposition Diagram of the Proposed Cash Management Information System (Continued).

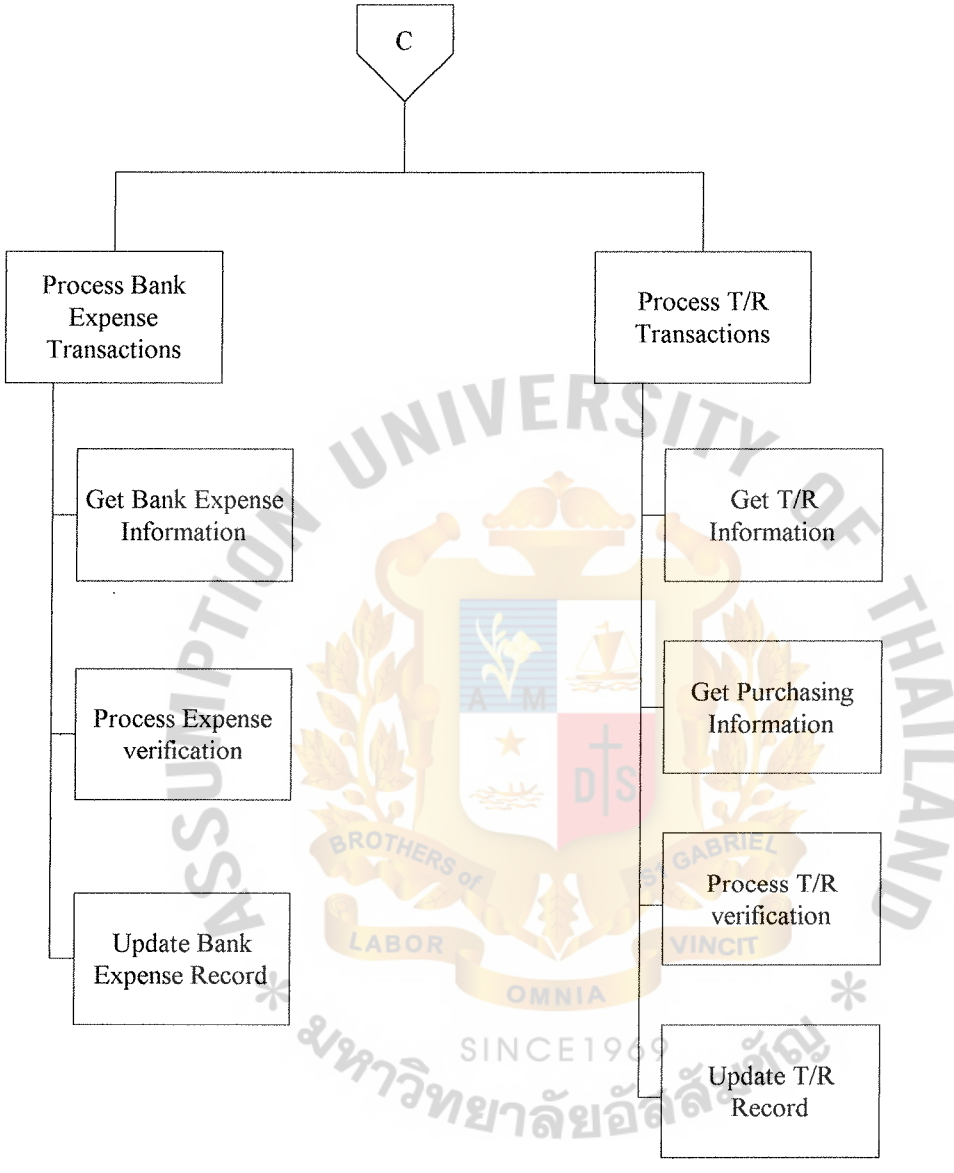

Figure C.5. A Functional Decomposition Diagram of the Proposed Cash Management Information System (Continued).

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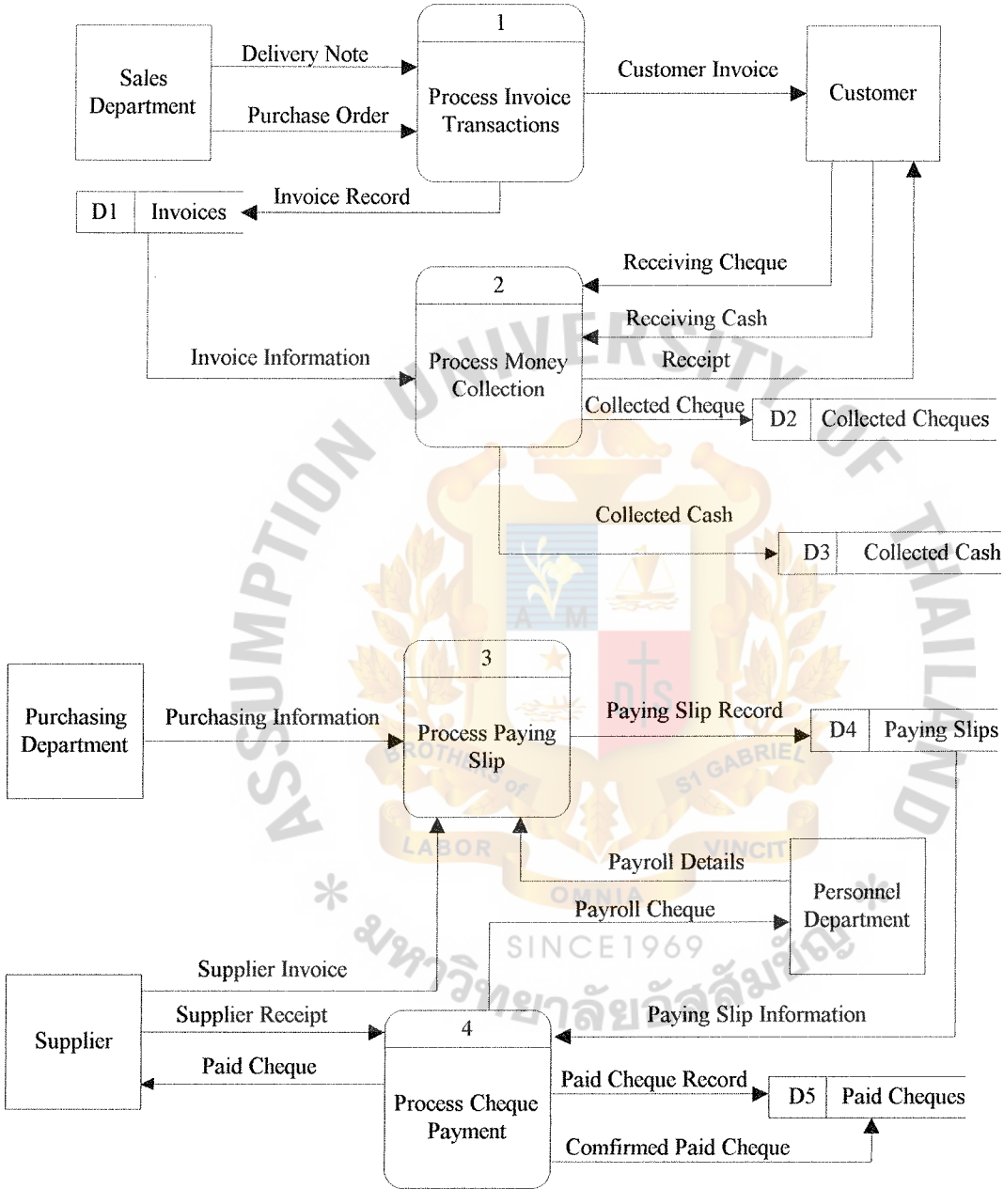

Figure C.6. Level 0 Data Flow Diagram of the Proposed Cash Management Information System.

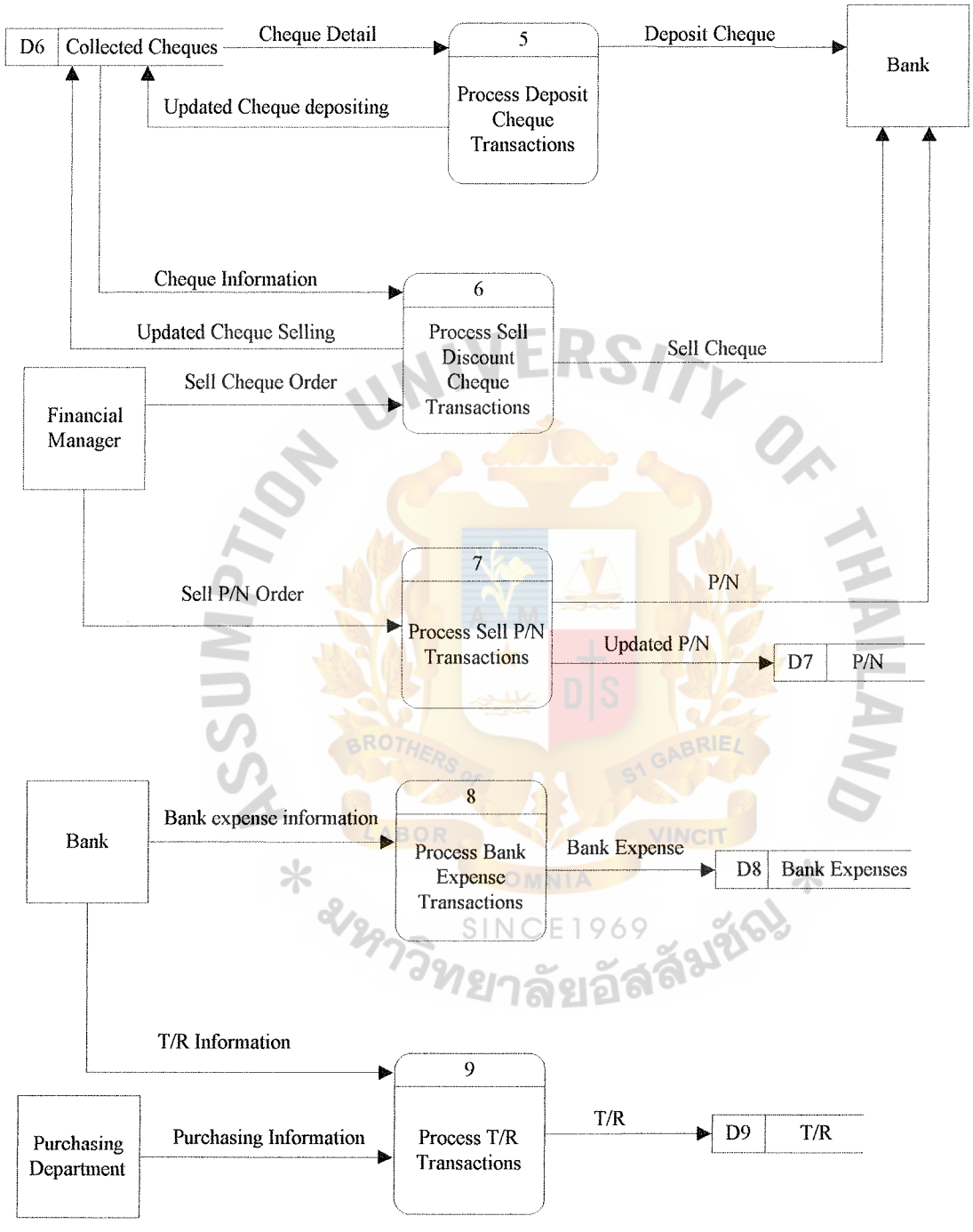

Figure C.7. Level 0 Data Flow Diagram of the Proposed Cash Management Information System (Continued).

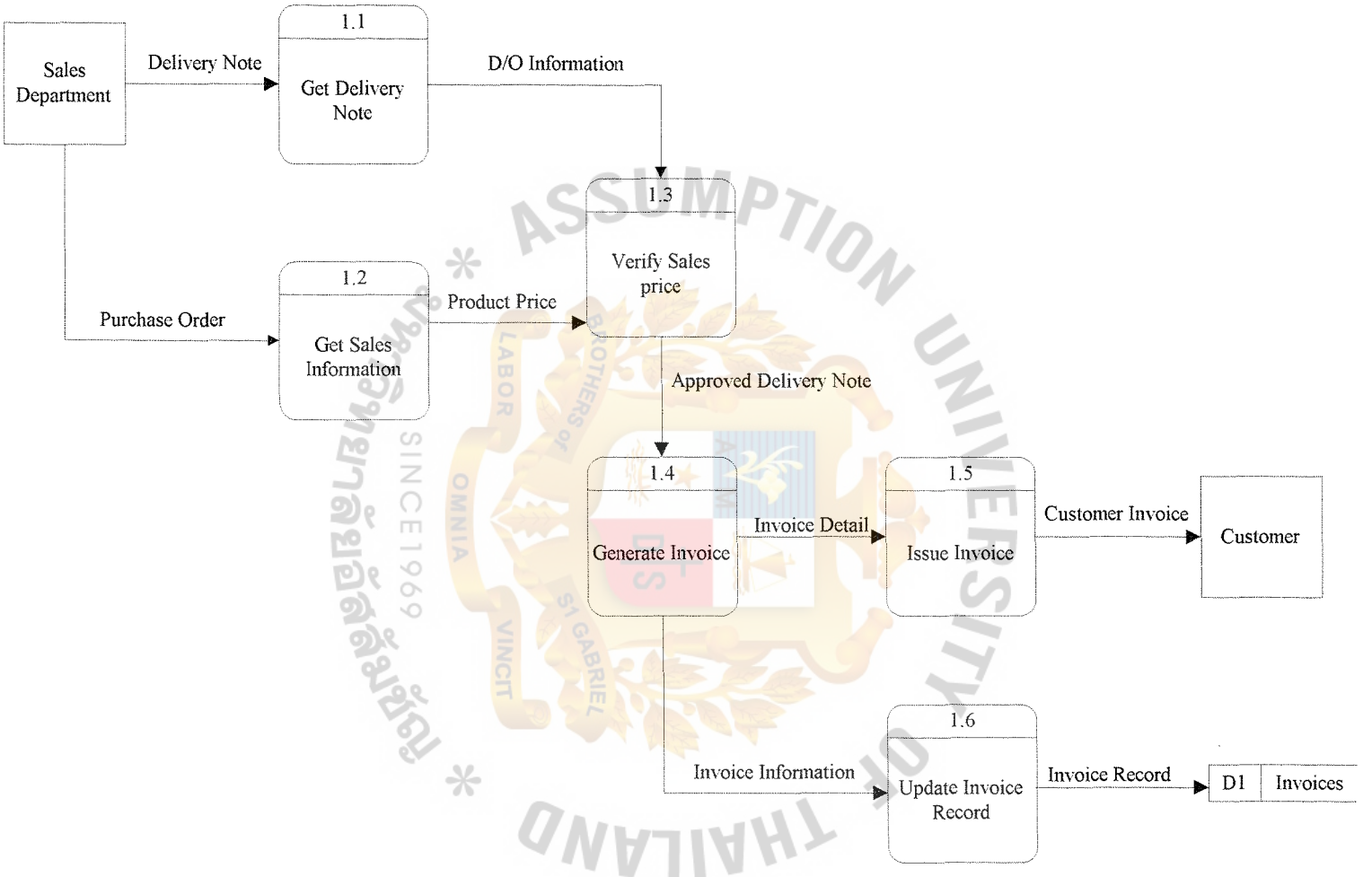

Figure C.8. Level 1 Data Flow Diagram of Process Invoice Transactions of the Proposed Cash Management Information System.

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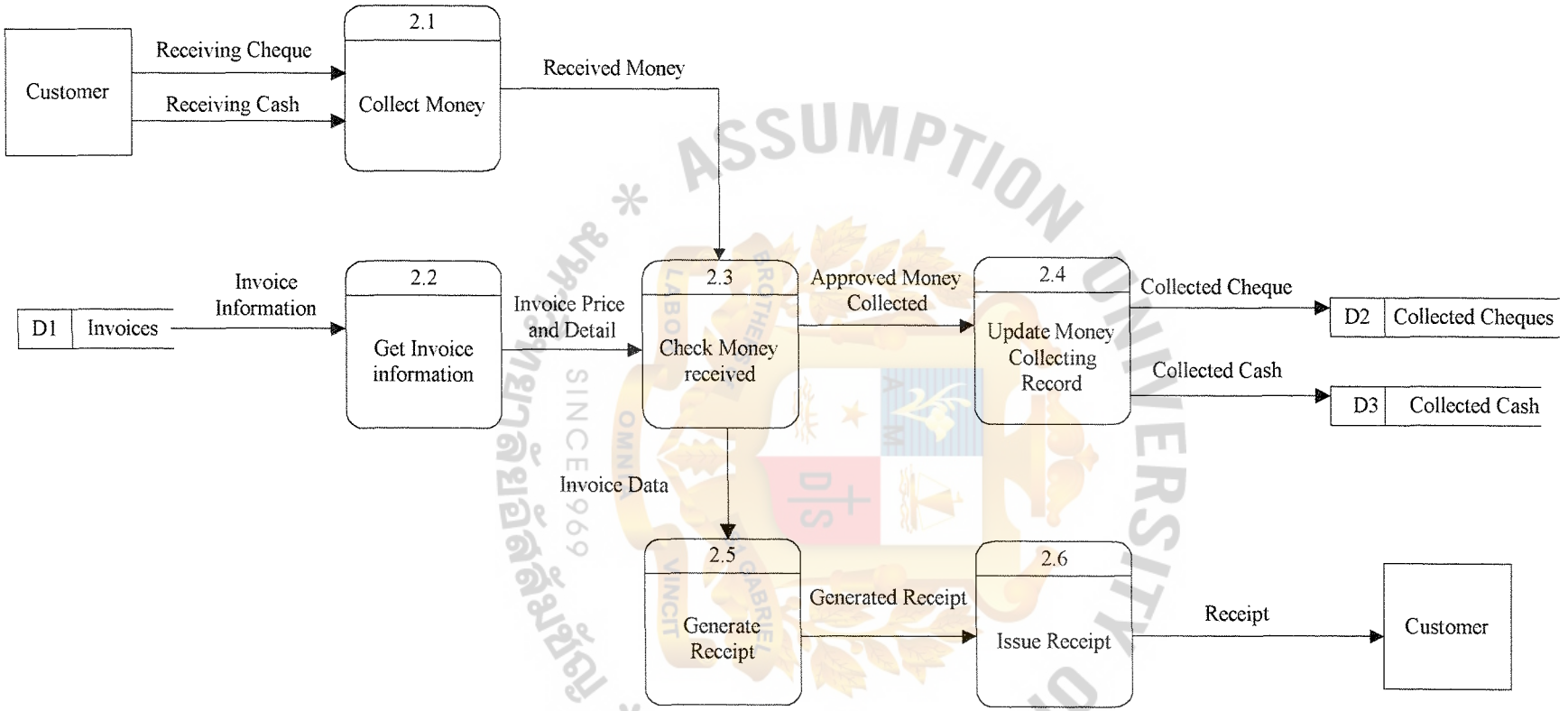

Figure C.9. Level 1 Data Flow Diagram of Process Money Collection of the Proposed Cash Management Information System.

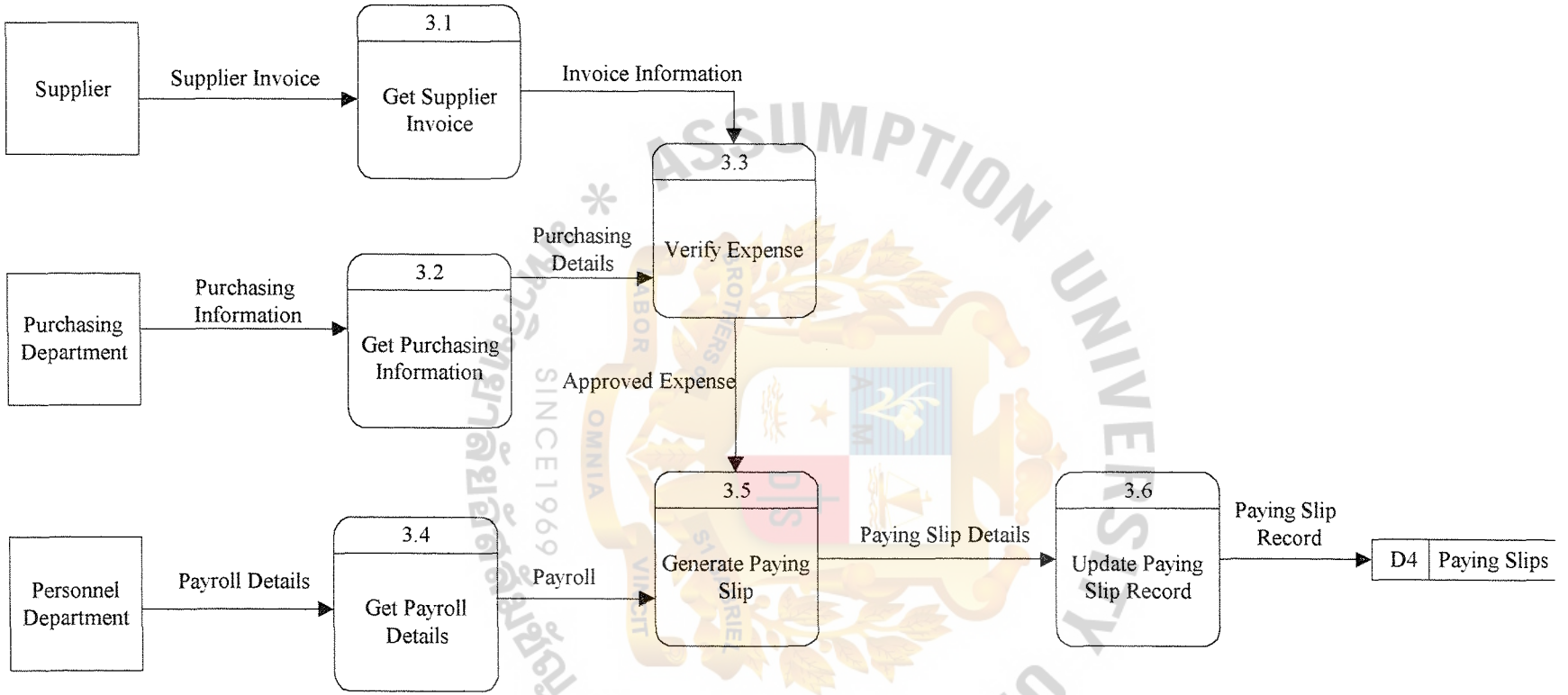

Figure C.10. Level 1 Data Flow Diagram of Process Paying Slip of the Proposed Cash Management Information System.

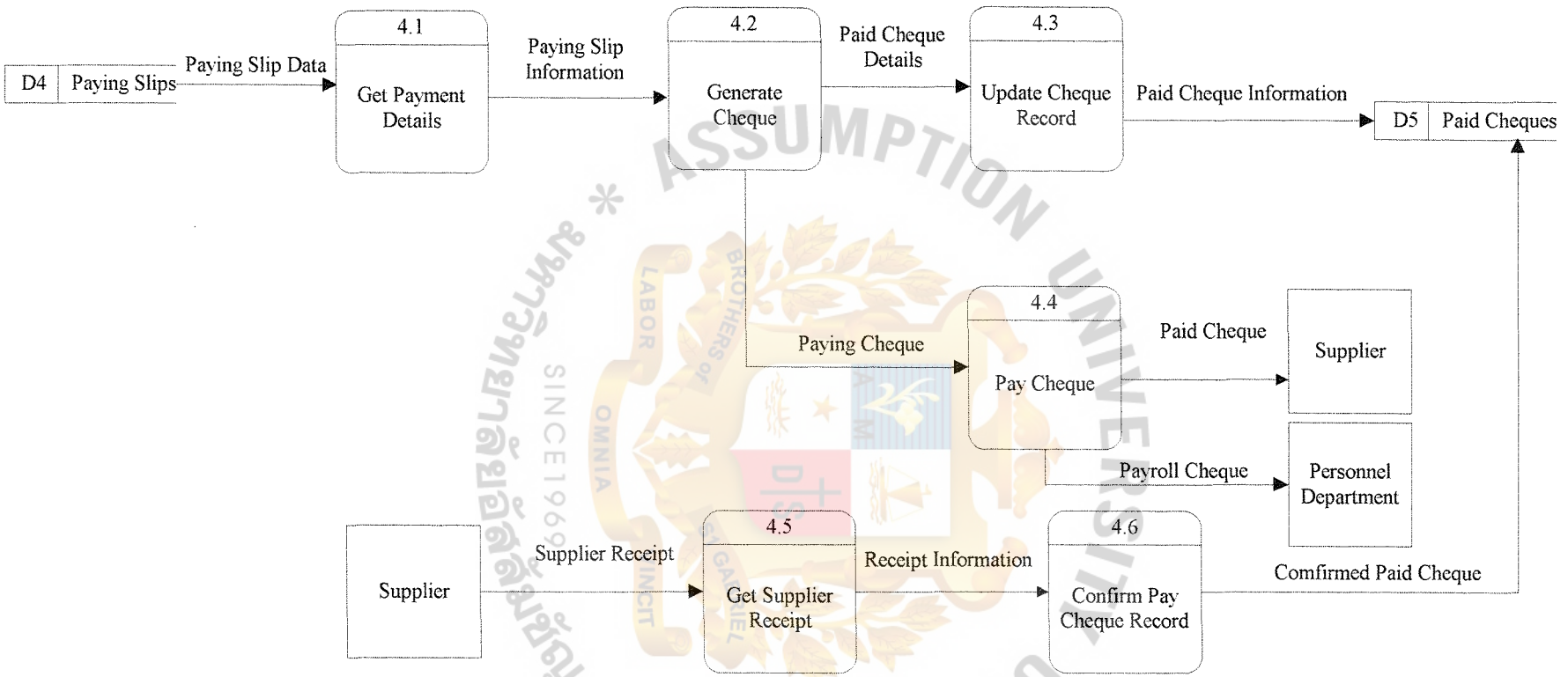

Figure C.11. Level 1 Data Flow Diagram of Process Cheque Payment of the Proposed Cash Management Information System.

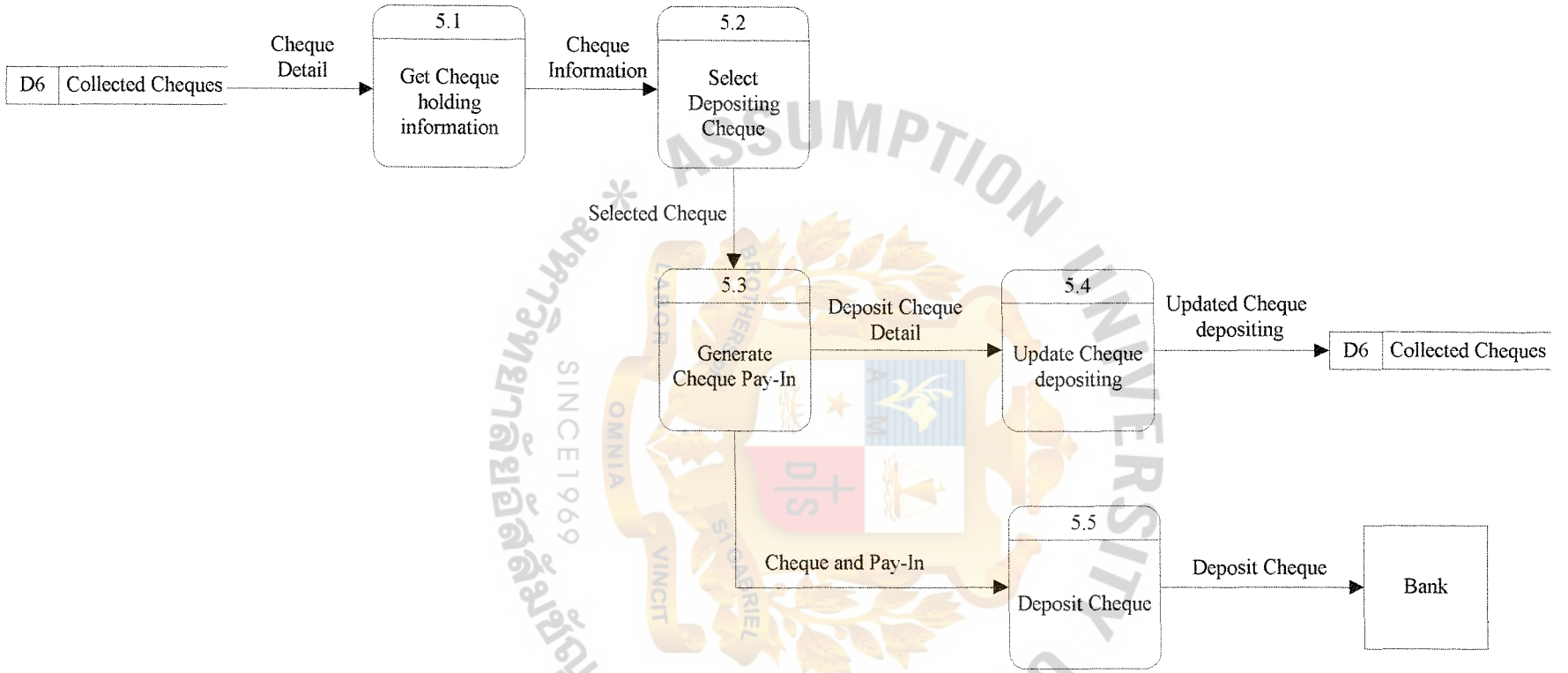

Figure C.12. Level 1 Data Flow Diagram of Process Deposit Cheque Transactions of the Proposed Cash Management Information System.

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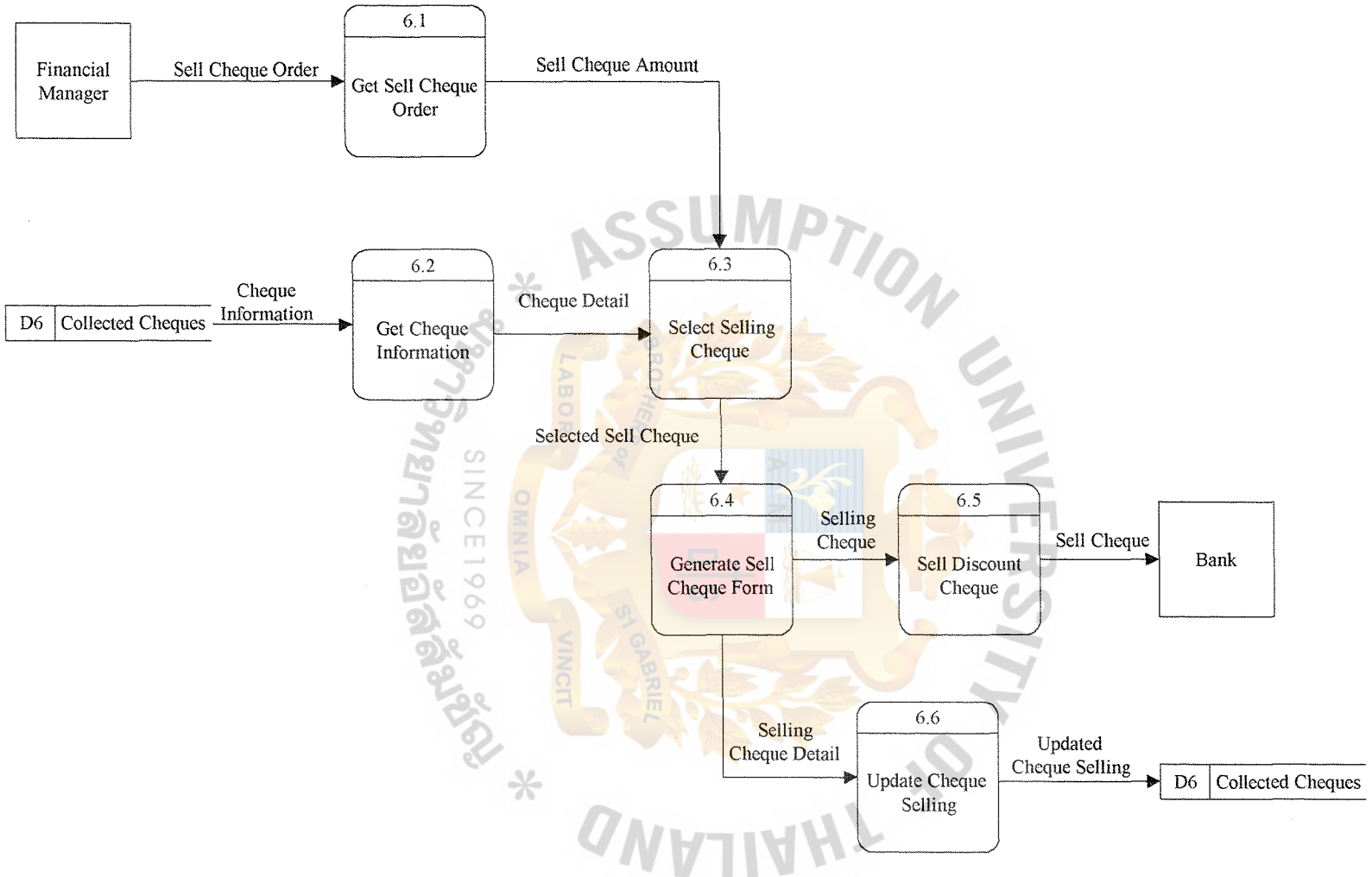

Figure C.13. Level 1 Data Flow Diagram of Process Sell Discount Cheque Transactions of the Proposed Cash Management Information System.

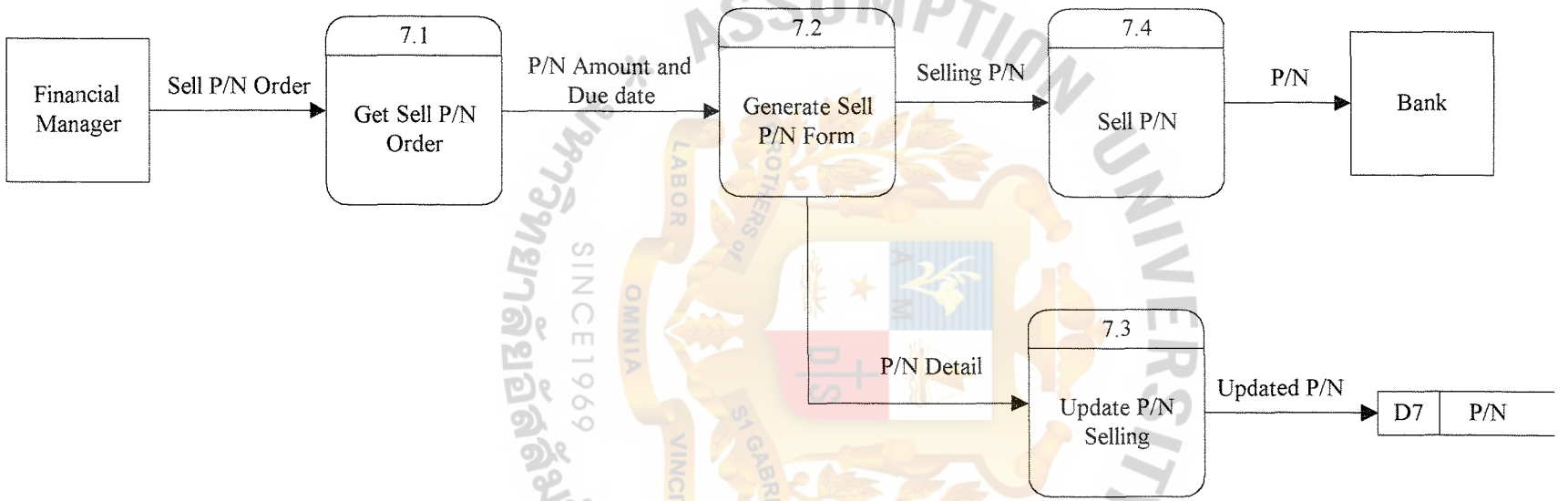

Figure C.14. Level 1 Data Flow Diagram of Process Sell P/N Transactions of the Proposed Cash Management Information System.

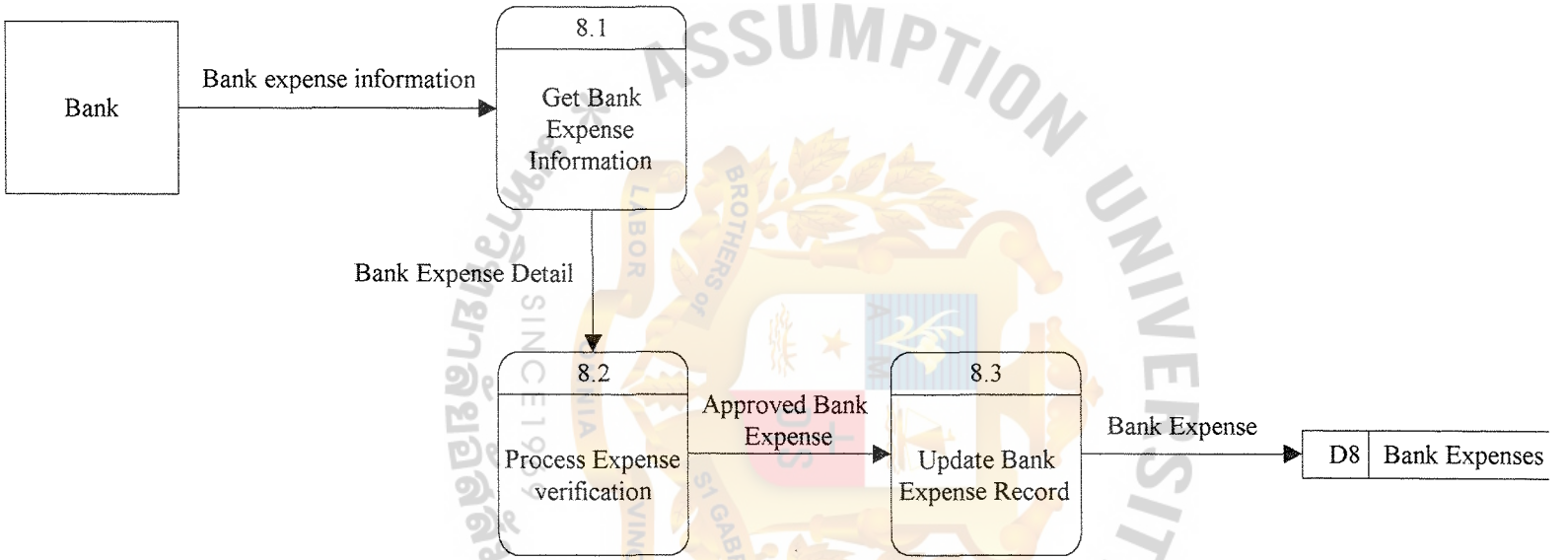

Figure C.15. Level 1 Data Flow Diagram of Process Bank Expense Transactions of the Proposed Cash Management Information System.

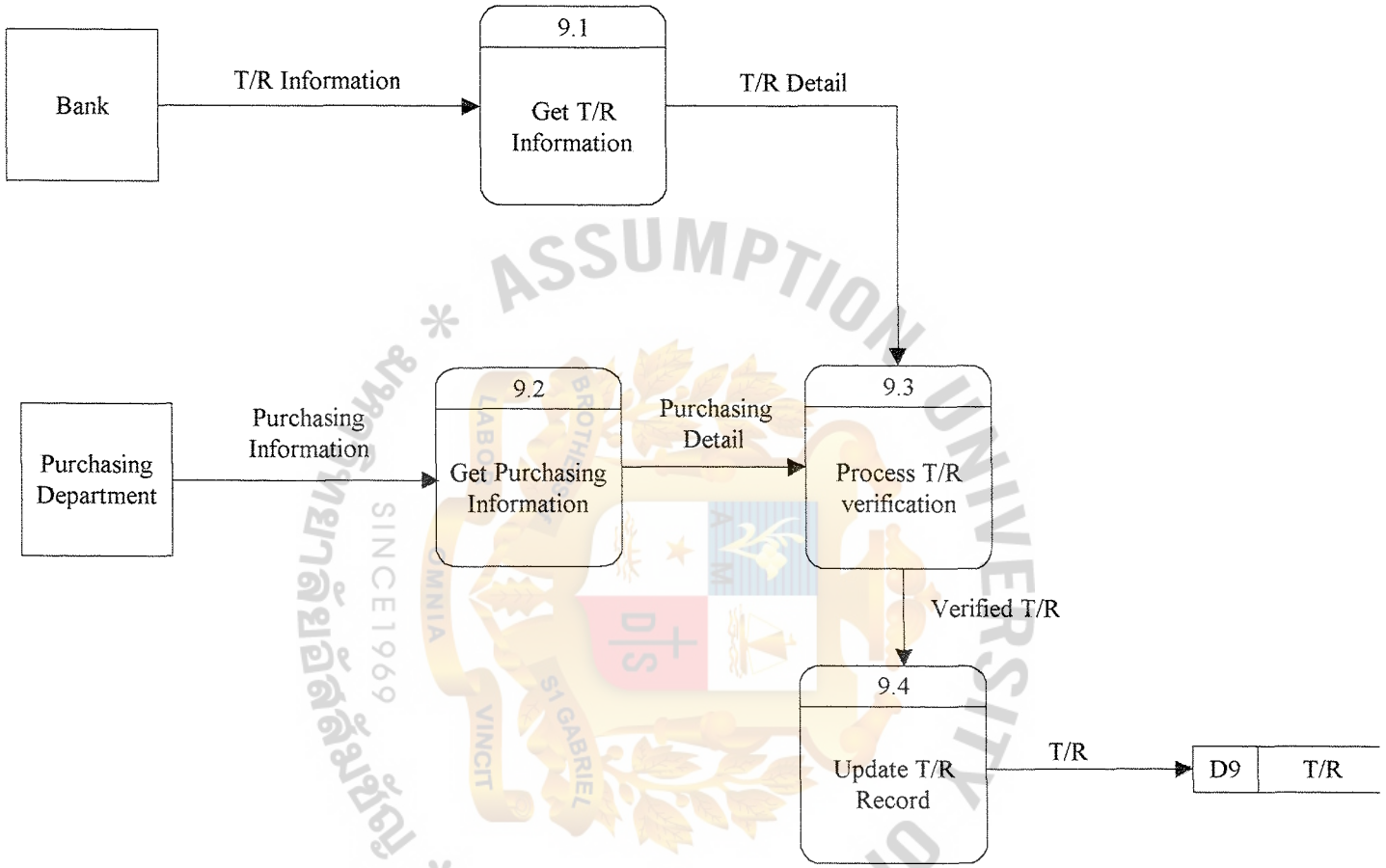

Figure C.16. Level 1 Data Flow Diagram of Process T/R Transactions of the Proposed Cash Management Information System.

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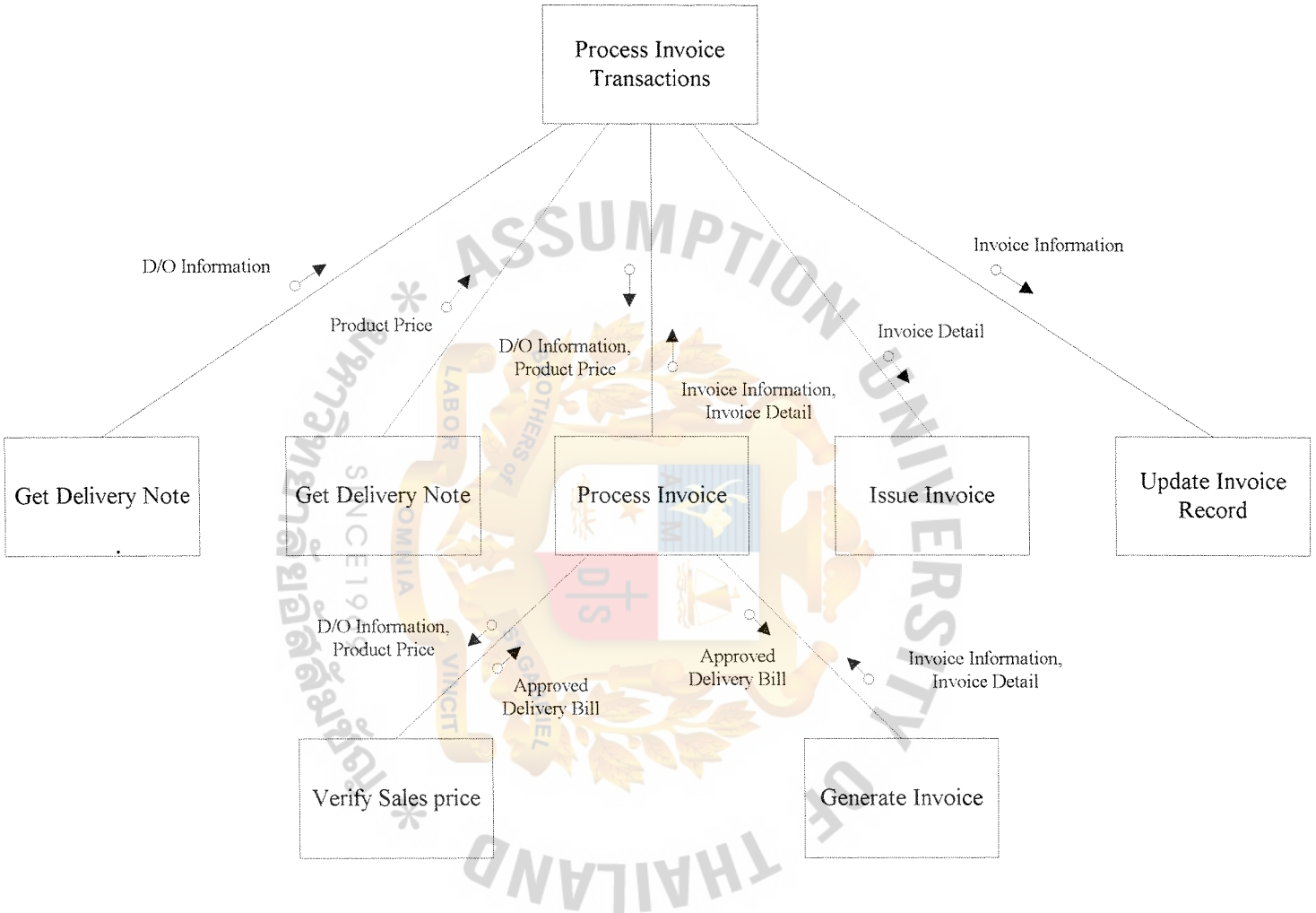

Figure C.17. Structure Chart of Process Invoice Transactions.

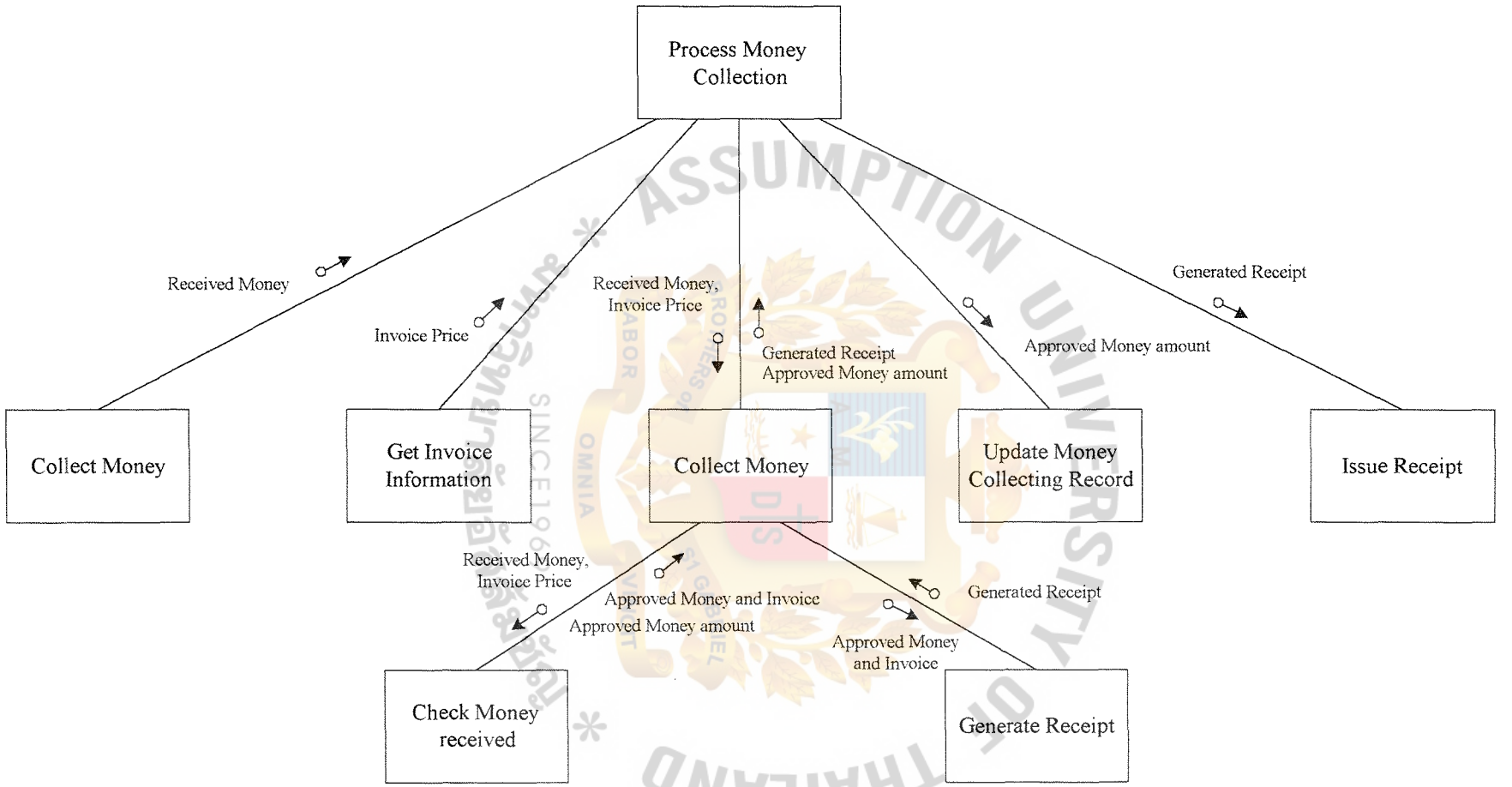

Figure C.18. Structure Chart of Process Money Collection.

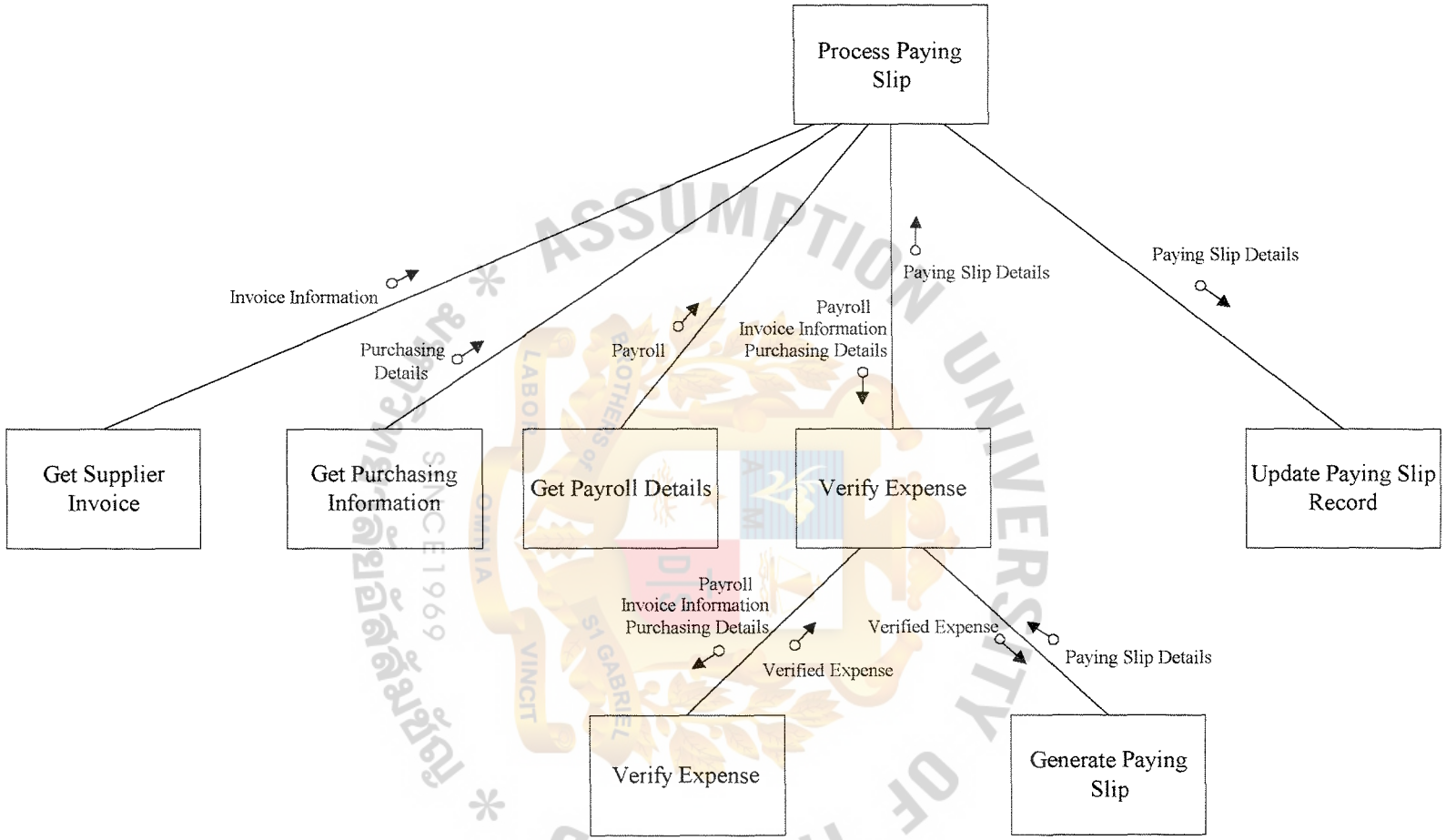

Figure C.19. Structure Chart of Process Paying Slip.

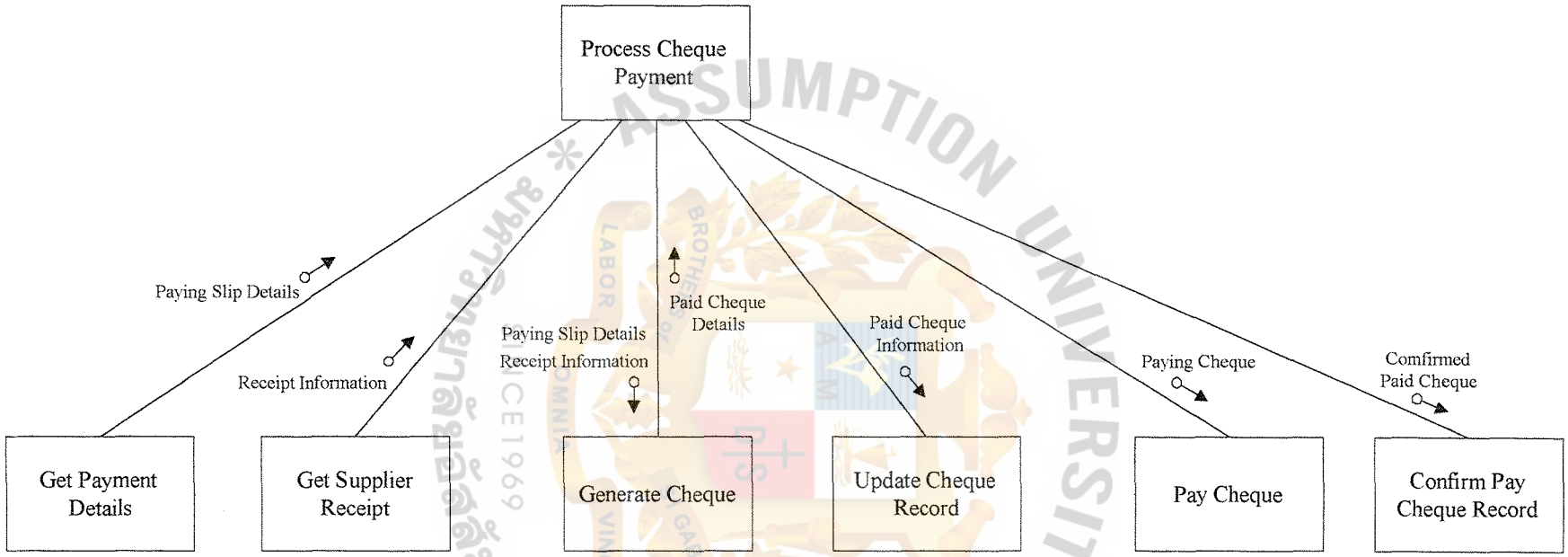

Figure C.20. Structure Chart of Process Cheque Payment.

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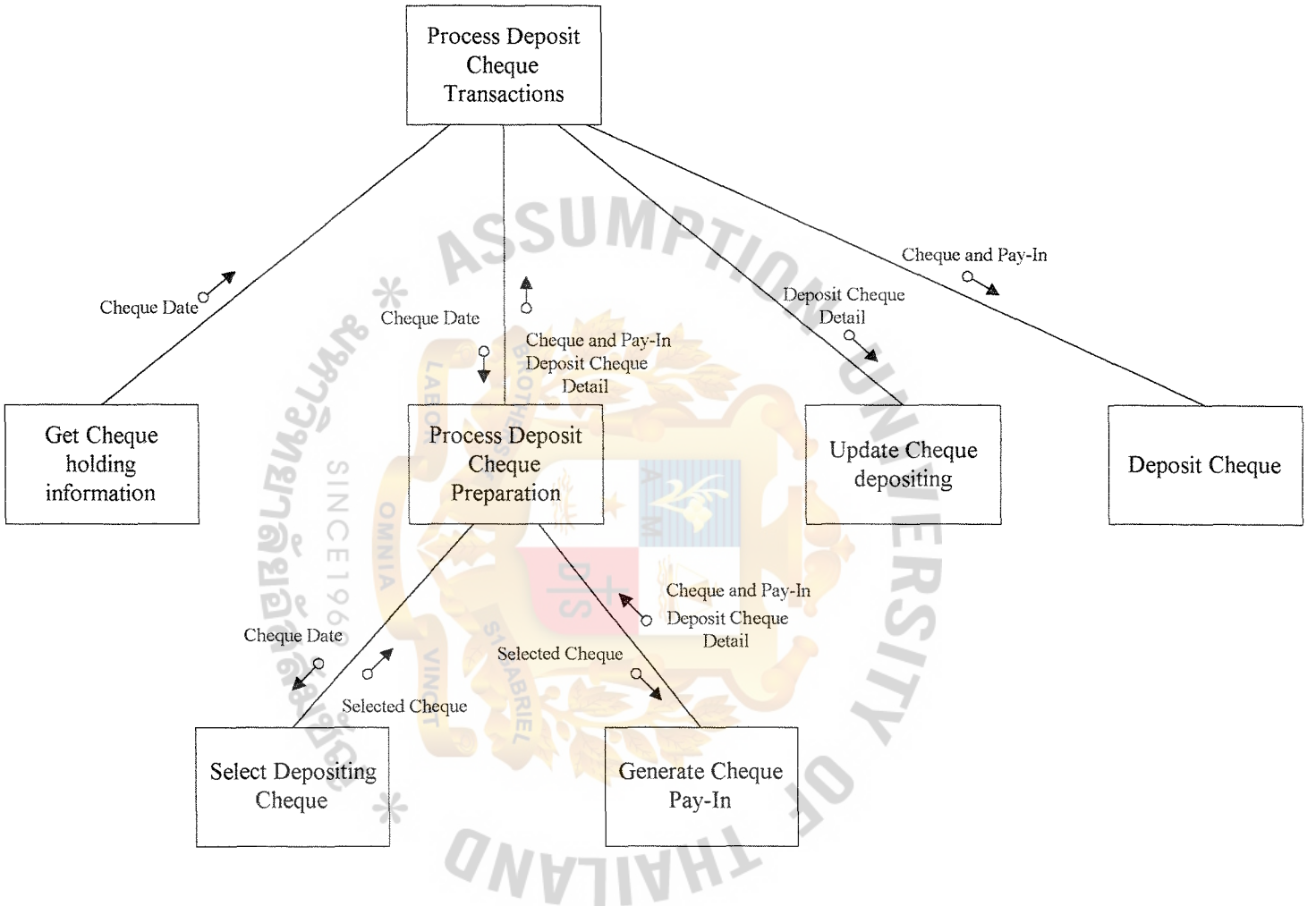

Figure C.21. Structure Chart of Process Deposit Cheque Transactions.

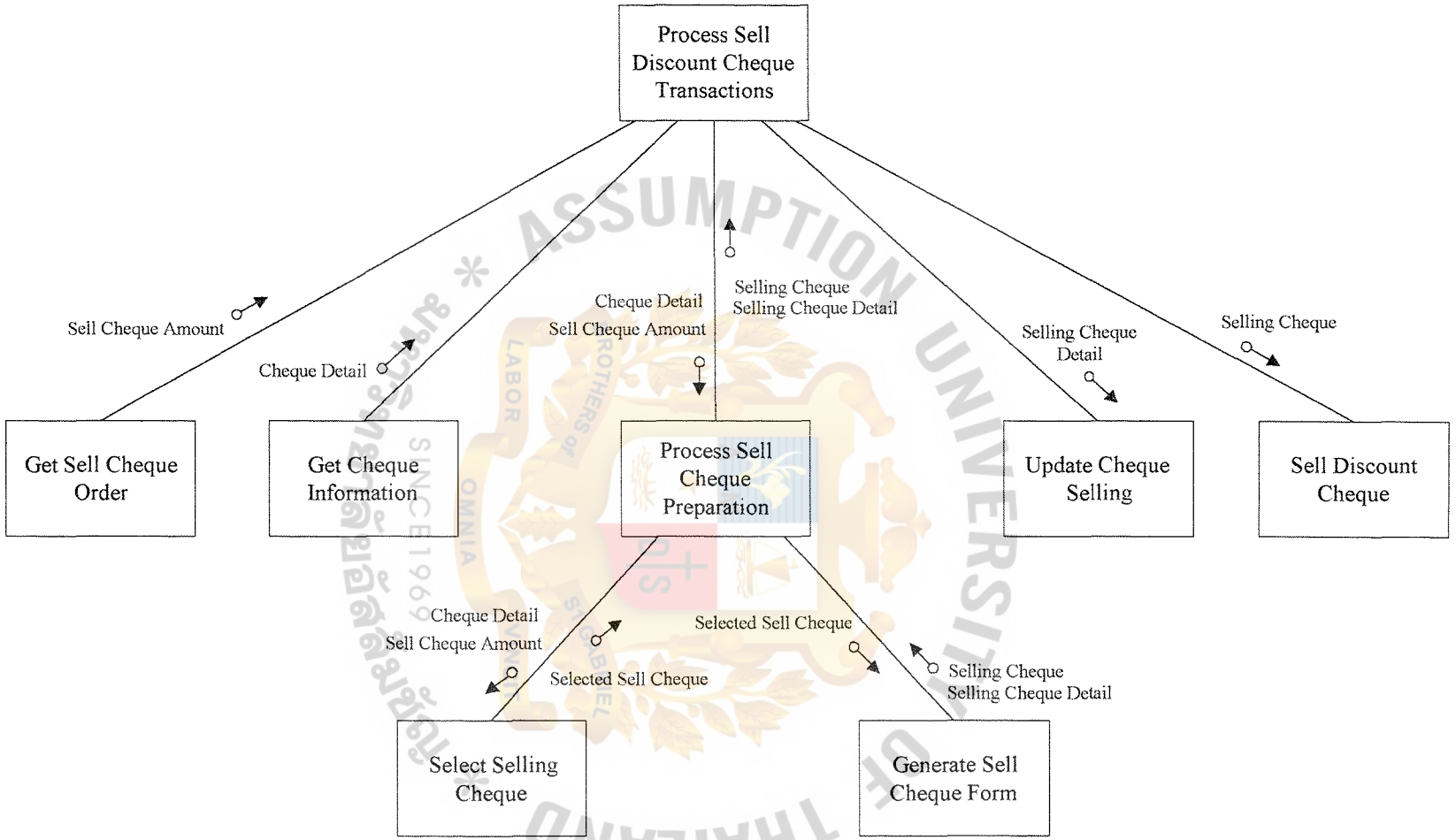

Figure C.22. Structure Chart of Process Sell Discount Cheque Transactions.

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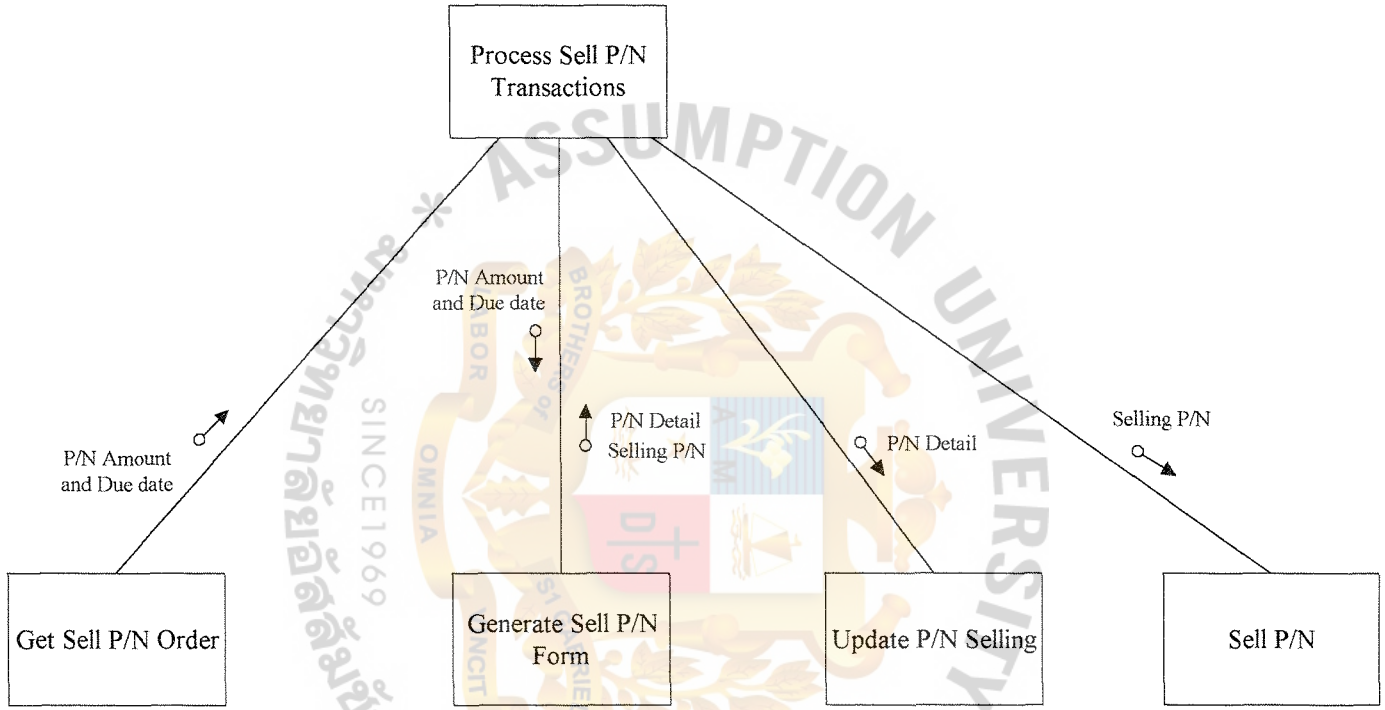

Figure C.23. Structure Chart of Process Sell P/N Transactions.

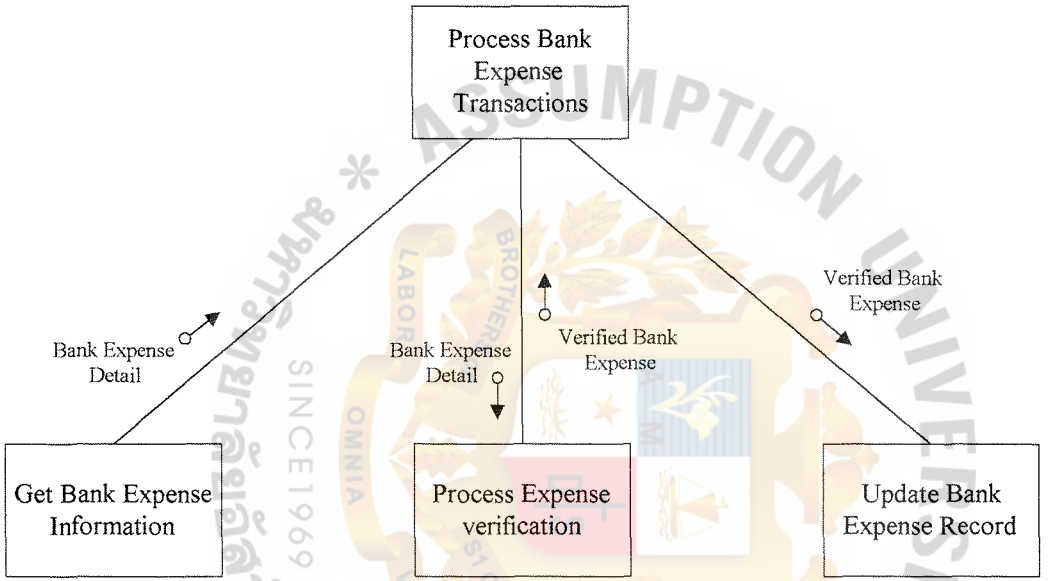

Figure C.24. Structure Chart of Process Bank Expense Transactions.

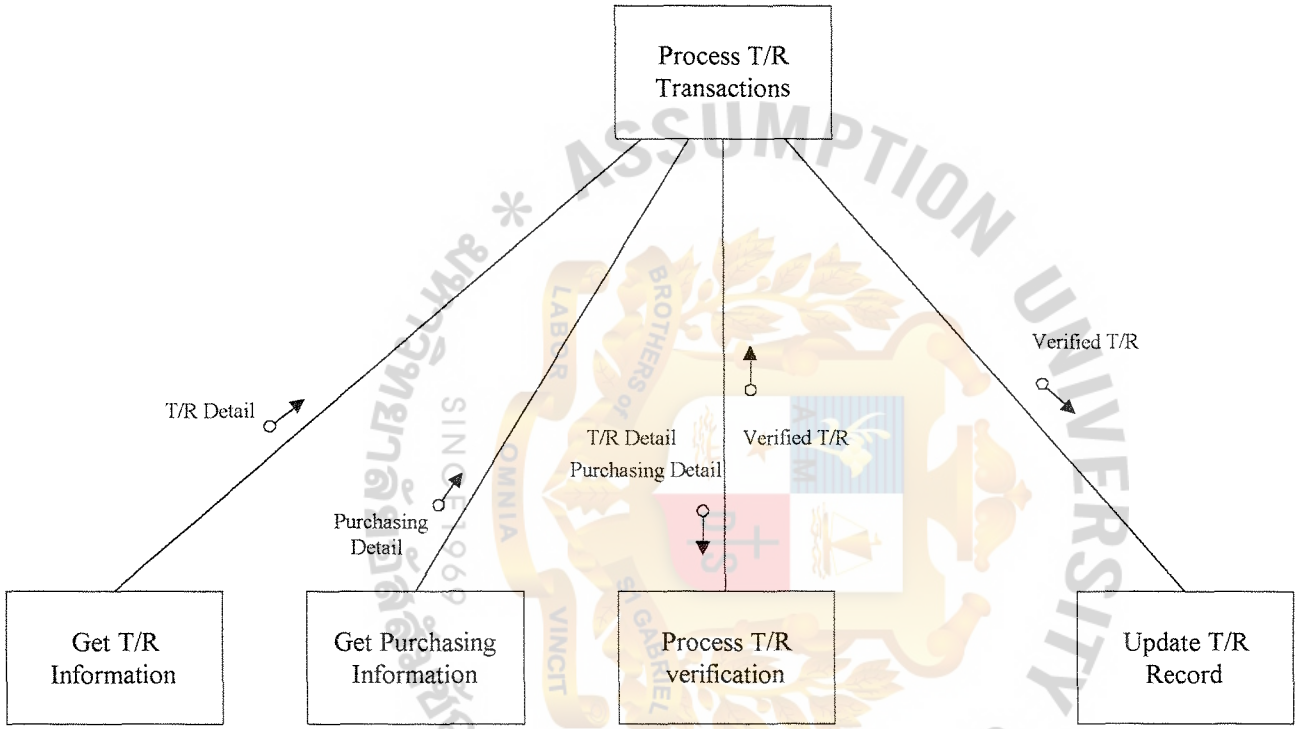

Figure C.25. Structure Chart of Process T/R Transactions.

APPENDIX D

PROCESS SPECIFICATION

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Table D.1. Process Specification of Process 1.1.

Data Item	Description
Process Name:	Get Delivery Note
Data In:	Delivery Note
Data Out:	D/O Information
Process:	1. Receive Delivery Bill 2. Select Delivery Bill information such as customer, product, quantity, price, etc
Attachment	Sales Department

Table D.2. Process Specification of Process 1.2.

Data Item	Description
Process Name:	Get Sell Information
Data In:	Purchase Order
Data Out:	Product Price
Process:	1. Get Customer P/O detail 2. Get product price
Attachment	Sales Department

Table D.3. Process Specification of Process 1.3.

Data Item	Description
Process Name:	Verify Sales Price
Data In:	D/O Information, Product Price
Data Out:	Approved Delivery Note
Process:	1. Compare product price in D/O with product in P/O 2. Approve Delivery note for generating Invoice
Attachment	-

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Table D.4. Process Specification of Process 1.4.

Data Item	Description
Process Name:	Generate Invoice
Data In:	Approved Delivery Note
Data Out:	Invoice Detail, Invoice Information
Process:	1. Get Approved Delivery Note 2. Group Delivery Note that have the same customer name together 3. Select Delivery Note that have the same or nearly delivery date 4. Generate the invoice
Attachment	-

Table D.5. Process Specification of Process 1.5.

Data Item	Description
Process Name:	Issue Invoice
Data In:	Invoice Detail
Data Out:	Customer Invoice
Process:	1. Get Invoice that has already been generated 2. Check Customer Name 3. Check Customer Address 4. Send Invoice to Customer
Attachment	Customer

Table D.6. Process Specification of Process 1.6.

Data Item	Description
Process Name:	Update Invoice Record
Data In:	Invoice Information
Data Out:	Invoice Record
Process:	1. Get Invoice Information 2. Record or update into Invoice file
Attachment	Invoice file

Table D.7. Process Specification of Process 2.1.

Data Item	Description
Process Name:	Collect Money
Data In:	Receiving Cheque, Receiving Cash
Data Out:	Received Money
Process:	Get Customer Payment
Attachment	Customer

Table D.8. Process Specification of Process 2.2.

Data Item	Description
Process Name:	Get Invoice Information
Data In:	Invoice Information
Data Out:	Invoice Price and Detail
Process:	1. Extract the invoice file 2. Get the required invoice information 3. Get the price of required invoice
Attachment	Invoice file

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Table D.9. Process Specification of Process 2.3.

Data Item	Description
Process Name:	Check Money Received
Data In:	Received Money, Invoice Price
Data Out:	Approved Money Collected, Invoice Data
Process:	1. Check the amount of received money 2. Compare the amount of received money with the amount in invoice 3. Approve the received money
Attachment	-

Table D.10. Process Specification of Process 2.4.

Data Item	Description
Process Name:	Update Money Collecting Record
Data In:	Approved Money Collected
Data Out:	Collected Cheque, Collected Cash
Process:	1. Separate cheque received and cash received 2. Update to collected file
Attachment	Collected Cheque file, Collected Cash file

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Table D.11. Process Specification of Process 2.5.

Data Item	Description
Process Name:	Generate Receipt
Data In:	Approved Money Collected
Data Out:	Generated Receipt
Process:	1. Check the name of customer in invoice compare with the name in Tax invoice 2. Check the amount of money in the invoice 3. Typing all required information 4. Print out the Receipt
Attachment	-

Table D.12. Process Specification of Process 2.6.

Data Item	Description
Process Name:	Issue Receipt
Data In:	Generated Receipt
Data Out:	Receipt
Process:	1. Get Generated Receipt 2. Give Generated Receipt to customer
Attachment	Customer

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Table D.13. Process Specification of Process 3.1.

Data Item	Description
Process Name:	Get Supplier Invoice
Data In:	Supplier Invoice
Data Out:	Invoice Information
Process:	1. Make an appointment to Supplier about the date that Supplier can place an invoice 2. Receive Supplier Invoice
Attachment	Supplier

Table D.14. Process Specification of Process 3.2.

Data Item	Description
Process Name:	Get Purchasing Information
Data In:	Purchasing Information
Data Out:	Purchasing Details
Process:	1. Ask Purchasing Department to send the purchasing information 2. Get purchasing information
Attachment	Purchasing Department

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Table D.15. Process Specification of Process 3.3.

Data Item	Description
Process Name:	Verify Expense
Data In:	Invoice Information, Purchasing Details
Data Out:	Approved Expense
Process:	1. Check the product description in invoice from Supplier compare with purchasing bill from Purchasing Department 2. Check unit price description in invoice from Supplier compare with purchasing bill from Purchasing Department 3. Check the total amount of money invoice 4. Approve the expense
Attachment	-

Table D.16. Process Specification of Process 3.4.

Data Item	Description
Process Name:	Get Payroll Details
Data In:	Payroll Details
Data Out:	Payroll
Process:	Receive the amount of Payroll money from Personnel Department
Attachment	Personnel Department

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Table D.17. Process Specification of Process 3.5.

Data Item	Description
Process Name:	Generate Paying Slip
Data In:	Payroll, Verified Expense
Data Out:	Paying Slip
Process:	1. Get Approved Expense Information or Payroll amount 2. Check Payment due date 2. Generate Paying Slip
Attachment	-

Table D.18. Process Specification of Process 3.6.

Data Item	Description
Process Name:	Update Paying Slip Record
Data In:	Paying Slip Details
Data Out:	Paying Slip Record
Process:	1. Get Paying Slip Detail 2. Record the required information into Paying Slip file
Attachment	Paying Slip file

Table D.19. Process Specification of Process 4.1.

Data Item	Description
Process Name:	Get Payment Details
Data In:	Paying Slip Data
Data Out:	Paying Slip Information
Process:	1. Extract the Paying Slip file 2. Get the required information
Attachment	Paying Slip file

Table D.20. Process Specification of Process 4.2.

Data Item	Description
Process Name:	Generate Cheque
Data In:	Paying Slip Information
Data Out:	Paid Cheque Details, Paying Cheque
Process:	1. Verify the paying slip 2. Choose the cheque to generate 3. Write down the required information (Name, Amount of money)
Attachment	-

Table D.21. Process Specification of Process 4.3.

Data Item	Description
Process Name:	Update Cheque Record
Data In:	Paid Cheque Details
Data Out:	Paid Cheque Information
Process:	1. Check the Paid Cheque Detail from the cheque book 2. Record to the Paid Cheque file
Attachment	Paid Cheque file

Table D.22. Process Specification of Process 4.4.

Data Item	Description
Process Name:	Pay Cheque
Data In:	Paying Cheque
Data Out:	Paid Cheque
Process:	1. Make an appointment to the Suppliers about the date that they can come to collect the cheque 2. Pay Cheque to the Supplier
Attachment	Supplier

Table D.23. Process Specification of Process 4.5.

Data Item	Description
Process Name:	Get Supplier Receipt
Data In:	Supplier Receipt
Data Out:	Receipt Information
Process:	1. Receive Supplier Receipt 2. Check the Receipt Information
Attachment	Supplier

Table D.24. Process Specification of Process 4.6.

Data Item	Description
Process Name:	Confirm Pay Cheque Record
Data In:	Receipt Information
Data Out:	Confirm Paid Cheque
Process:	1. Checking the amount of money in Receipt 2. Update the pay cheque date into the Paid Cheque file
Attachment	Paid Cheque file

Table D.25. Process Specification of Process 5.1.

Data Item	Description
Process Name:	Get Cheque holding Information
Data In:	Cheque Detail
Data Out:	Cheque Information
Process:	1. Extract Collected Cheque file 2. Get the required information
Attachment	Collected Cheque file

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Table D.26. Process Specification of Process 5.2.

Data Item	Description
Process Name:	Select Depositing Cheque
Data In:	Cheque Information
Data Out:	Selected Cheque
Process:	1. Choose the cheque that can deposit to the bank by determining by Cheque date 2. Confirm cheque depositing with Financial Manager
Attachment	-

Table D.27. Process Specification of Process 5.3.

Data Item	Description
Process Name:	Generate Cheque Pay-In
Data In:	Selected Cheque
Data Out:	Deposit Cheque Detail, Cheque and Pay-In
Process:	1. Get the cheque that can deposit to the bank 2. Group the cheque separate by cheque date 3. Fill in the required information of each cheque in Pay-In form
Attachment	-

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Table D.28. Process Specification of Process 5.4.

Data Item	Description
Process Name:	Update Cheque Depositing
Data In:	Deposit Cheque Detail
Data Out:	Updated Cheque Depositing
Process:	1. Get Deposit Cheque Detail 2. Update the cheque deposit date into Collected Cheque file
Attachment	Collected Cheque file

Table D.29. Process Specification of Process 5.5.

Data Item	Description
Process Name:	Deposit Cheque
Data In:	Cheque and Pay-In
Data Out:	Depositing Cheque
Process:	1. Take Cheque and Pay-In to the Bank 2. Deposit to the Bank
Attachment	Bank

Table D.30. Process Specification of Process 6.1.

Data Item	Description
Process Name:	Get Sell Cheque Order
Data In:	Sell Cheque Order
Data Out:	Sell Cheque Amount
Process:	Receive Sell Cheque Order from Financial Manager
Attachment	Financial Manager

Table D.31. Process Specification of Process 6.2.

Data Item	Description
Process Name:	Get Cheque Information
Data In:	Cheque Information
Data Out:	Cheque Detail
Process:	1. Extract Collected Cheque file 2. Get the required information
Attachment	Collected Cheque file

Table D.32. Process Specification of Process 6.3.

Data Item	Description
Process Name:	Select Selling Cheque
Data In:	Sell Cheque Amount, Cheque Detail
Data Out:	Selected Sell Cheque
Process:	1. Select the cheques that can sell to the bank and have the total amount equal to the Sell Cheque Amount Order 2. Confirm the selling cheque with the Financial Manager
Attachment	-

Table D.33. Process Specification of Process 6.4.

Data Item	Description
Process Name:	Generate Sell Cheque Form
Data In:	Selected Sell Cheque
Data Out:	Selling Cheque, Selling Cheque Detail
Process:	1. Get the cheques that are going to sell to the bank 2. Fill in the required information of each cheque in Sell Cheque form
Attachment	-

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Table D.34. Process Specification of Process 6.5.

Data Item	Description
Process Name:	Sell Discount Cheque
Data In:	Selling Cheque
Data Out:	Sell Cheque
Process:	1. Take Cheque and Sell Cheque Form to the Bank 2. Sell Discount Cheque to the Bank
Attachment	Bank

Table D.35. Process Specification of Process 6.6.

Data Item	Description
Process Name:	Update Cheque Selling
Data In:	Selling Cheque Detail
Data Out:	Updated Cheque Selling
Process:	1. Get Sell Cheque Detail 2. Update the cheque sell date into Collected Cheque file
Attachment	Collected Cheque file

Table D.36. Process Specification of Process 7.1.

Data Item	Description
Process Name:	Get Sell P/N Order
Data In:	Sell P/N Order
Data Out:	P/N Amount and Due Date
Process:	Receive Sell P/N Order from Financial Manager
Attachment	Financial Manager

Table D.37. Process Specification of Process 7.2.

Data Item	Description
Process Name:	Generate Sell P/N Form
Data In:	P/N Amount and Due Date
Data Out:	Selling P/N
Process:	1. Fill in the required information in P/N Form using P/N Amount and due date 2. Generate Cheque that have the same amount and due date with P/N to guarantee paying P/N
Attachment	-

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Table D.38. Process Specification of Process 7.3.

Data Item	Description
Process Name:	Update P/N Selling
Data In:	P/N Detail
Data Out:	Updated P/N
Process:	1. Get Sell P/N Detail 2. Update the selling P/N file
Attachment	P/N file

Table D.39. Process Specification of Process 7.4.

Data Item	Description
Process Name:	Sell P/N
Data In:	Selling P/N
Data Out:	P/N
Process:	1. Take P/N and guarantee cheque to the Bank 2. Sell P/N to the Bank
Attachment	Bank

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Table D.40. Process Specification of Process 8.1.

Data Item	Description
Process Name:	Get Bank Expense Information
Data In:	Bank Expense Information
Data Out:	Bank Expense Detail
Process:	1. Contact to the Bank (Telephone) 2. Ask the bank for the details of company's expense to the bank (Fixed Loan, Interest)
Attachment	Bank

Table D.41. Process Specification of Process 8.2.

Data Item	Description
Process Name:	Process Expense Verification
Data In:	Bank Expense Detail
Data Out:	Approved Bank Expense
Process:	1. Verify any Bank Expense by checking with the Bank 2. Approve the bank expense
Attachment	-

Table D.42. Process Specification of Process 8.3.

Data Item	Description
Process Name:	Update Bank Expense Record
Data In:	Approved Bank Expense
Data Out:	Bank Expense
Process:	1. Get Approved Bank Expense Detail 2. Update the Bank Expense file
Attachment	Bank Expense file

Table D.43. Process Specification of Process 9.1.

Data Item	Description
Process Name:	Get T/R Information
Data In:	T/R Information
Data Out:	T/R Detail
Process:	1. Contact Bank to ask for the T/R payment information 2. Get the T/R Information
Attachment	Bank

Table D.44. Process Specification of Process 9.2.

Data Item	Description
Process Name:	Get Purchasing Information
Data In:	Purchasing Information
Data Out:	Purchasing Detail
Process:	1. Ask Purchasing Department about the T/R Purchasing Information 2. Get The Purchasing Detail
Attachment	Purchasing Department

Table D.45. Process Specification of Process 9.3.

Data Item	Description
Process Name:	Process T/R verification
Data In:	T/R Detail, Purchasing Detail
Data Out:	Verified T/R
Process:	1. Compare T/R information from the Bank with Purchasing Detail 2. Approve T/R
Attachment	-

Table D.46. Process Specification of Process 9.4.

Data Item	Description
Process Name:	Update T/R Record
Data In:	Verified T/R
Data Out:	T/R
Process:	1. Get T/R Detail 2. Update T/R file
Attachment	T/R file

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APPENDIX E

INTERFACE DESIGN

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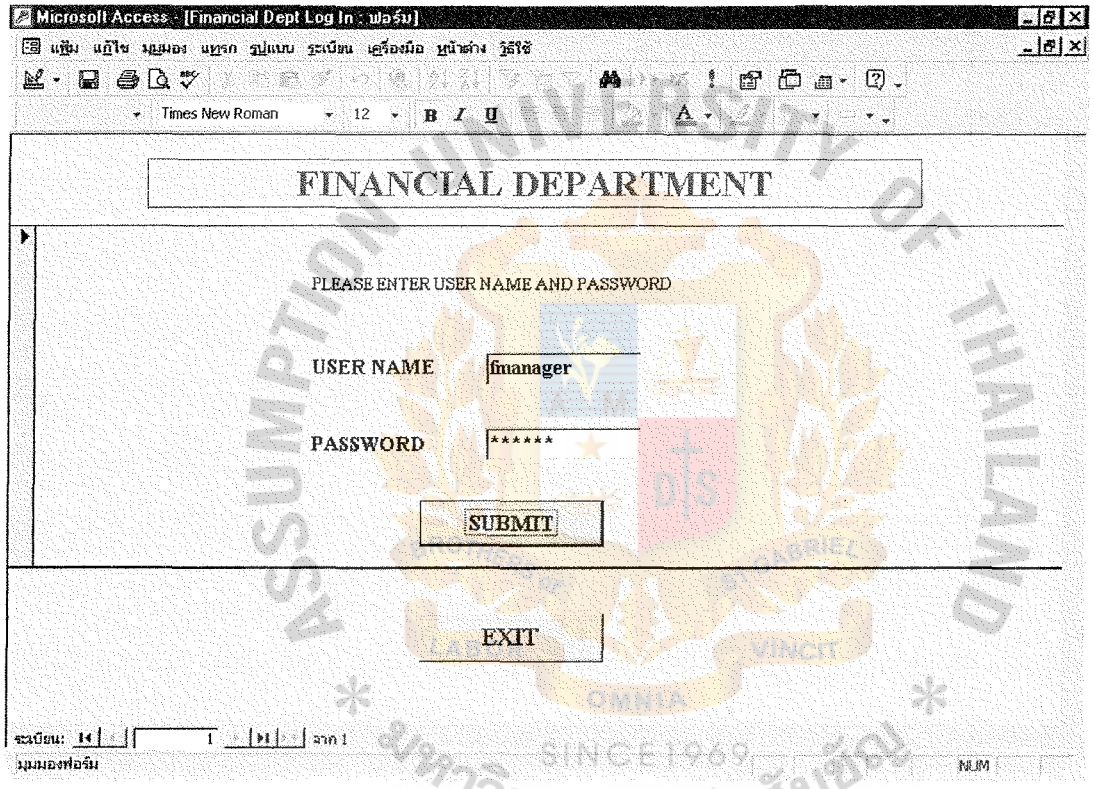

Figure E.1. Login Screen Form.

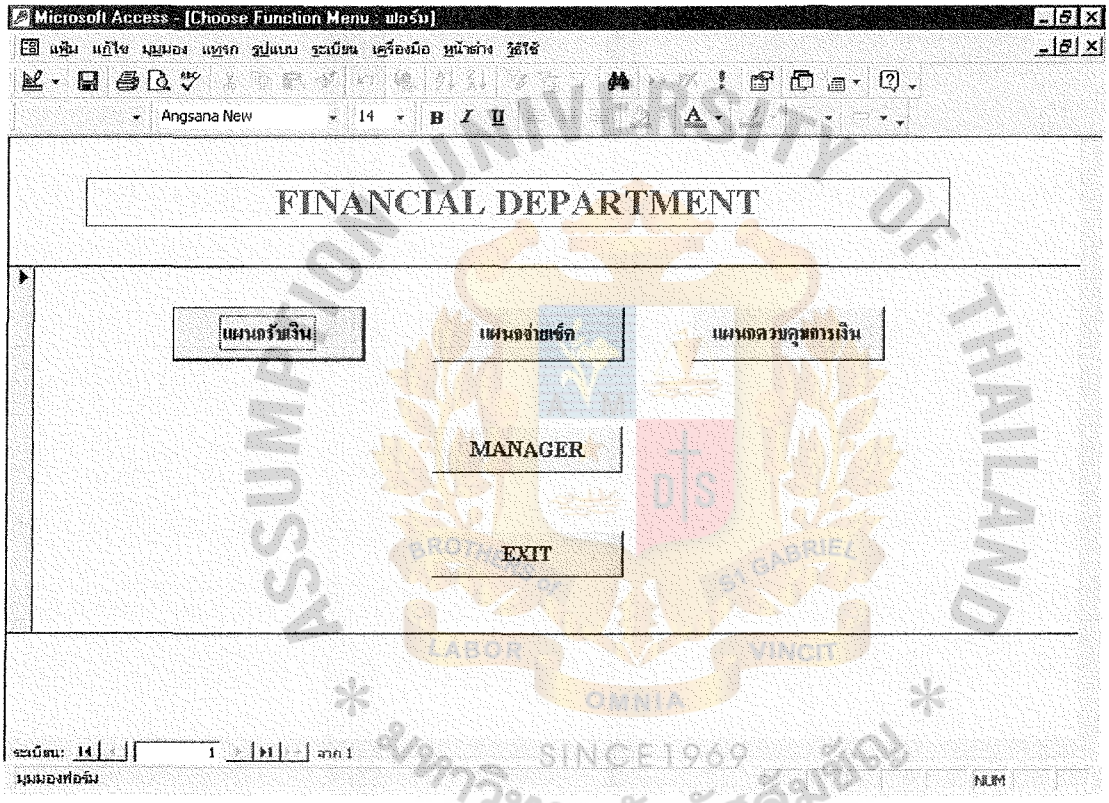

Figure E.2. System Main Menu Form.

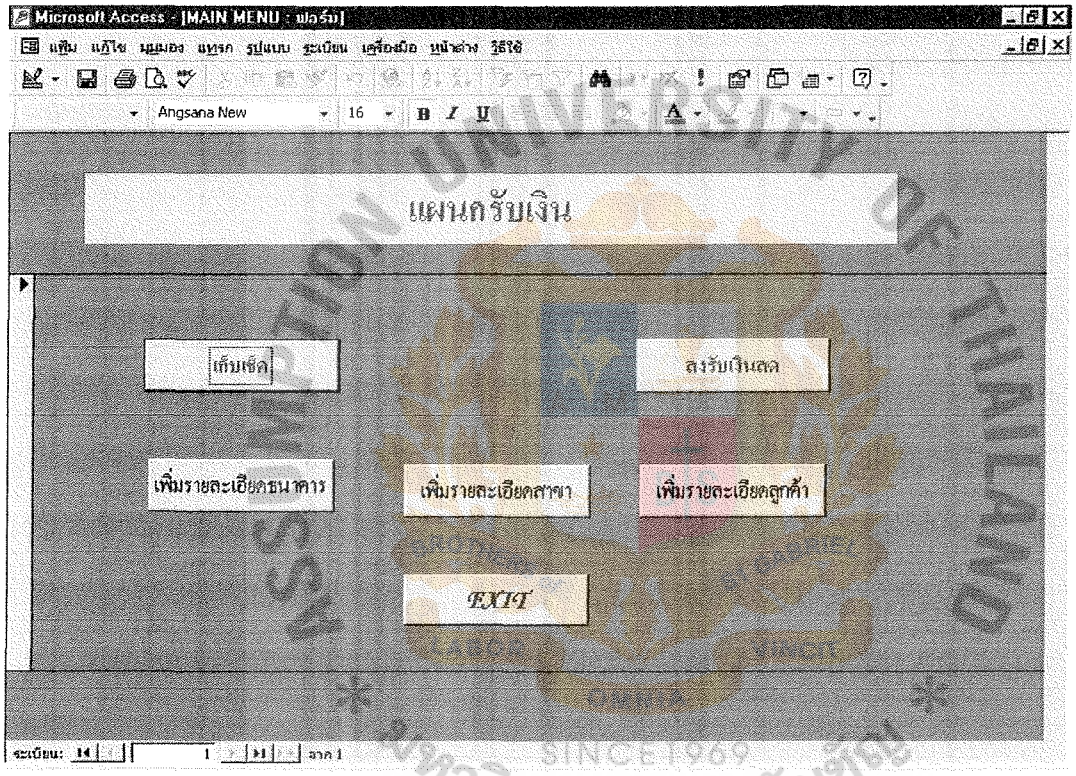

Figure E.3. Collect Money System Menu Form.

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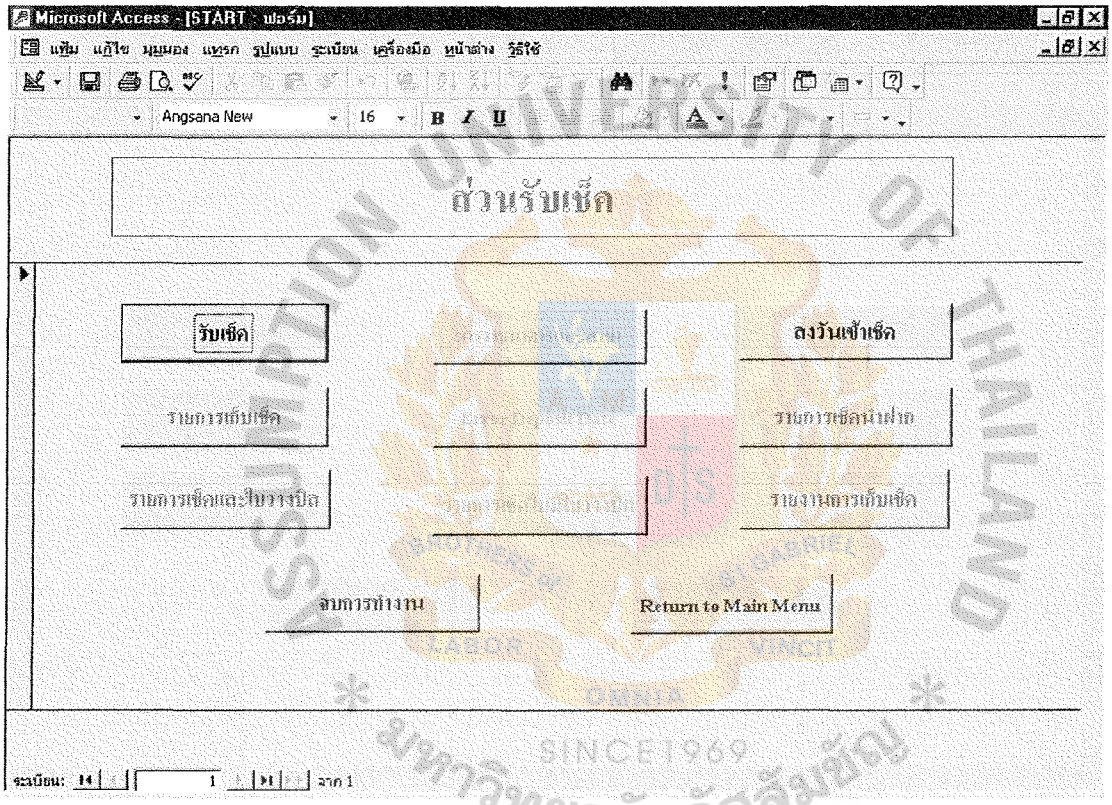

Figure E.4. Collect Cheque Menu Form.

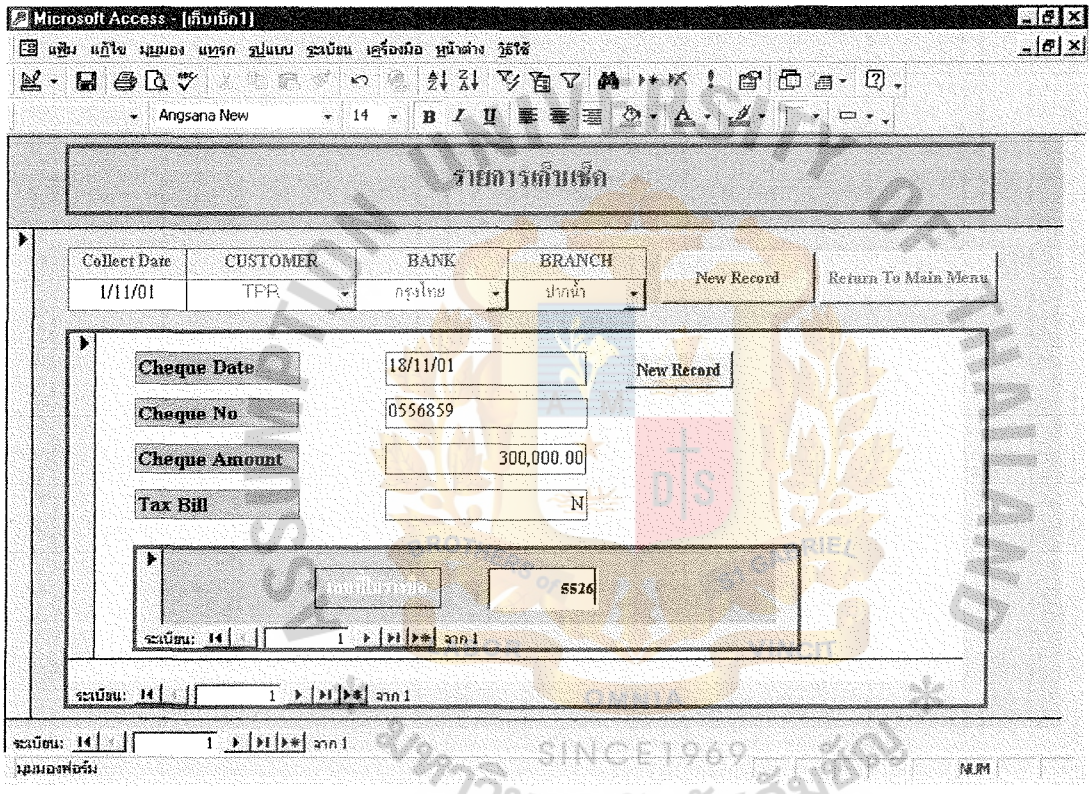

Figure E.5. Collected Cheque Information Form.

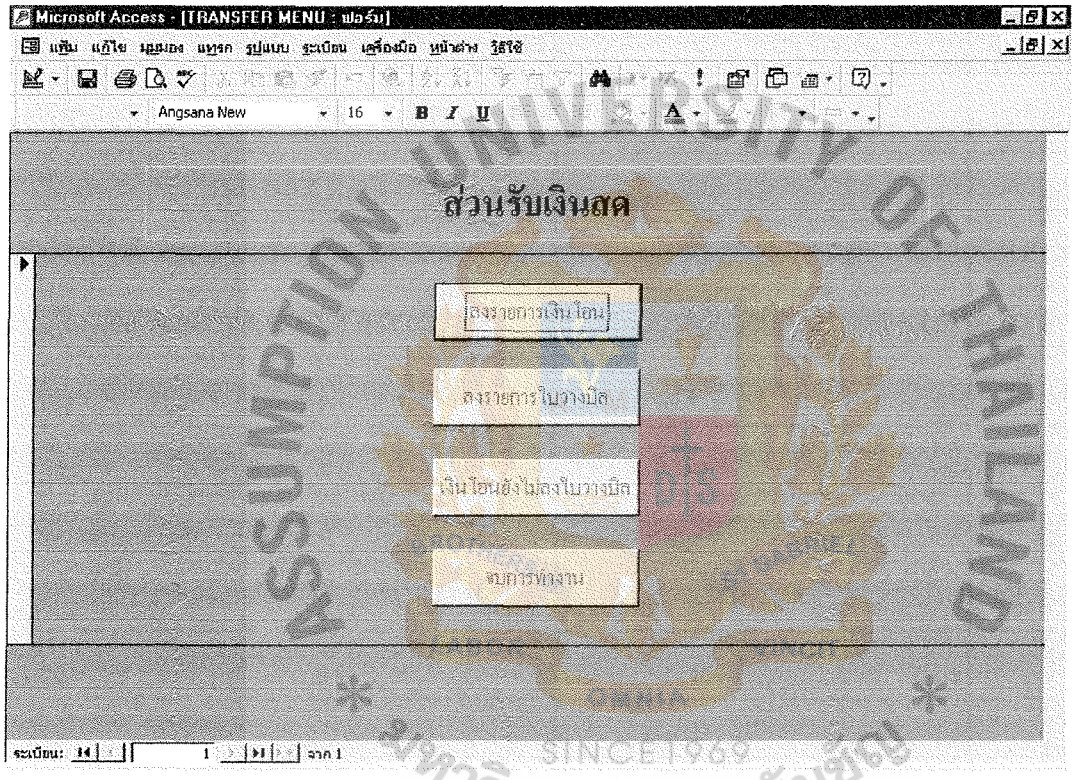

Figure E.6. Collect Cash Menu Form.

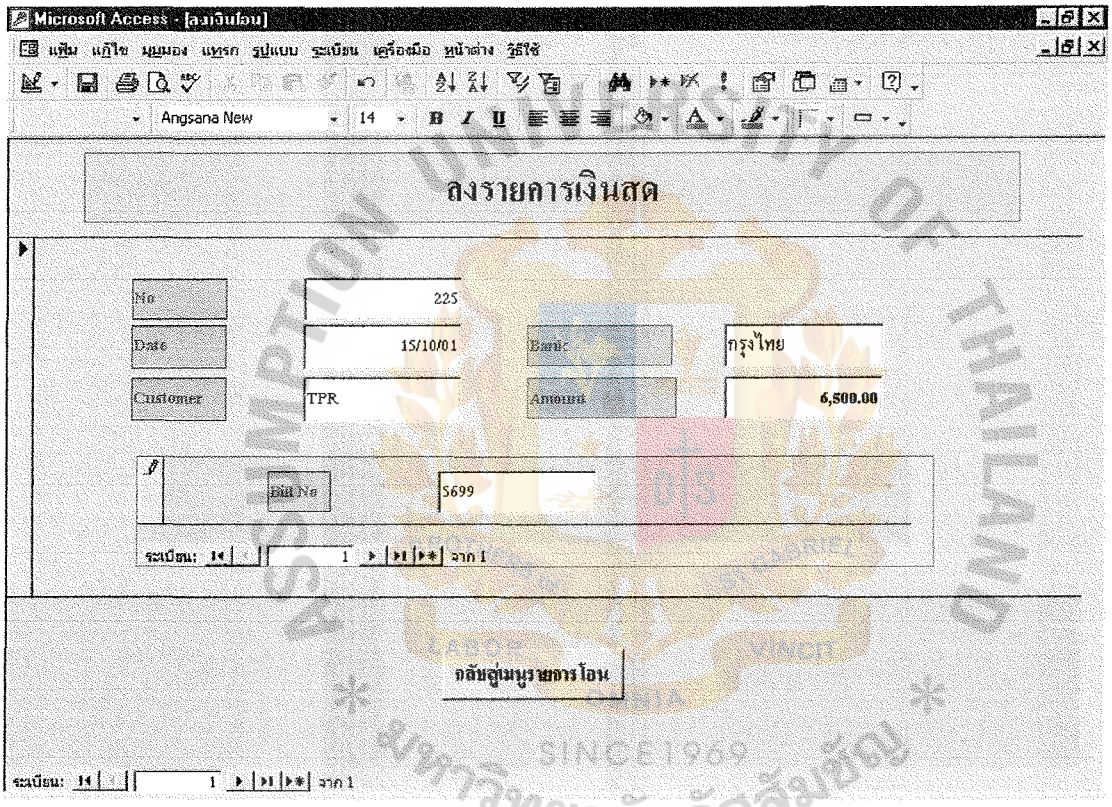

Figure E.7. Collected Cash Information Form.

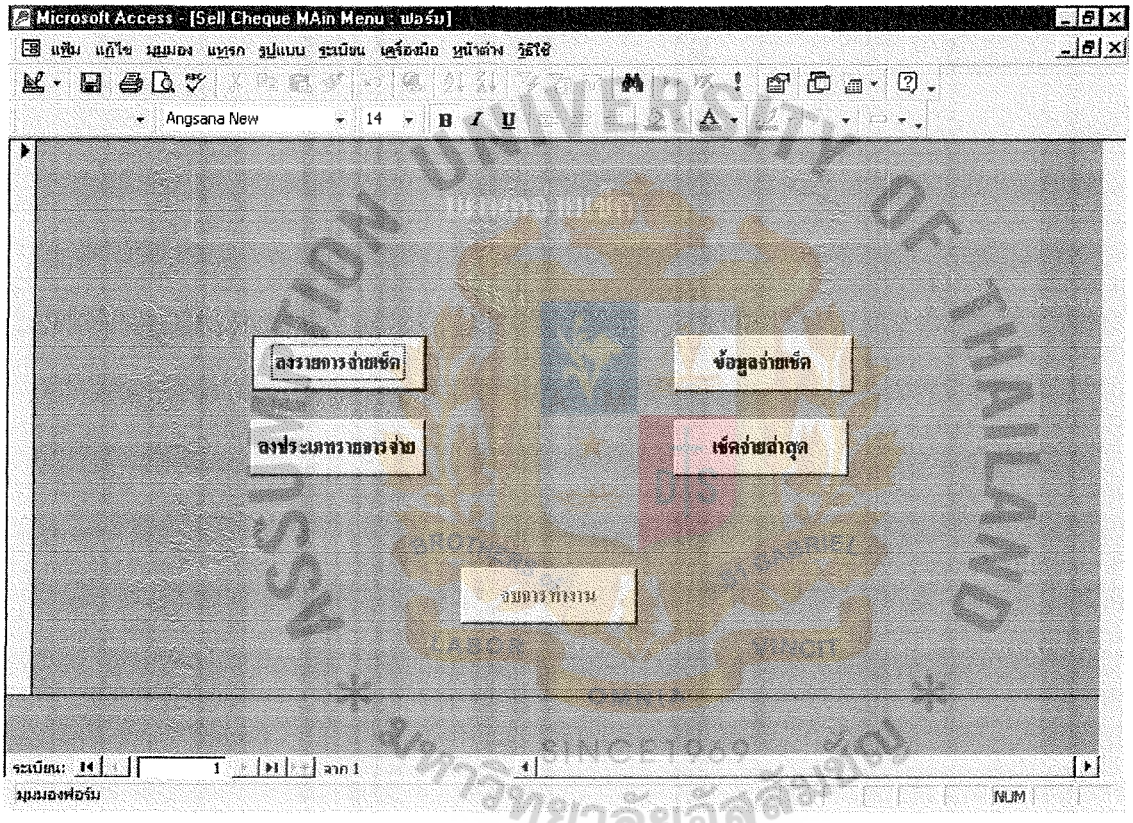

Figure E.8. Pay Cheque Menu Form.

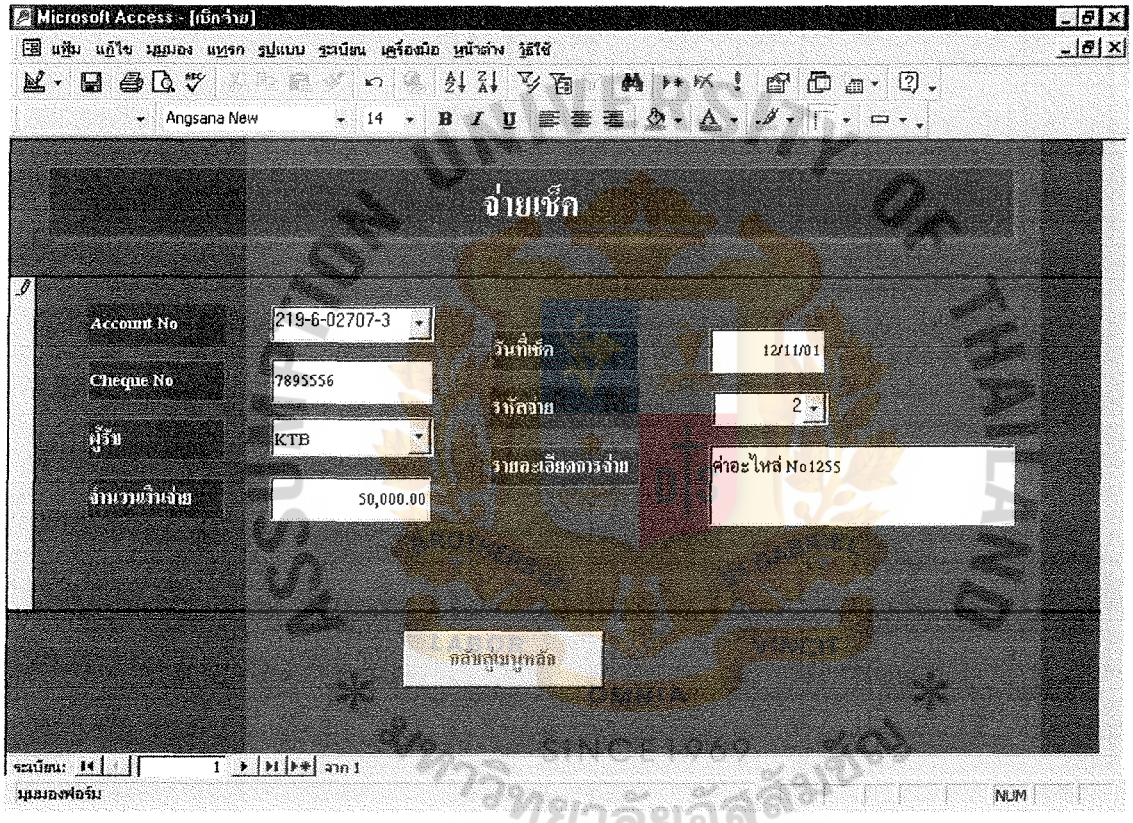

Figure E.9. Paid Cheque Information Form.

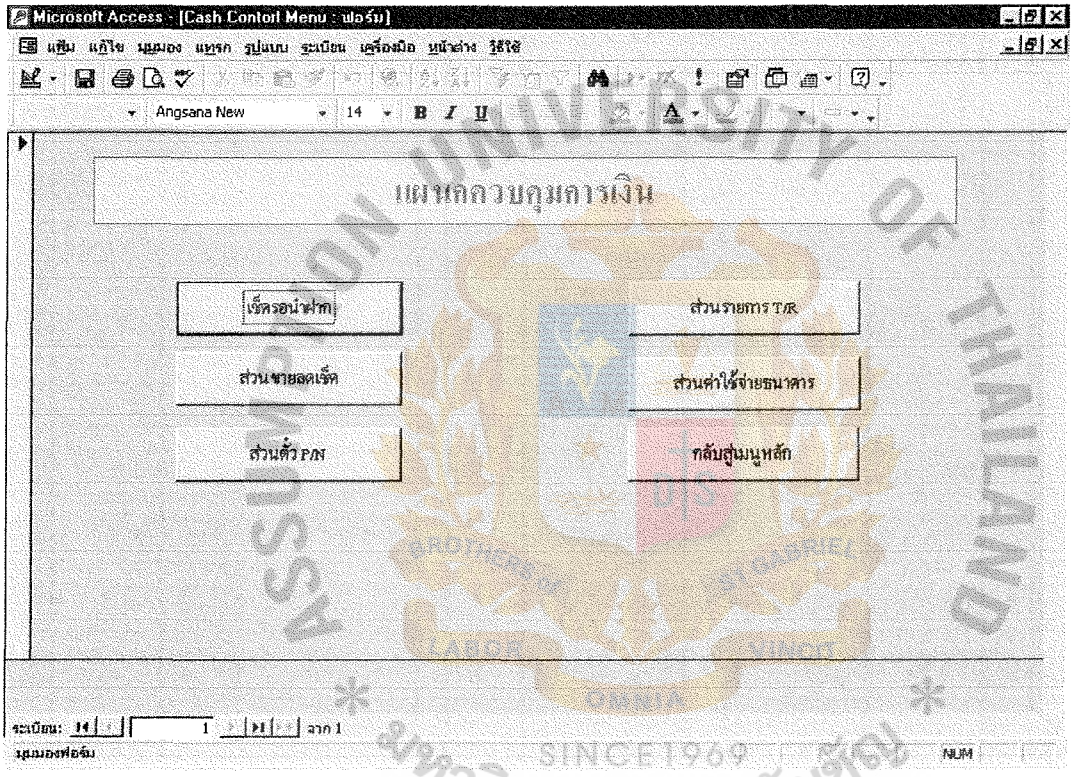

Figure E.10. Cash Control Menu Form.

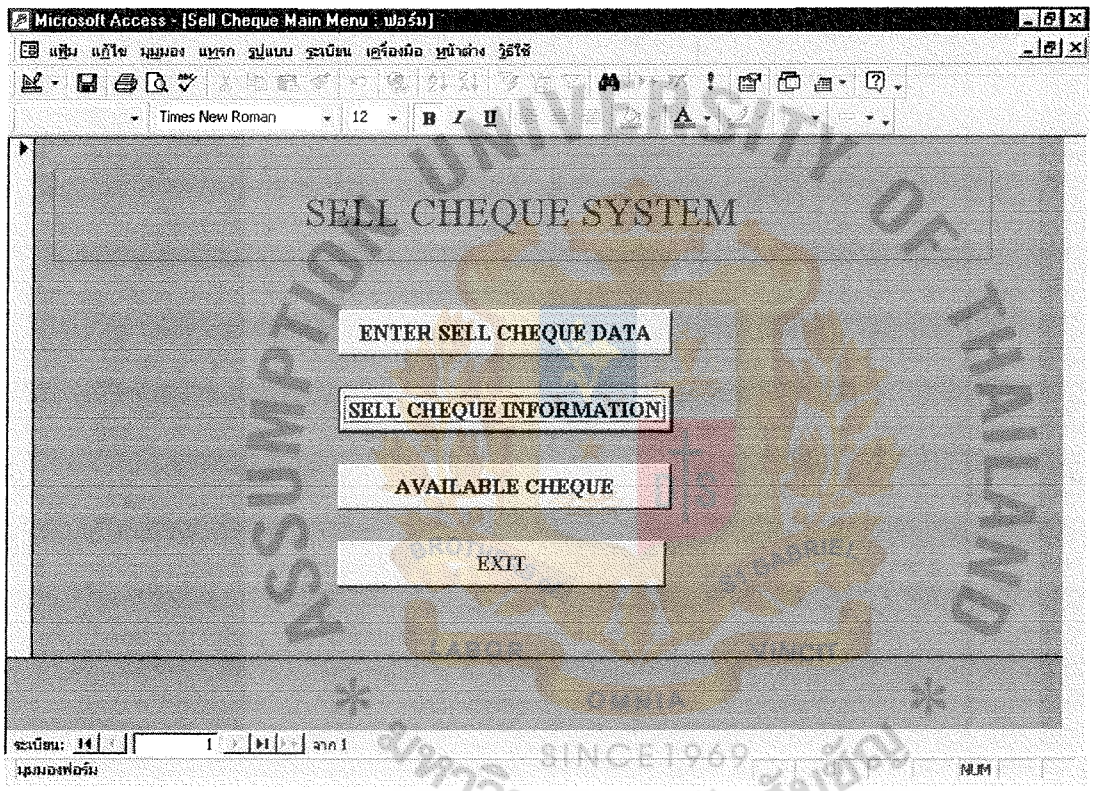

Figure E.11. Sell Cheque Menu Form.

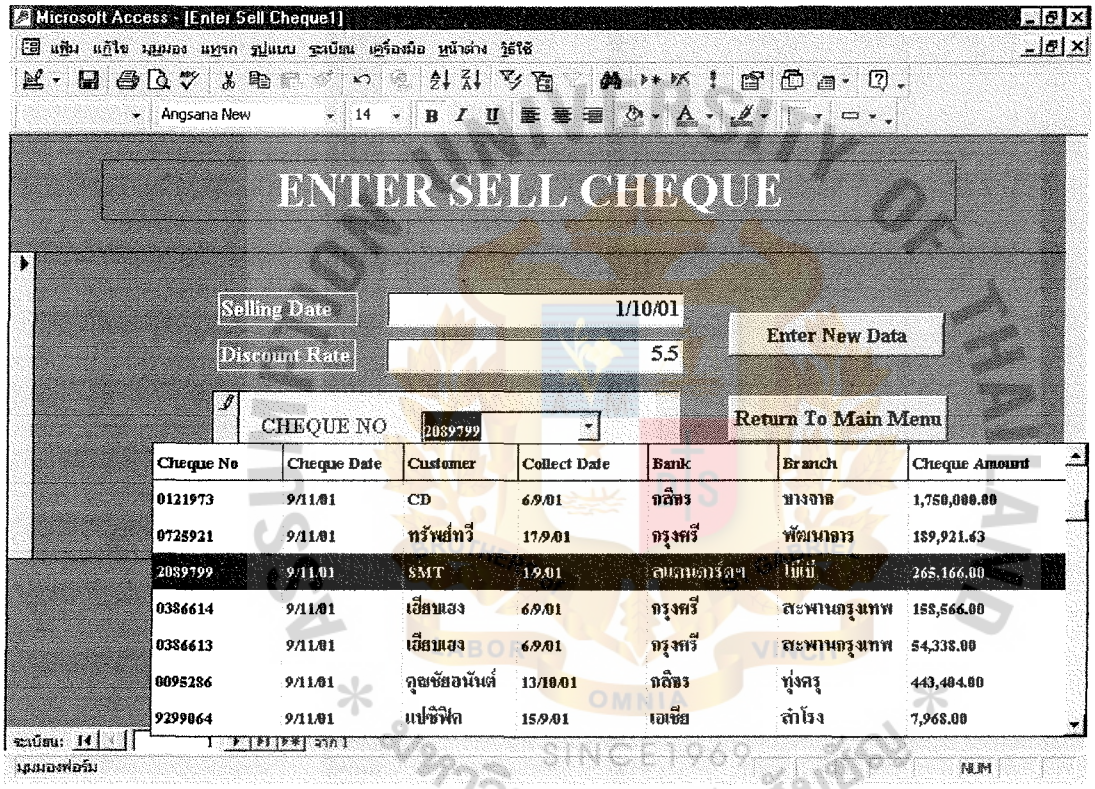

Figure E.12. Sell Cheque Information Form.

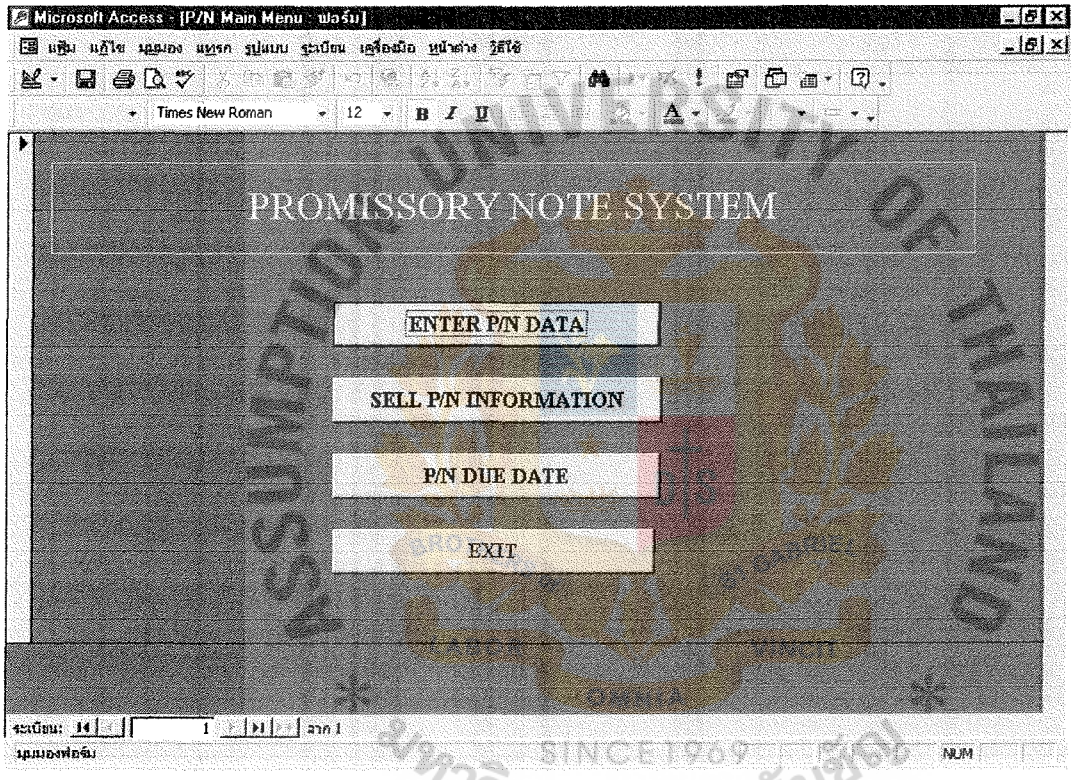

Figure E.13. P/N Menu Form.

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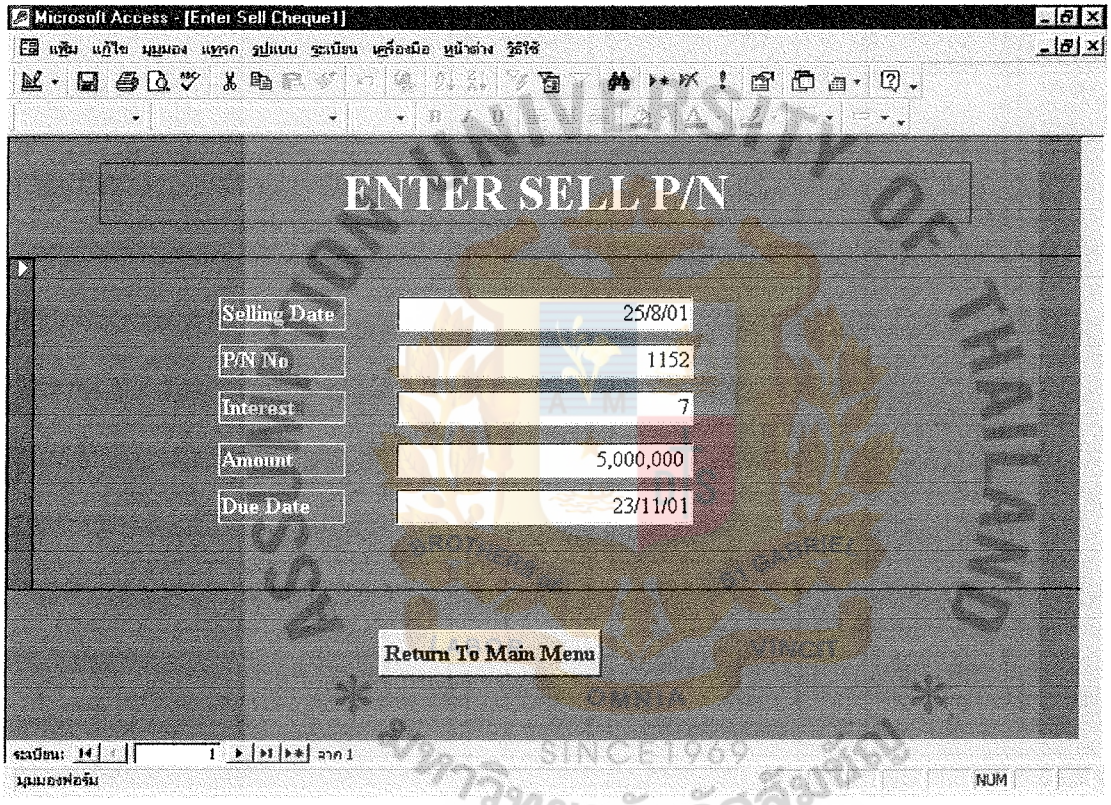


Figure E.14. Sell P/N Information Form.

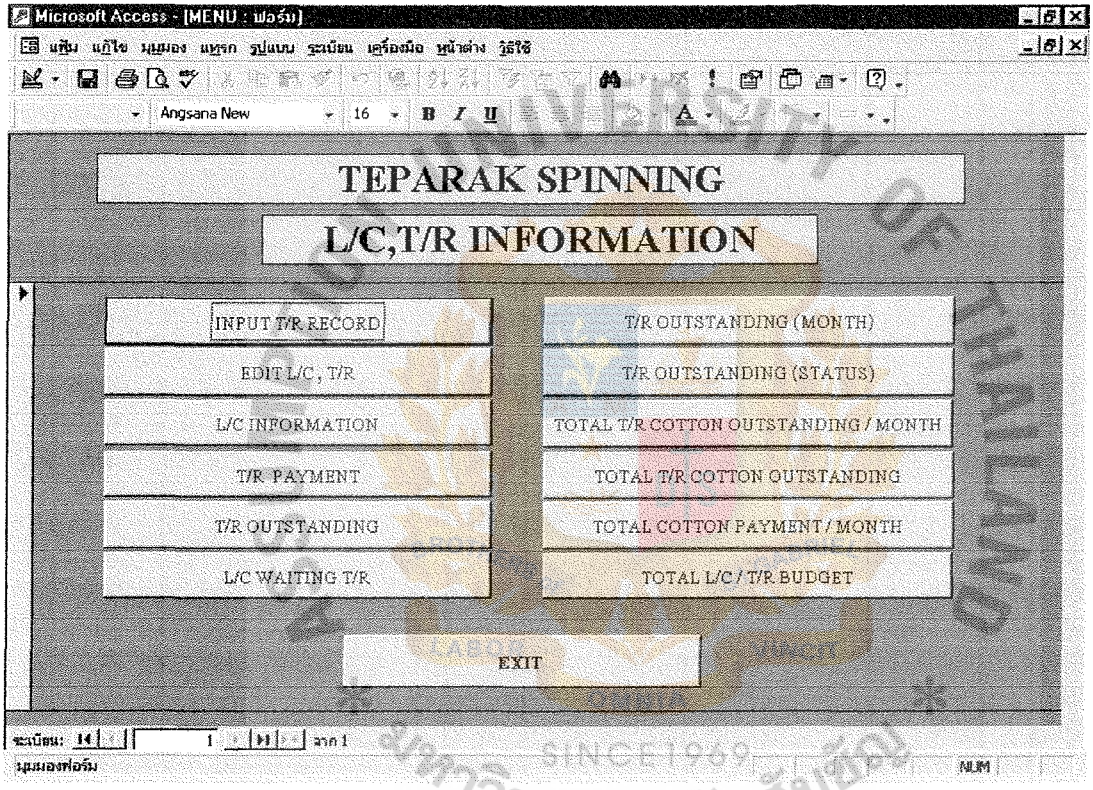


Figure E.15. T/R Menu Form.

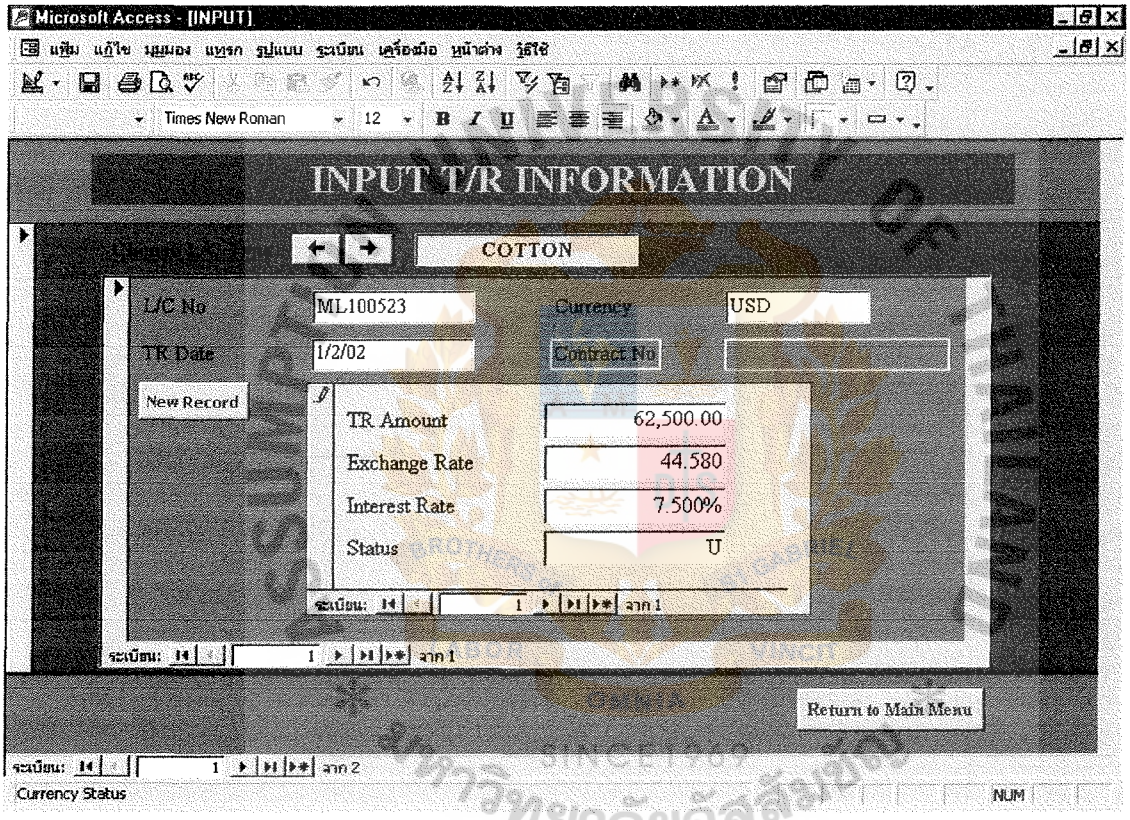


Figure E.16. T/R Information Form.

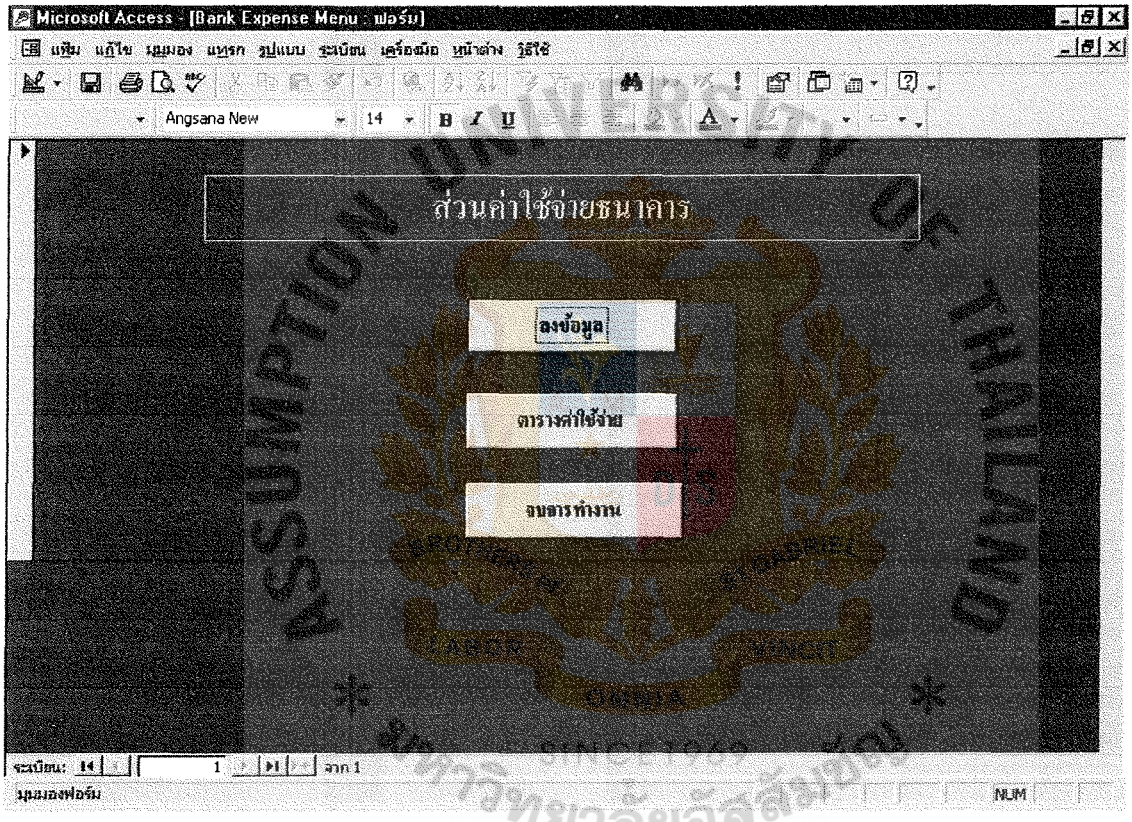


Figure E.17. Bank Expense Menu Form.

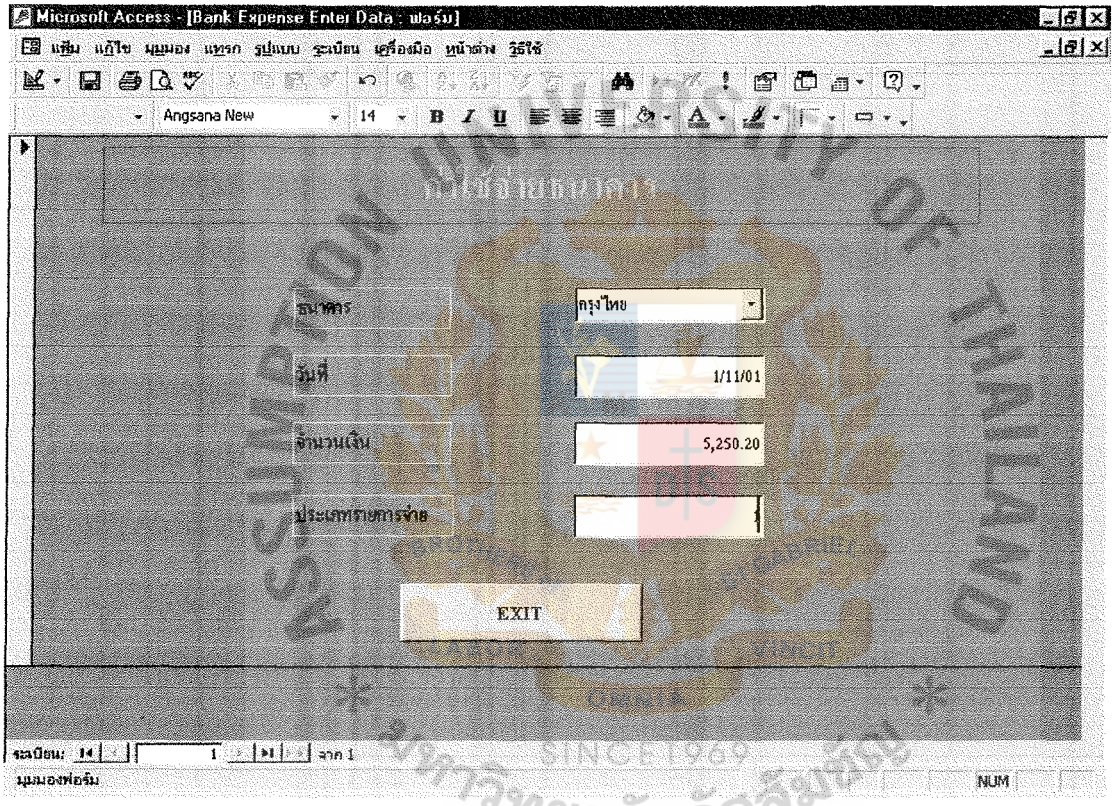
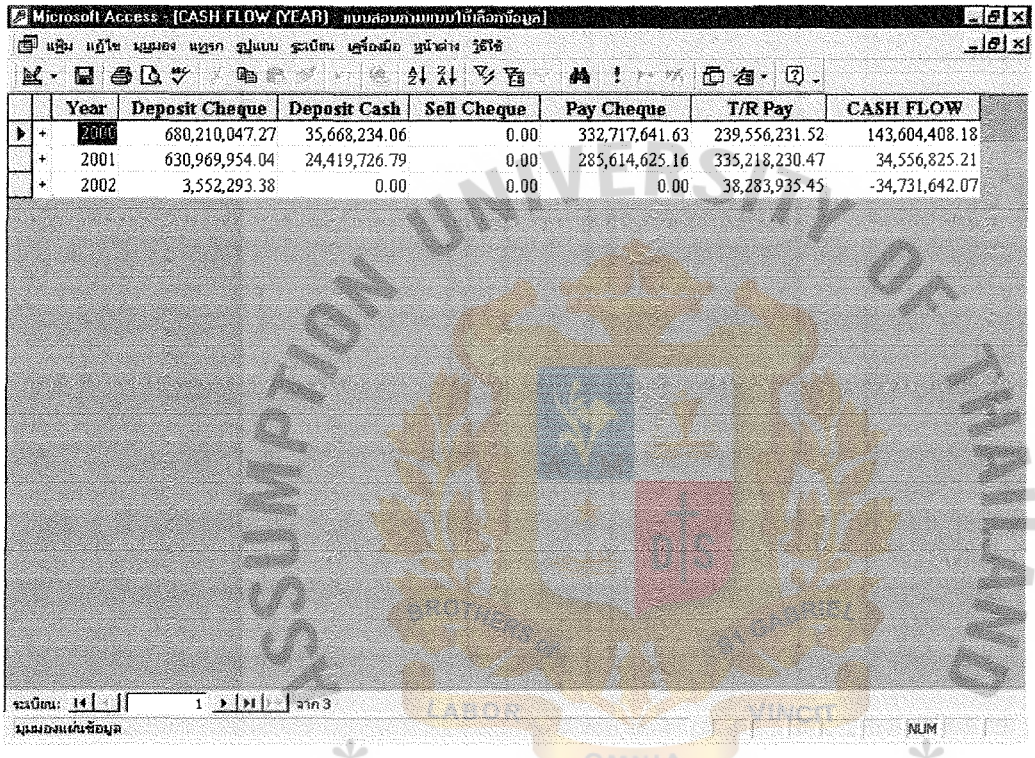


Figure E.18. Bank Expense Information Form.

APPENDIX F

REPORT DESIGN

ASSUMPTION UNIVERSITY OF THAILAND
BROTHERS OF ST GABRIEL
LABOR OMNIA VINCIT
SINCE1969
มหาวิทยาลัยอัสสัมชัญ



Year	Deposit Cheque	Deposit Cash	Sell Cheque	Pay Cheque	T/R Pay	CASH FLOW
2000	680,210,047.27	35,668,234.06	0.00	332,717,641.63	239,556,231.52	143,604,408.18
2001	630,969,954.04	24,419,726.79	0.00	285,614,625.16	335,218,230.47	34,556,825.21
2002	3,552,293.38	0.00	0.00	0.00	38,283,935.45	-34,731,642.07

Figure F.1. Yearly Cash Flow Information Output Screen.

ASSUMPTION UNIVERSITY OF THAILAND
LABOR OMNIA VINCIT
SINCE 1969
มหาวิทยาลัยอัสสัมชัญ

Microsoft Access - [CASH FLOW (YEAR) : แบบสอบถามแบบใช้เลือกข้อมูล]

Year	Deposit Cheque	Deposit Cash	Sell Cheque	Pay Cheque	T/R Pay	CASH FLOW
2000	680,210,047.27	35,668,234.06	0.00	332,717,641.63	239,556,231.52	143,604,408.18
2001	630,969,954.04	24,419,726.79	0.00	285,614,625.16	335,218,230.47	34,556,825.21

Month	Deposit Cheque	Deposit Cash	Sell Cheque	Total Pay	T/R PAY	CASH FLOW
1	60,554,103.22	13,727,431.05	0.00	43,705,499.68	23,405,303.05	7,170,732
2	56,203,672.02	2,671,724.01	0.00	23,356,791.20	21,580,438.23	13,938,167
3	55,036,780.59	2,096,361.19	0.00	27,519,614.93	38,282,537.74	-8,669,011
4	54,884,042.58	237,752.00	0.00	28,260,948.69	36,768,590.67	-9,907,745
5	57,916,498.95	1,650,282.00	0.00	24,900,592.26	29,325,092.52	5,341,096
6	50,096,769.98	965,309.86	0.00	25,775,807.12	18,388,515.86	6,897,757
7	66,105,895.61	248,716.26	0.00	31,236,827.77	44,808,418.53	-9,690,634
8	67,849,186.30	605,622.00	0.00	29,882,301.83	35,824,333.19	2,748,173
9	66,919,085.88	1,702,712.92	0.00	31,486,393.98	37,323,139.99	-187,735
10	55,448,179.37	513,815.50	0.00	18,826,001.44	22,864,755.96	14,271,237
11	31,264,700.00	0.00	0.00	433,834.37	16,170,791.09	14,660,075
12	8,691,039.54	0.00	0.00	230,011.89	10,476,313.65	-2,015,286
2002	3,552,293.38	0.00	0.00	0.00	38,283,935.45	-34,731,642.07

ระเบียน: 10 จาก 12

มุมมองแผ่นข้อมูล NUM

Figure F.2. Monthly Cash Flow Information Output Screen.

SINCE1969

Microsoft Access - [CASH FLOW (YEAR) : แบบสอบถามแบบให้เลือกข้อมูล]

แฟ้ม แก้ไข มุมมอง แทรก รูปแบบ ระเบียน เครื่องมือ หน้าต่าง วิธีใช้

Year	Deposit Cheque	Deposit Cash	Sell Cheque	Pay Cheque	T/R Pay	CASH FLOW
2000	680,210,047.27	35,668,234.06	0.00	332,717,641.63	239,556,231.52	143,604,408.18
2001	630,969,954.04	24,419,726.79	0.00	285,614,625.16	335,218,230.47	34,556,825.21

Month	Deposit Cheque	Deposit Cash	Sell Cheque	Total Pay	T/R PAY	CASH FLOW
8	67,849,186.30	605,622.00	0.00	29,882,301.83	35,824,333.19	2,748,173
9	66,919,085.88	1,702,712.92	0.00	31,486,393.98	37,323,139.99	-187,735
10	55,448,179.37	513,815.50	0.00	18,826,001.44	22,864,755.96	14,271,237

Date	Deposit Cheque	Deposit Cash	Sell Cheque	Total Pay	T/R	CASH FLOW
10/10/01	4,155,035.98	60,053.00	0.00	94,065.03	2,548,653.14	1,572,370.81
11/10/01	1,222,858.00	26,719.00	0.00	3,599,532.10	2,238,999.94	-4,588,955.04
12/10/01	787,851.25	0.00	0.00	4,380,602.13	4,274,681.83	-7,867,432.71
15/10/01	4,691,181.76	0.00	0.00	1,389,566.28	0.00	3,301,615.48
16/10/01	907,972.22	0.00	0.00	0.00	0.00	907,972.22
17/10/01	260,747.18	0.00	0.00	35,310.00	0.00	225,437.18
18/10/01	975,149.59	0.00	0.00	0.00	0.00	975,149.59
19/10/01	3,100,097.76	0.00	0.00	3,560.00	0.00	3,096,537.76
22/10/01	4,120,700.93	0.00	0.00	412,375.21	0.00	3,708,325.72
23/10/01	586,591.00	0.00	0.00	0.00	0.00	586,591.00
24/10/01	386,039.90	0.00	0.00	58,818.17	3,787,759.89	-3,460,538.16
25/10/01	444,499.39	0.00	0.00	79,766.00	0.00	364,733.39
26/10/01	2,450,948.79	0.00	0.00	12,950.00	0.00	2,437,998.79
29/10/01	5,120,511.46	0.00	0.00	122,720.00	0.00	4,997,791.46
30/10/01	1,271,817.00	0.00	0.00	0.00	0.00	1,271,817.00

ระเบียน: 4 จาก 24

มุมมองแผ่นข้อมูล NUM

Figure F.3. Daily Cash Flow Information Output Screen.

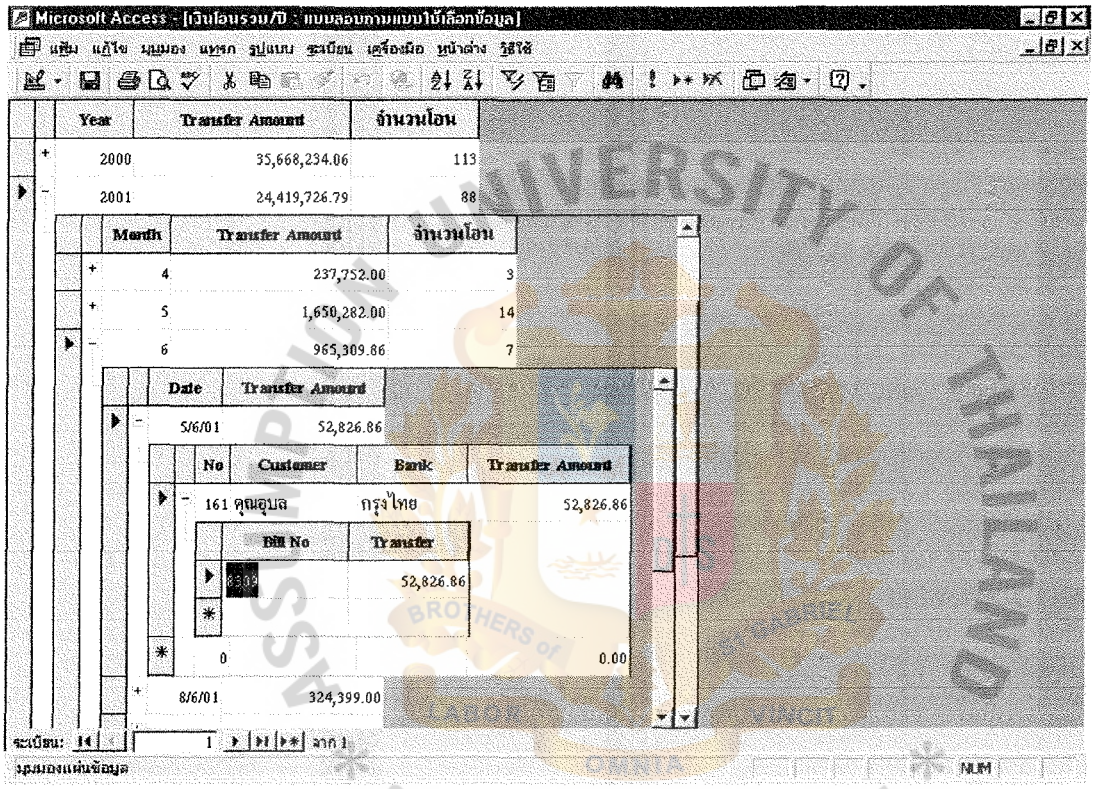
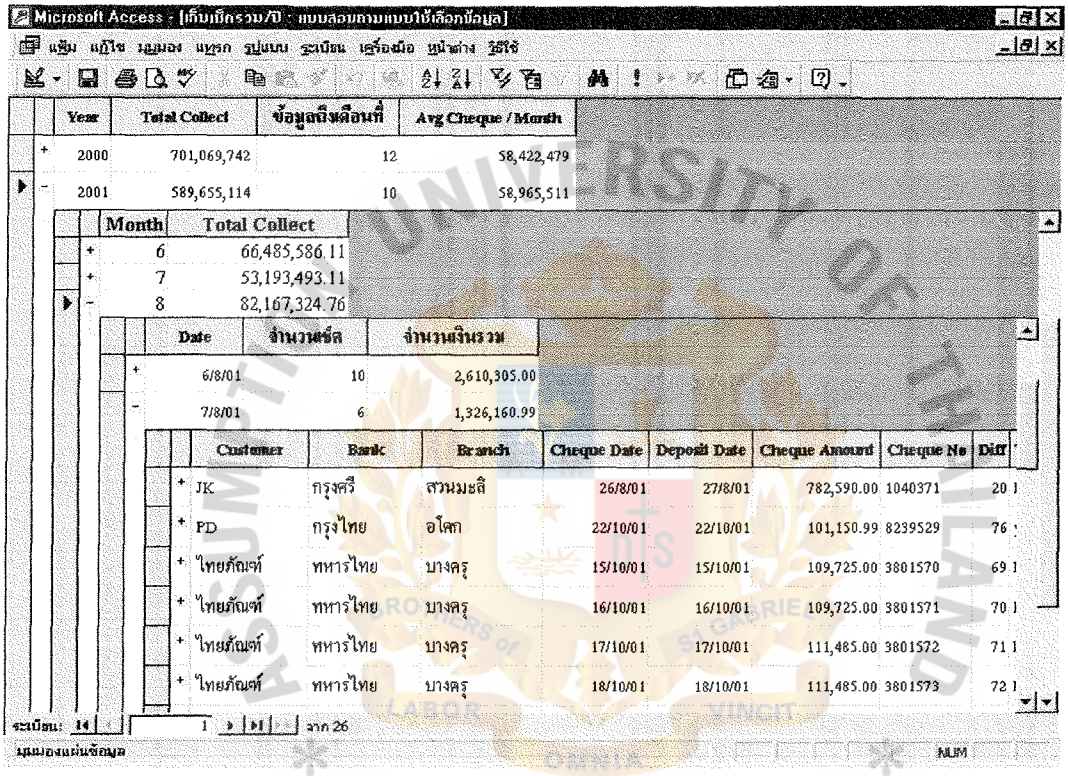


Figure F.4. Total Cash Received Information Output Screen (Yearly, Monthly, Daily and Details).



Microsoft Access - [เก็บเช็ครวม/ปี : แบบสอบถามแบบให้เลือกข้อมูล]

Year	Total Collect	ข้อมูลถึงเดือนที่	Avg Cheque / Month
2000	701,069,742	12	58,422,479
2001	589,655,114	10	58,965,511

Month	Total Collect
6	66,485,586.11
7	53,193,493.11
8	82,167,324.76

Date	จำนวนชิ้น	จำนวนเงินรวม
6/8/01	10	2,610,305.00
7/8/01	6	1,326,160.99

Customer	Bank	Branch	Cheque Date	Deposit Date	Cheque Amount	Cheque No	Diff
JK	กรุงศรี	สวนมะลิ	26/8/01	27/8/01	782,590.00	1040371	20
PD	กรุงไทย	อโศก	22/10/01	22/10/01	101,150.99	8239529	76
ไทยภัณฑ์	ทหารไทย	บางครุ	15/10/01	15/10/01	109,725.00	3801570	69
ไทยภัณฑ์	ทหารไทย	บางครุ	16/10/01	16/10/01	109,725.00	3801571	70
ไทยภัณฑ์	ทหารไทย	บางครุ	17/10/01	17/10/01	111,485.00	3801572	71
ไทยภัณฑ์	ทหารไทย	บางครุ	18/10/01	18/10/01	111,485.00	3801573	72

Figure F.5. Total Collected Cheque Information Output Screen.

St. Gabriel Library, Au

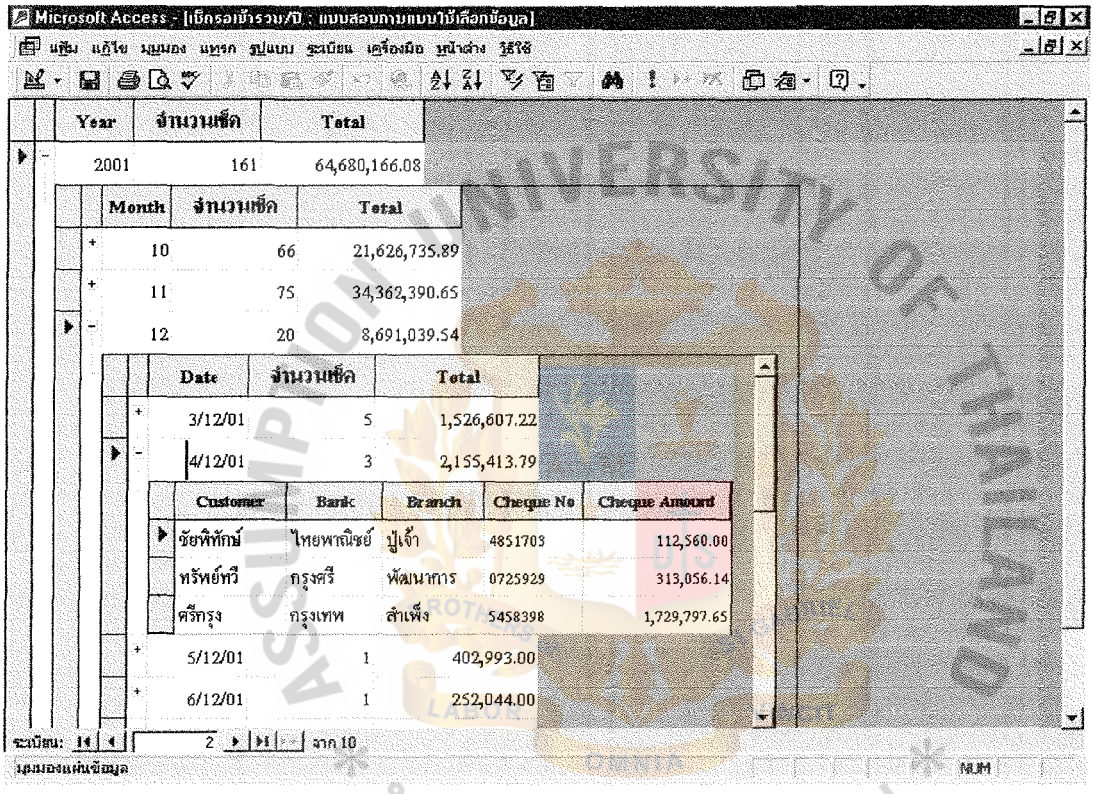


Figure F.6. Current Cheque Holding Information Output Screen (Yearly, Monthly, Daily and Details).

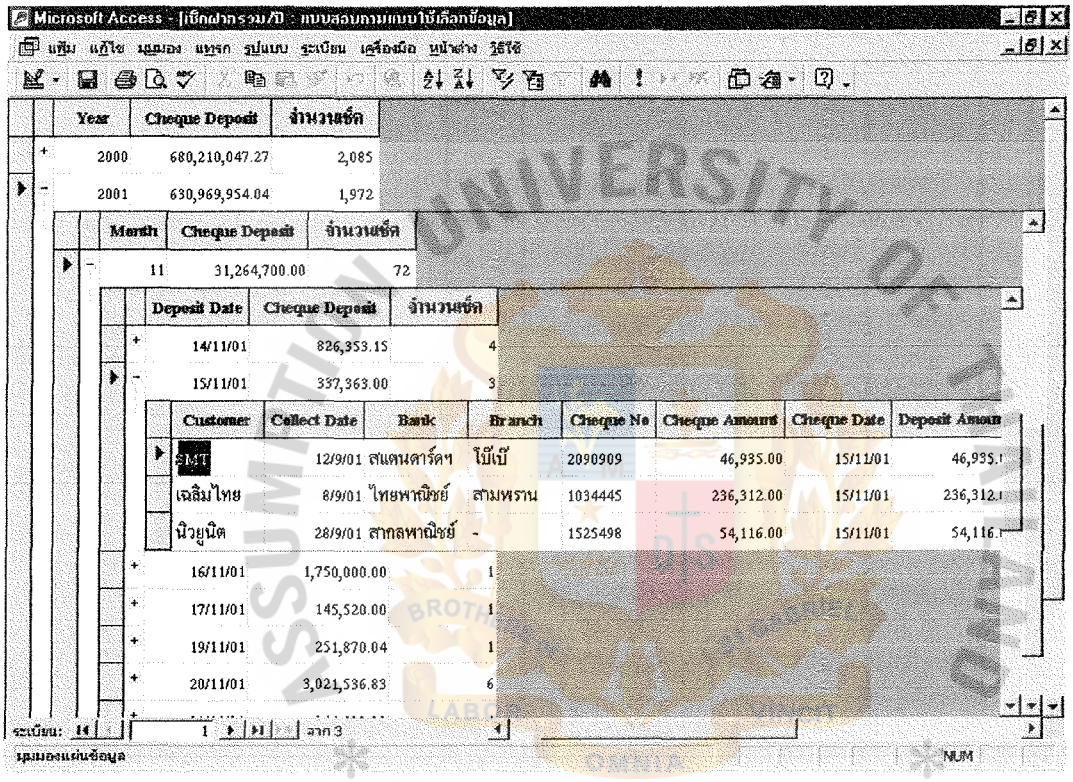
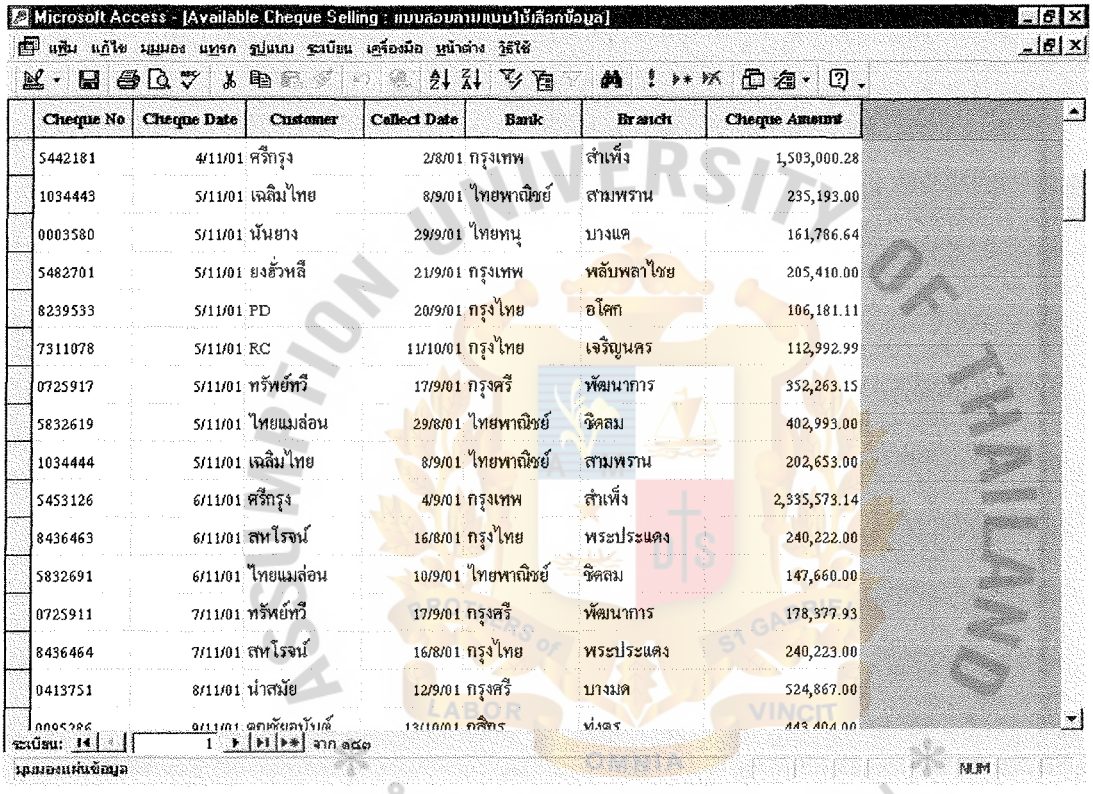


Figure F.7. Deposit Cheque Information Output Screen (Yearly, Monthly, Daily and Details).



Microsoft Access - [Available Cheque Selling : แบบสอบถามแบบใช้เลือกข้อมูล]

Cheque No	Cheque Date	Customer	Collect Date	Bank	Branch	Cheque Amount
5442181	4/11/01	ศรีกรุง	2/8/01	กรุงเทพ	สำเพ็ง	1,503,000.28
1034443	5/11/01	เฉลิมไทย	8/9/01	ไทยพาณิชย์	สามพราน	235,193.00
0003580	5/11/01	นันยาง	29/9/01	ไทยทนุ	บางแค	161,786.64
5482701	5/11/01	ยงฮั่วหลี	21/9/01	กรุงเทพ	พลับพลาไชย	205,410.00
8239533	5/11/01	PD	20/9/01	กรุงไทย	อโศก	106,181.11
7311078	5/11/01	RC	11/10/01	กรุงไทย	เจริญนคร	112,992.99
0725917	5/11/01	ทรัพย์ทวี	17/9/01	กรุงศรี	พัฒนาการ	352,263.15
5832619	5/11/01	ไทยแมล่อน	29/8/01	ไทยพาณิชย์	ชิดลม	402,993.00
1034444	5/11/01	เฉลิมไทย	8/9/01	ไทยพาณิชย์	สามพราน	202,653.00
5453126	6/11/01	ศรีกรุง	4/9/01	กรุงเทพ	สำเพ็ง	2,335,573.14
8436463	6/11/01	สหโรจน์	16/8/01	กรุงไทย	พระประแดง	240,222.00
5832691	6/11/01	ไทยแมล่อน	10/9/01	ไทยพาณิชย์	ชิดลม	147,660.00
0725911	7/11/01	ทรัพย์ทวี	17/9/01	กรุงศรี	พัฒนาการ	178,377.93
8436464	7/11/01	สหโรจน์	16/8/01	กรุงไทย	พระประแดง	240,223.00
0413751	8/11/01	น่าสมัย	12/9/01	กรุงศรี	บางมด	524,867.00
0095286	9/11/01	ดุลยัยดปัปเด้	13/10/01	กสิกร	ท่งตร	443,404.00

ระเบียน: 1 จาก ๑๘๓

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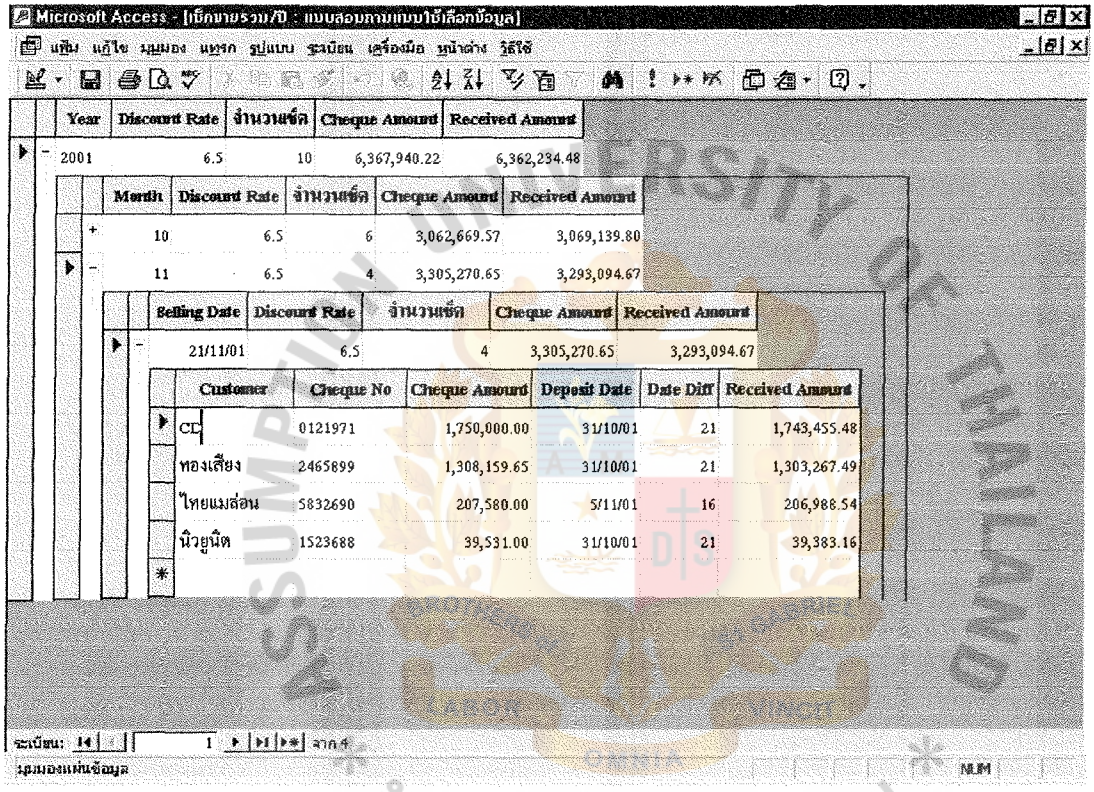
Figure F.8. Available Cheque Selling Information Output Screen.



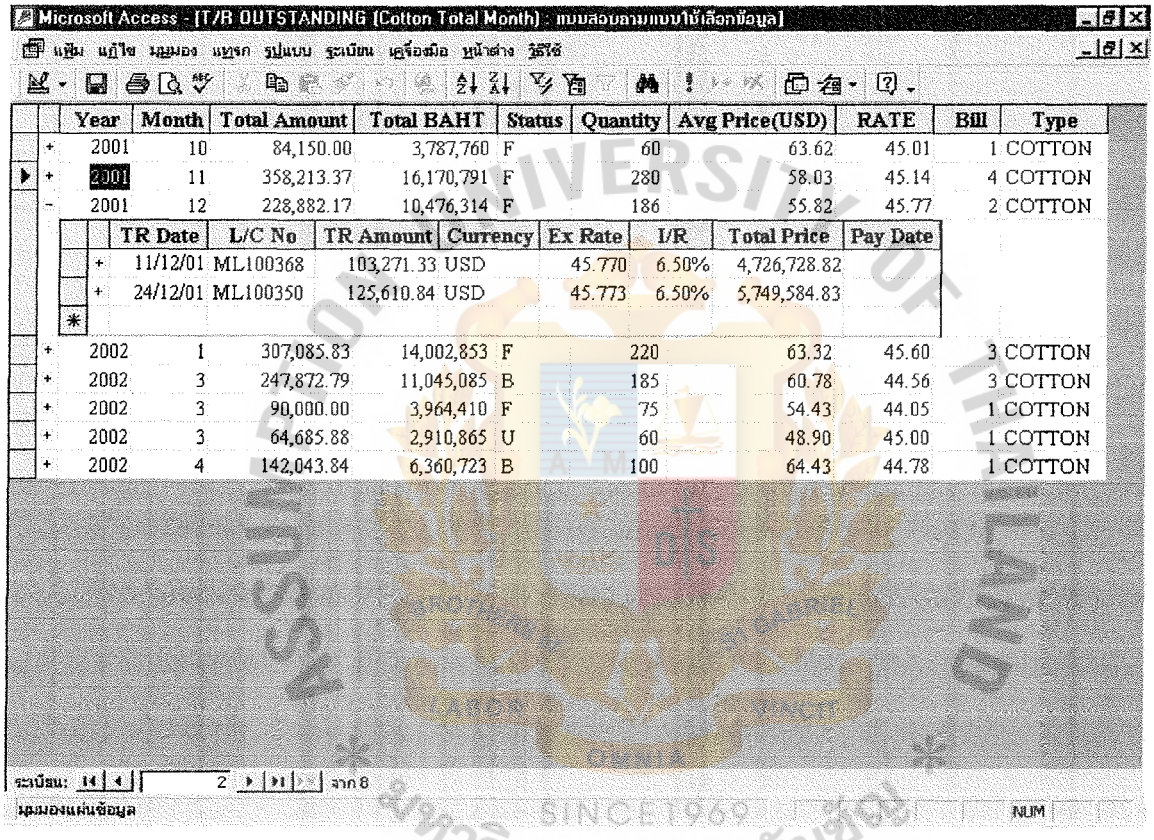
Year	Discount Rate	จำนวนเช็ค	Cheque Amount	Received Amount
2001	6.5	10	6,367,940.22	6,362,294.48

Month	Discount Rate	จำนวนเช็ค	Cheque Amount	Received Amount
10	6.5	6	3,062,669.57	3,069,139.80
11	6.5	4	3,305,270.65	3,293,094.67

Selling Date	Discount Rate	จำนวนเช็ค	Cheque Amount	Received Amount
21/11/01	6.5	4	3,305,270.65	3,293,094.67

Customer	Cheque No	Cheque Amount	Deposit Date	Date Diff	Received Amount
CD	0121971	1,750,000.00	31/10/01	21	1,743,455.48
ทองเสียง	2465899	1,308,159.65	31/10/01	21	1,303,267.49
ไทยแมสอน	5832690	207,580.00	5/11/01	16	206,988.54
นิวยูนิต	1523688	39,531.00	31/10/01	21	39,383.16

Figure F.9. Total Cheque Collected Information Output Screen (Yearly, Monthly, Daily and Details).



Microsoft Access - [T/R OUTSTANDING (Cotton Total Month) : แบบสอบถามแบบให้เลือกข้อมูล]

Year	Month	Total Amount	Total BAHT	Status	Quantity	Avg Price(USD)	RATE	Bill	Type
2001	10	84,150.00	3,787,760	F	60	63.62	45.01	1	COTTON
2001	11	358,213.37	16,170,791	F	280	58.03	45.14	4	COTTON
2001	12	228,882.17	10,476,314	F	186	55.82	45.77	2	COTTON
2002	1	307,085.83	14,002,853	F	220	63.32	45.60	3	COTTON
2002	3	247,872.79	11,045,085	B	185	60.78	44.56	3	COTTON
2002	3	90,000.00	3,964,410	F	75	54.43	44.05	1	COTTON
2002	3	64,685.88	2,910,865	U	60	48.90	45.00	1	COTTON
2002	4	142,043.84	6,360,723	B	100	64.43	44.78	1	COTTON

TR Date	L/C No	TR Amount	Currency	Ex Rate	I/R	Total Price	Pay Date
11/12/01	ML100368	103,271.33	USD	45.770	6.50%	4,726,728.82	
24/12/01	ML100350	125,610.84	USD	45.773	6.50%	5,749,584.83	

Figure F.10. Total T/R outstanding / Month and details Output Screen (Yearly, Monthly, Daily and Details).

St. Gabriel Library, Au

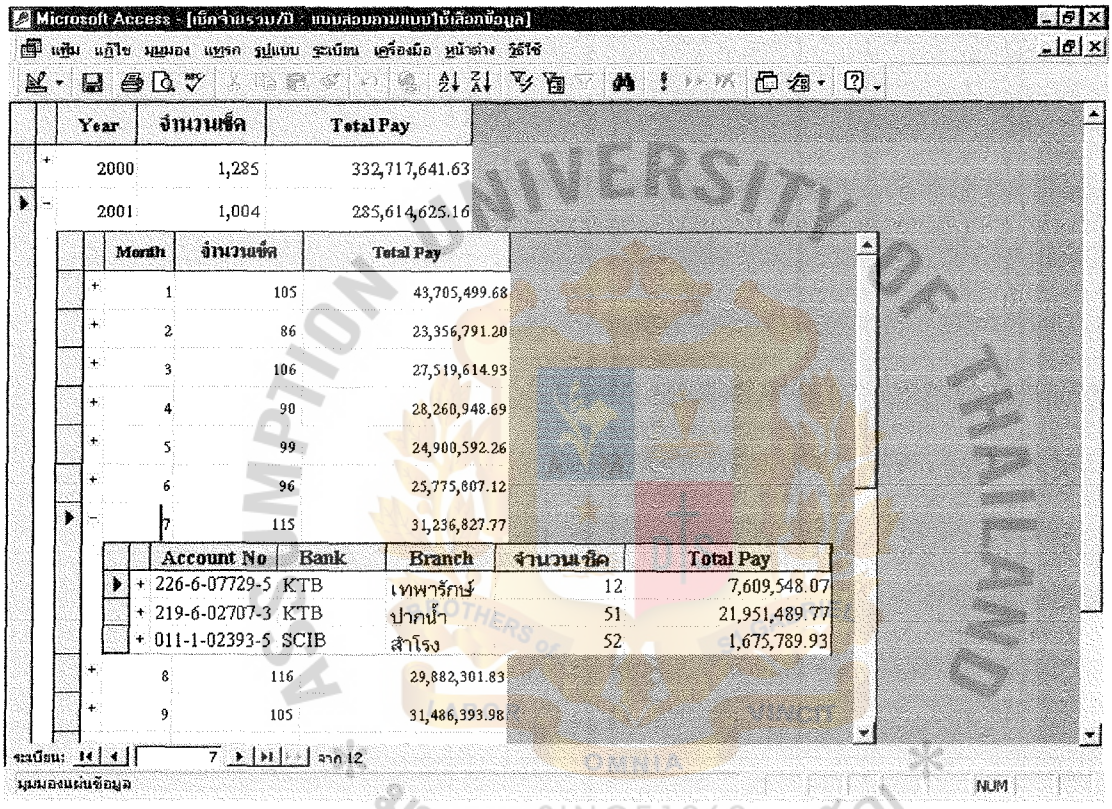


Figure F.11. Total Cheque Paid Information Output Screen (Yearly, Monthly).

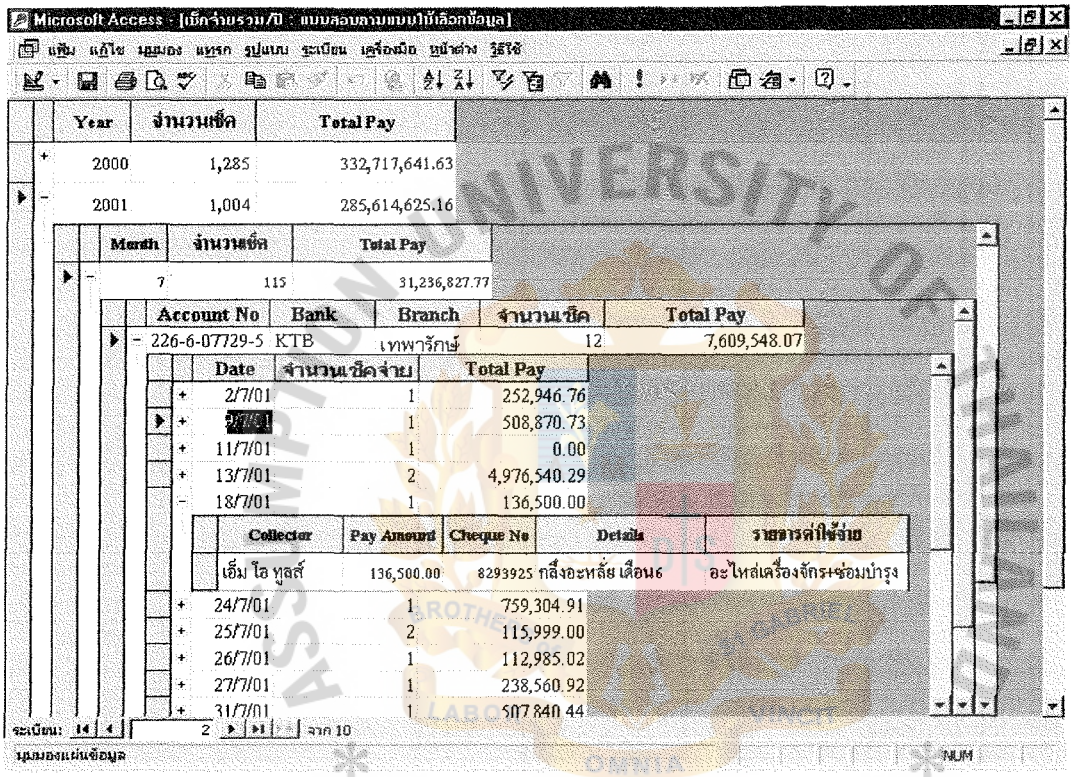
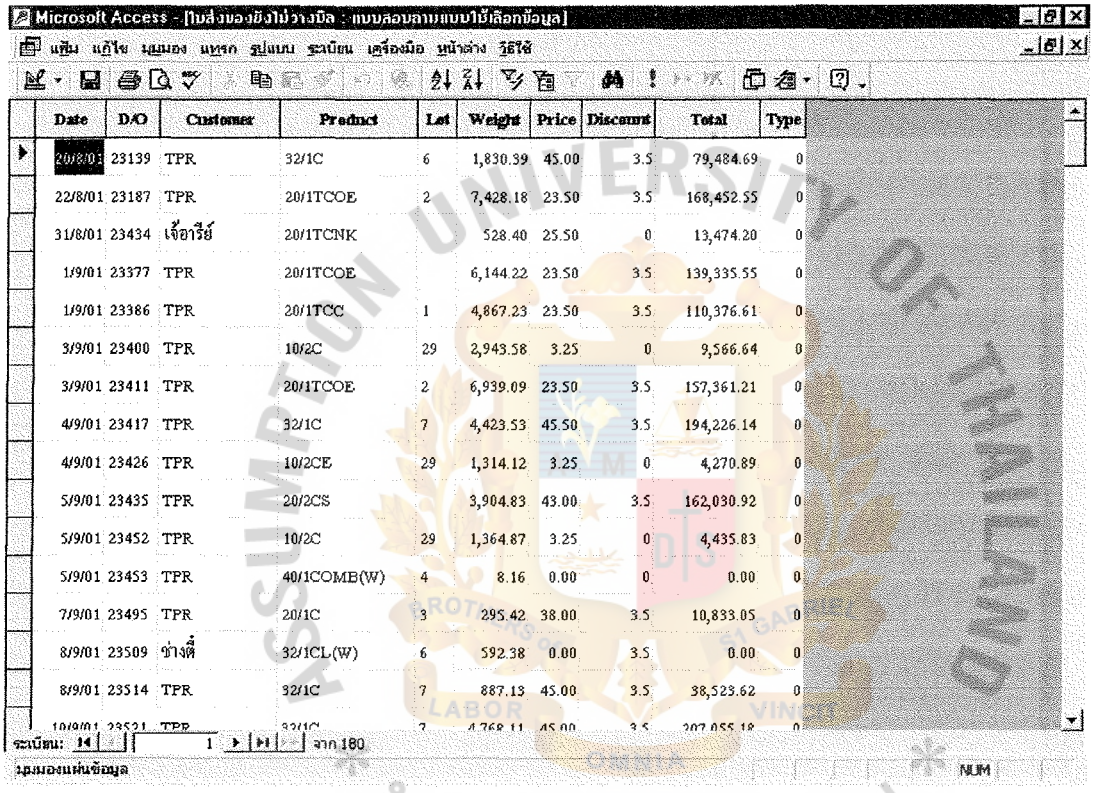


Figure F.12. Cheque Paid Information / Day Output Screen.



Microsoft Access - [ใบส่งของยังไม่วางบิล : แบบฟอร์มตามแบบใช้เลือกข้อมูล]

Date	D/O	Customer	Product	Lot	Weight	Price	Discount	Total	Type
20/8/01	23139	TPR	32/1C	6	1,830.39	45.00	3.5	79,484.69	0
22/8/01	23187	TPR	20/1TCOE	2	7,428.18	23.50	3.5	168,452.55	0
31/8/01	23434	เจ้อารีย์	20/1TCNK		528.40	25.50	0	13,474.20	0
1/9/01	23377	TPR	20/1TCOE		6,144.22	23.50	3.5	139,335.55	0
1/9/01	23386	TPR	20/1TCC	1	4,867.23	23.50	3.5	110,376.61	0
3/9/01	23400	TPR	10/2C	29	2,943.58	3.25	0	9,566.64	0
3/9/01	23411	TPR	20/1TCOE	2	6,939.09	23.50	3.5	157,361.21	0
4/9/01	23417	TPR	32/1C	7	4,423.53	45.50	3.5	194,226.14	0
4/9/01	23426	TPR	10/2CE	29	1,314.12	3.25	0	4,270.89	0
5/9/01	23435	TPR	20/2CS		3,904.83	43.00	3.5	162,030.92	0
5/9/01	23452	TPR	10/2C	29	1,364.87	3.25	0	4,435.83	0
5/9/01	23453	TPR	40/1COMB(W)	4	8.16	0.00	0	0.00	0
7/9/01	23495	TPR	20/1C	3	295.42	38.00	3.5	10,833.05	0
8/9/01	23509	ช่างตี๋	32/1CL(W)	6	592.38	0.00	3.5	0.00	0
8/9/01	23514	TPR	32/1C	7	887.13	45.00	3.5	38,523.62	0
10/9/01	23521	TPR	32/1C	7	4,768.11	45.00	3.5	207,055.18	0

ระเบียน: 1 จาก 180

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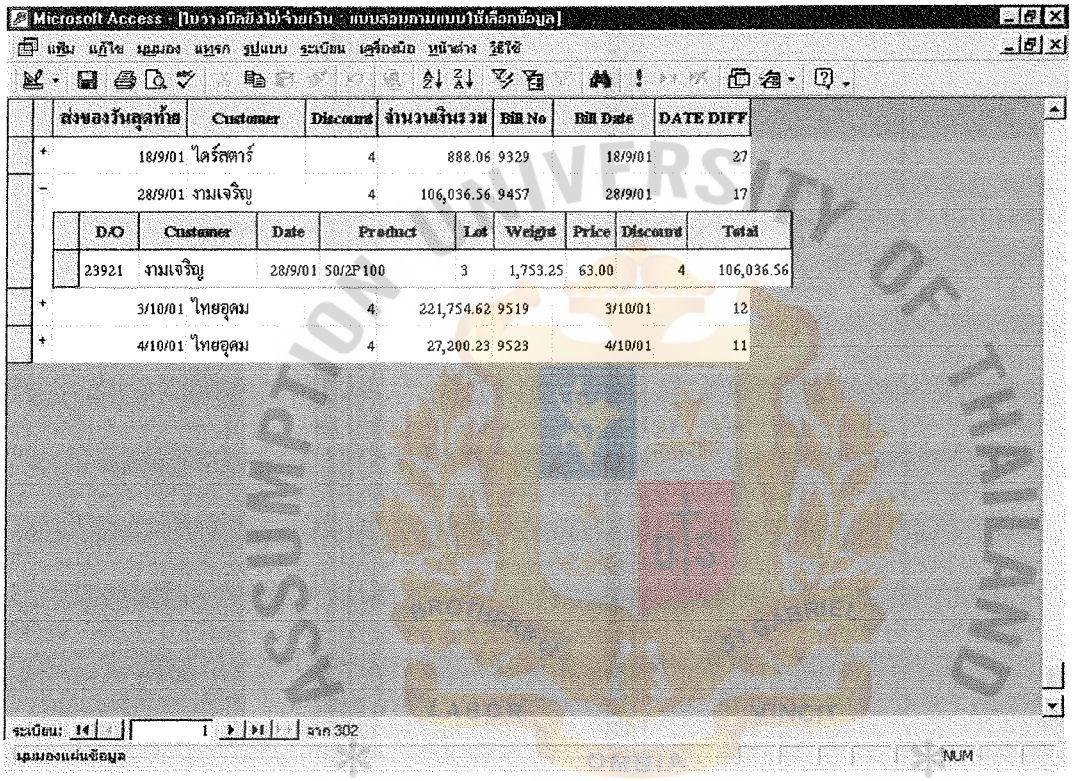
Figure F.13. Non-Issued Invoice Information Output Screen.



ส่งของวันสุดท้าย	Customer	Discount	จำนวนเงินรวม	Bill No	Bill Date	DATE DIFF
18/9/01	ไดร์สตาร์	4	888.06	9329	18/9/01	27
28/9/01	งามเจริญ	4	106,036.56	9457	28/9/01	17
3/10/01	ไทยอุดม	4	221,754.62	9519	3/10/01	12
4/10/01	ไทยอุดม	4	27,200.23	9523	4/10/01	11

D/O	Customer	Date	Product	Lot	Weight	Price	Discount	Total
23921	งามเจริญ	28/9/01	50/2P100	3	1,753.25	63.00	4	106,036.56

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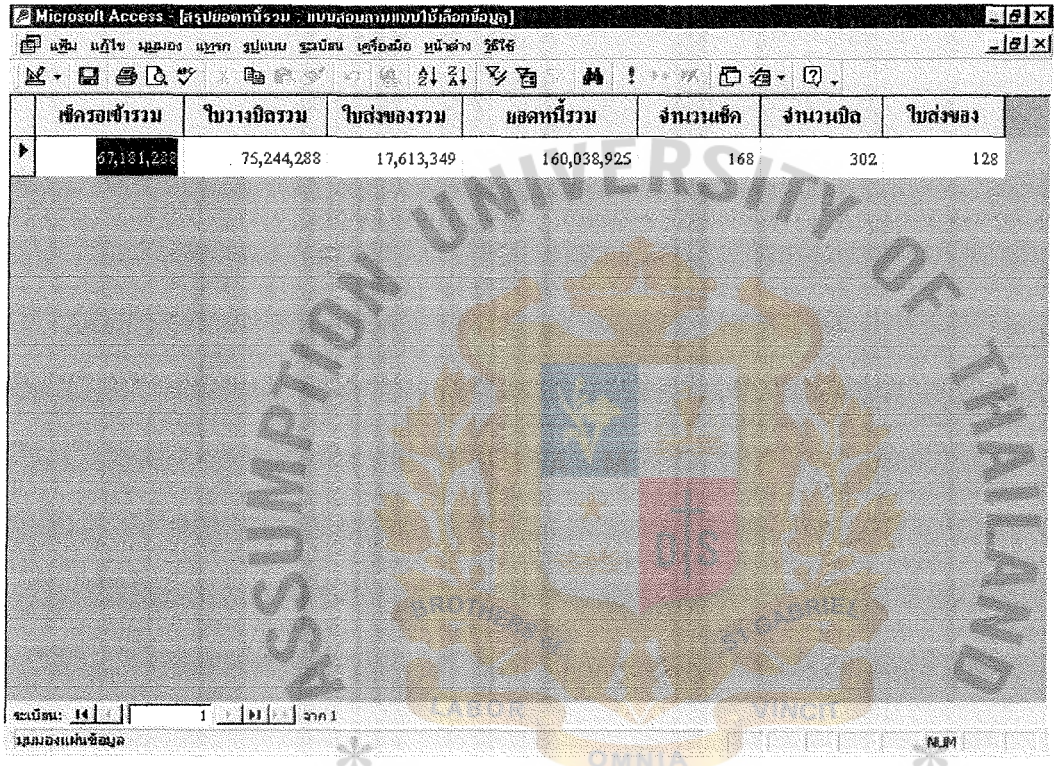
Figure F.14. Unpaid Invoice Information Output Screen.



เช็ครอเข้ารวม	ใบวางบิลรวม	ใบส่งของรวม	ยอดหนี้รวม	จำนวนเช็ค	จำนวนบิล	ใบส่งของ
67,181,288	75,244,288	17,613,349	160,038,925	168	302	128

Figure F.15. Total Current Customer Account Receivable Output Screen.

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แฟ้ม แก้ไข มุมมอง แทรก รูปแบบ ระเบียน เครื่องมือ หน้าต่าง วิธีใช้

Name	เช็ครอเข้ารวม	ใบวางบิลรวม	ใบส่งของรวม	ยอดหนี้รวม	%หนี้	เช็คใบแรก	จำนวนเช็ค	จำนวนบิล	ใบส่งของ
คุณชัยอนันต์	429,993	0	527,740	957,733.11	0.60%	29/10/01	1		2
ไทยภัณฑ์	843,015	0	0	843,015.00	0.53%	16/10/01	7		
ยูเนียน	803,281	0	0	803,280.85	0.50%	18/10/01	2		
สีลา	0	744,337	15,264	759,600.92	0.47%			4	1
เจริญพัฒนา	384,140	305,290	67,146	756,576.54	0.47%	16/10/01	2	5	2
เจริญพาณิชย์	354,636	380,760	0	735,395.61	0.46%	16/10/01	1	2	
ฟิวเจอร์เท็กซ์	0	372,224	355,919	728,142.67	0.45%			2	2
ไนซ์	664,767	50,237	0	715,004.38	0.45%	30/11/01	2	1	
กิมไห้	0	328,427	324,713	653,139.64	0.41%			2	1
จอลลี่	0	419,581	197,353	616,934.08	0.39%			3	1
HIGHT PPC	0	604,971	0	604,970.99	0.38%			3	
ไทยอุดม	0	248,955	314,635	563,589.86	0.35%			2	1
น่าสมัย	540,944	0	0	540,944.00	0.34%	31/10/01	2		
เหออี้	0	471,796	19,211	491,007.17	0.31%			7	1
JK	160,320	0	324,770	485,089.65	0.30%	22/10/01	1		3
PD	207,832	140,002	48,888	397,122.69	0.25%	22/10/01	2	1	1

ระเบียน: 1 จาก 84

มุมมองแผ่นข้อมูล NUM

Figure F.16. Current Customer Account Receivable Information Output Screen.

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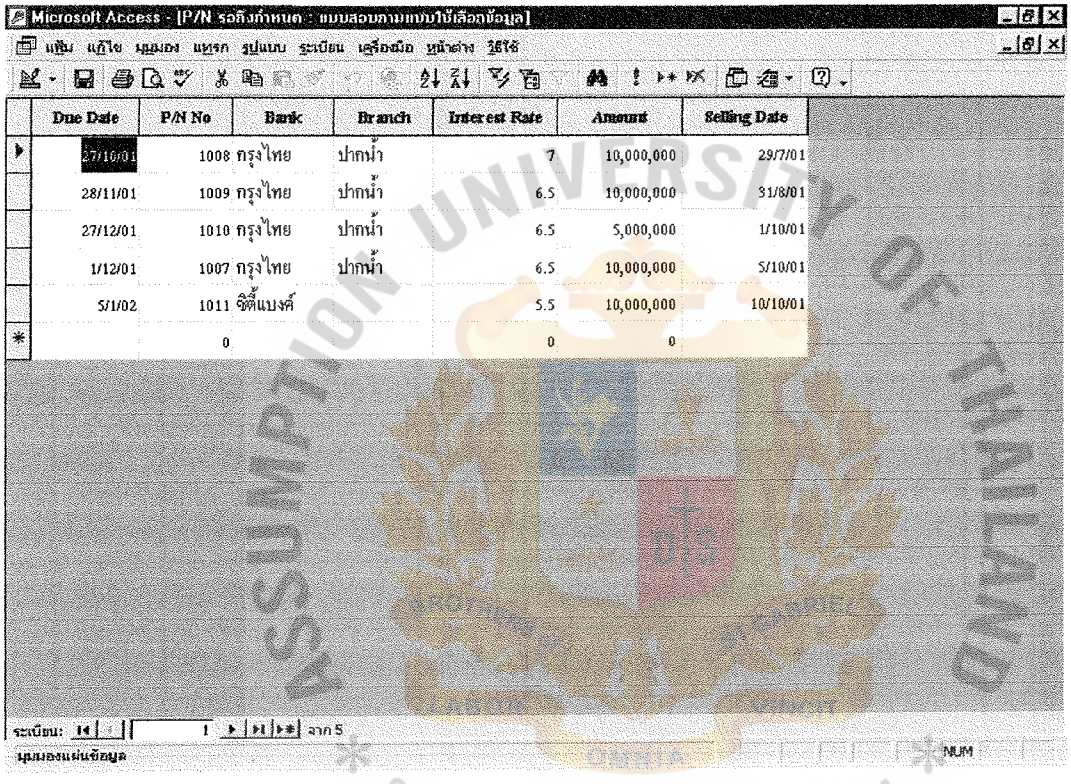
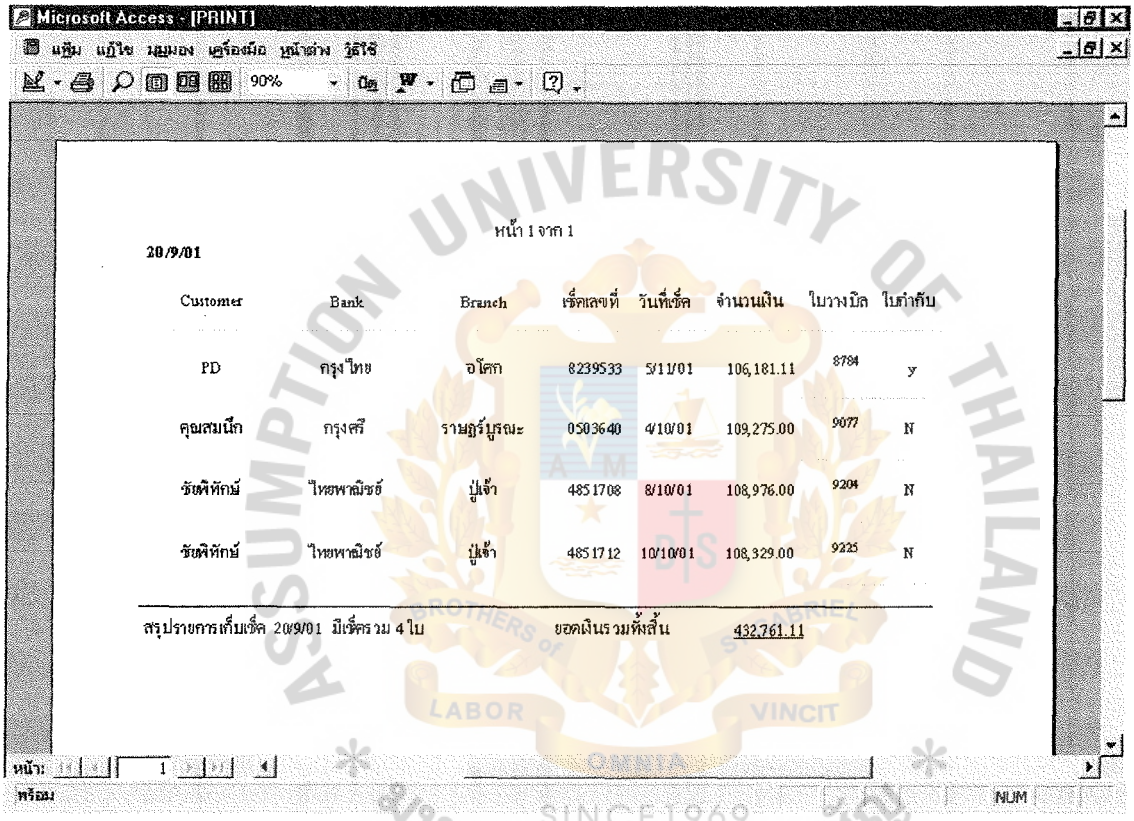


Due Date	P/N No	Bank	Branch	Interest Rate	Amount	Selling Date
27/10/01	1008	กรุงไทย	ปากน้ำ	7	10,000,000	29/7/01
28/11/01	1009	กรุงไทย	ปากน้ำ	6.5	10,000,000	31/8/01
27/12/01	1010	กรุงไทย	ปากน้ำ	6.5	5,000,000	1/10/01
1/12/01	1007	กรุงไทย	ปากน้ำ	6.5	10,000,000	5/10/01
5/1/02	1011	ซิตี้แบงค์		5.5	10,000,000	10/10/01
	0			0	0	

Figure F.17. P/N Due Date Information Output Screen.



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20/9/01

Customer	Bank	Branch	เช็คเลขที่	วันที่เช็ค	จำนวนเงิน	ใบวางบิล	ใบกำกับ
PD	กรุงไทย	อโศก	8239533	5/11/01	106,181.11	8784	y
คุณสมนึก	กรุงศรี	ราษฎร์บูรณะ	0503640	4/10/01	109,275.00	9077	N
ชัยพิทักษ์	ไทยพาณิชย์	ปู่เจ้า	4851708	8/10/01	108,976.00	9204	N
ชัยพิทักษ์	ไทยพาณิชย์	ปู่เจ้า	4851712	10/10/01	108,329.00	9225	N

สรุปรายการเก็บเช็ค 20/9/01 มีเช็ครวม 4 ใบ ยอดเงินรวมทั้งสิ้น 432,761.11

Figure F.18. Received Money Information Report.

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